UNIVERSITY OF CALIFORNIA, SAN DIEGO

Energetic Excess: The Visual Structure of Movement in Early Italian Futurism, 1910–1915

A dissertation submitted in partial satisfaction of the requirements for the requirements for the degree of Doctor of Philosophy

in

Art History, Theory, and Criticism

by

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The Dissertation of David S. Mather is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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I imagine it is not unusual for a student to find a mentor in any given graduate program through whom to discover previously unknown, or not fully appreciated, aspects of a field's scholarship and disciplinarity, but I am fairly certain it is unusual to study with two such people at the same time, both of whom are very closely involved with one's intellectual development and scholarly results. This was the case for me while enrolled in the Art History, Theory, and Criticism PhD Program at UC San Diego, and I feel incredibly fortunate to have worked with Norman Bryson and John Welchman, who challenged and encouraged me during countless hours of intellectual discussion, which began well before they became co-chairs of my doctoral committee. They were exceedingly patient in attending to my progress through the program and my evolving research project, and the overall result has been to foster in me a deeper appreciation not only of art history, theory, and criticism, but also of the world around me. I also very much appreciate the thoughtful feedback and advise given by the other members of my committee—Amelia Glaser, Marcel Hénaff, Grant Kester, and Lesley Stern—and I feel exceedingly fortunate to have had their combined intellect, experience, and passion converge to evaluate my research.

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ABSTRACT OF THE DISSERTATION

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In the early work and theory of the Italian futurists, physical motion constituted a modern and modernizing condition that informed their visual ideas and signaled a new mode of subjectivity associated with mass, urban collectivity. In particular, energetic discharge served as both a central visual analogy and as a conceptual framework for representing social and cultural renewal. Using a range of methodologies including visual and textual analysis, historicism, intellectual and cultural histories, and interdisciplinary comparison, one of the

leading revisionisms of this research in an attempt to re-adjudicate both the nature and the critical centrality of the machine metaphor as an interpretational key to the first phases of futurism. In contrast to contemporaneous images of motion based on precise linear progressions or mechanical sequences, early futurist visual works employed various strategies often centered on the complex interaction among internal and external forces generated in that through the human body to indicate psychic, physical, and social processes. Physical exertion, for example, came to signify mobility across a wide spectrum of literal and abstract connotations. Although mechanical reproduction influenced their approaches, artists such as Giacomo Balla, Umberto Boccioni, Anton Giulio and Arturo Bragaglia, and Carlo Carrà responded with nonmechanical imagery that was formally and conceptually rooted in action, agitation, and sensorial intensity—that is, in psychophysical and social automatism. The seven chapters address specific motifs, media, and contexts that shaped these ideas, including futurist crowd imagery, futurist photography, mechanomorphic imagery, the convergence of early futurism and early Italian cinema, futurist sculpture (especially Boccioni's *Unique Forms of Continuity in Space*), and avant-garde theories of color. Instead of simply demonstrating mechanical, linear, or chronological sequences in their imagery, many of their most inventive and convincing works represent immaterial forces manifesting in material forms and associated with the feeling anticipation, in which the future seems to unfold in the temporal present.

Introduction

An atmosphere of agitation permeated Italy in the years prior to World War I. It was an era of widespread social and political unrest that was, at times, directly associated with intensifying psychic and physiological forces. In 1913, for example, polymath Guglielmo Ferrero characterized the present moment as having an air of nervousness: “Never has man lived in such a state of permanent and growing excitement ... It is this excitement which has produced the formidable explosion of energy that we are witnessing on our little planet.”[1] According to Ferrero, as this bodily and mental agitation increased, social dangers grew: “Can we conceive our perpetual agitation being left without any limits save exhaustion, insanity, or death? ... The limits of the overexcitement of our nerves raise one of the most serious problems of our epoch.”[2] Early Italian futurism from 1910 to 1915 engaged with this feeling of physical exertion in its innovative cultural program, gave expression to what Ferrero termed an “explosion of energy” moving through a rapidly modernizing Italian society. A premise informing my research centers on the spontaneous, disruptive potential captured in futurist visual art and focuses on the ways their aesthetic of movement imagined and mediated the effects of modernization. Futurist works pushed beyond traditional limits of static form and symbol to envision the unfolding of social and historical change. As with Ferrero’s attribution of broad social and historical forces to bodily excitement, futurist visual artists relied on the human figure to provide a framework through which to inscribe the message of physical, psychic, and social excitement. This energized futurist figure expressed a generalized experience of anticipated change: stemming from the experience of bodily motion.

One of the aims of my research has been to reevaluate the characterization of early Italian futurism as an early-twentieth-century movement that pivots around and privileges the symbols of modern technology. For over some forty years, the futurist “myth of the machine” has neatly encapsulated for art historians the defining shape of futurism—a visual aesthetic,

as well as a guiding ideology.[3] The almost irresistible urge to explain this cultural movement in terms of mechanization sacrifices conceptual nuance on the altar of explanatory expediency. The machine interpretation is insufficient, even though it holds some truth. There is no doubt that the machine myth encapsulates aspects of the movement, especially in the works of founder Filippo-Tommaso Marinetti, who employed a torrent of machinic metaphors in his manifestos, novels, poetry, and other writings and who launched the movement in 1909 with a powerful image of technological pleasure, catastrophe, and rebirth.[4] Highlighting Marinetti's mad engine of combustion and conflict, the machine myth has come to signify a convergence of pre–World War I artistic works within a broader context of social life, politics, and industrial development.

The machine analogy has provided a convenient schema for locating diverse tendencies in literature and visual art and for anchoring generalizations about industrial development, and it has served as a device for explaining a later turn toward fascism during the interwar period. Although it is possible to list the numerous symbolic references to machines in futurist painting—trains, automobiles, streetcars, etc.—an inventory of technological references does not describe the more enduring tendencies of futurist visual artists in the prewar period. If an all-purpose machine analogy appears to unify numerous disparate tendencies and to perform a variety of discursive functions, in the end, its structure obscures significant aspects of futurist visual production. It generates a deceptive image that can easily ignore such important developments as: the thread of social and aesthetic activism common to many futurists; their investment in visual modes of gestural expression; and Umberto Boccioni's anti-technological sentiments. The visual works produced by futurist artists do not illustrate Marinetti's machinic, at times militaristic, rhetoric, nor do they dutifully transcribe the common theme of mechanization. While it is true that mechanical forms and technological concepts inspired aspects of the futurist program, this study begins from an antithetical premise, intended to broaden the discipline's thematic and methodological

approach to the movement: that the technological frame of reference—the machine myth—mischaracterizes many of the visual forms found in futurist painting, drawing, photography, and sculpture during the years from 1910 to 1915. This study, then, emerges from an investigation of corporeal, rather than vehicular, velocities, and this point of departure can be inaugurated with an image of unrestrained figural motion.

A lattice of marks, dabs, and washes converge amid open white spaces where the paper remains visible. Angular, intersecting lines trace vortices unfolding in drunken paths from the center of the image. What do the squiggles and patches signify, and how do they resolve? The sinuous patterning appears to be an organic arrangement, corroborated by the title of the work—*Muscles in Speed* of 1913 (Fig. 1) by Umberto Boccioni.[5] Against a patchwork ground of chaotic vectors and abstract flourishes, visual recognition of the magnified figure is not assured. Cropped so closely as to be nearly unrecognizable, the moving, muscular figure spills off the limits of the rectangular image that discloses the rudiments of physical release, verging of diagrammatic simplicity. The contours of this bodily motif are sketched hurriedly—lacking a sense of finality that may even represent a false start, practically finished before it even began.

Now launching my investigation of the visual strategies in early Italian futurist, this modest work on paper sparked my own speculation several years ago concerning the apparent disjunction between the figural works by Boccioni and the frequently discussed themes of futurism, such as mechanization, vehicular speed, rioting, and war. My point of departure is not with the familiar iconography of speeding cars, nor with the issues that trail in their wake, such as the technological sublime. Likewise, I do not focus on larger-than-life personalities—from Marinetti to Mussolini—who spur followers to action, nor do I commence with fanfare-like calls for social or political revolution. Instead it begins with another type of direct appeal: I begin, instead, with a modest work on paper that plots the curves and angles of rapid bodily motion. Emphasizing figural movement in works throughout his career, Boccioni

regarded the interface of psychic and physiological systems (historically termed the mind-body dichotomy) as both the precise location of subjectivity and a potent source of social and even political agitation, according to which the physical attitudes of a body register and even redistribute broader cultural energies.

The figure in *Muscles in Speed* simultaneously expands and contracts in the frame: the lines read as fibers flexing and slackening amid a constant proprioceptive flicker, and the turbulent swirl of corporeal elements stilled mid-stride is not directed or finite. This body is not contained by anatomical or rationalist logics, but neither does it churn endlessly in a fatalistic spiral or disintegrate into pure abstraction. Rather, through a pictorial and physiological oscillation, the form distributes forces—from the core to its extremities and from the periphery to its center. The exertion manifests desire and plunges into action—drawing and moving—and that action emerges as articulations on a homogenous visual plane. Accidental marks within and beyond the figure also capture the ineffable contingency of particles in motion, whose paths might be projected but cannot be known in advance. White smudges mix with ink and pencil, for example, to visually inscribe restless forces, not yet actualized, and the lines indicating force, such as around the right knee, extend perpendicular to the plane of physicality. As with other images of figural motion in his series from 1913 titled *Dynamism of a Human Body*, this work on paper articulates a visual rhetoric oriented to expressing dynamism. The artist himself suggested that the visible traces of motion aspire to invisible ideals: “With dynamism, then, art climbs to an ideal, superior plane, creating a style and expressing our own age of speed and of simultaneity.”[6] Like Ferrero, Boccioni observed a pervasive condition of that historical moment, and the artist gave that generalized excitability a name: “Dynamism is a general law of simultaneity and interpenetration dominating everything, in movement.”[7] This concept of dynamism delineates a broad field within which the futurists extend many of their most ambitious investments, but the term *dynamism* tends to obscure rather than clarify the complicated relationships between their images, techniques, and

rhetoric. Shifting among registers of meaning—material, psychic, metaphysical, political—the term became a catchall concept for describing, but hardly explaining, specific works by Boccioni, such as *Muscles in Speed*, as well as the general visual strategies employed by him and other futurists to address visual problems. Although dynamic figures may well express dynamism, such tautology marks the spot to excavate more satisfying answers to the question of how the artworks function visually.

To reassess the shape of early futurism, I cast a net widely across diverse visual strategies in different artistic mediums, both within and beyond the movement. I develop and clarify this revisionist approach to futurist visual art by following a set of concerns different to, but not entirely separated from technological concerns. The questions before me are: What are the key themes and tendencies in early futurism? What formal techniques are used, and what principles inform those techniques? How do the principles and techniques associated with futurism function in relation to other avant-garde movements during the same historical period and to the rapidly developing mass medium of cinema? I believe these formal and historical questions cannot be addressed without both substantial contextualization and sustained discussion of the intellectual currents with which the images engage, including the fields of social and political theory, philosophy, and economics. Framed by the social and intellectual contexts of the period and by specific aesthetic issues, one hallmark of the movement was its ambition to affect various social and cultural changes, while engaging different artistic mediums and genres. Although I have mostly limited the chronological brackets of this study to six years from 1910 to 1915, I investigate diverse mediums both in the visual arts and in other areas of cultural production, including cinema, literature, and fashion, for example. This comparative approach serves to locate futurist visual strategies within a range of contextual frames active in the early twentieth century and to extend the discursive territory available to their art historical interpretation. Shuttling between futurism and its Italian cultural context, as well as between futurism and the more general European cultural

and social circumstances, my research attempts to recalibrate the aesthetic potentials of key artworks, while aiming to organize these strategies into a conceptual structure that preserves the depth of visual and intellectual inquiry and that remains loose enough to accommodate a wide range of thematic and visual solutions.

Linking specific visual strategies in futurism to different avant-garde groups and to the social and philosophical context, my research develops an interpretive topography designed to more fully articulate the conceptual and formal innovations. The basic aesthetic and historical structure of early futurism revolves around the explosion of physical, psychic, and social energies—developing a poetic visual language of modernization. Believing the experiential and psychophysiological dimensions of the human body to be an essential source of modern vitality, Boccioni wrote in 1914: "lines and contours exist as forces bursting forth from the dynamic action of bodies."[8] Exemplifying this bursting forth, *Muscles in Speed* manifests an upsurge of bodily forces. Beginning from the bent thigh contour in the center of the image, the viewer's eye circumnavigates the laconic washes at the right and bottom, which insinuate a figural contour before slipping to the edge of the image, and then it refocuses on the up-turned wedge of torso, pushing upward with linear precision toward the upper left corner and moving, once again, out of the frame. The vitality of this image derives, in part, from the thematic indication of uncontrollable discharge—bodily automatism—that opposes mechanization, perhaps counterintuitively, through the application of unpredictable force. In lieu of the determinate outcomes of machinic activity, bodily automatism demonstrates spontaneous activity and indeterminate outcomes within perceptual, physiological, and social domains. The compositional strategies geared toward unfiltered, instinctual inscriptions, later dubbed "psychic automatism" by surrealist André Breton, assumed bodily and social forms in Italian futurism before World War I. To stage this study, I make use of a structural and thematic analogy that I find more conducive than machine metaphors to comprehending the breadth

and ambition of the movement. The futurists sought the visual and aesthetic terms by which to negotiate and express the general agitation Ferrero identified.

Emerging around the same time as cubism, early futurism articulated several visual and textual reactions to the French movement and worked vigorously to distinguish its ideas and techniques from cubist paradigms. Although I am not interested in adjudicating the preeminence or priority of one over the other, it is important to note that the history of futurist visual art is decisively intertwined with cubism and with the intellectual and artistic discussion of the movement throughout Europe—and beyond.[9] Just as the futurism defined itself, and continues to be defined, *against* cubism, I believe the revisionist methods honed in relation to cubist history extend, with important qualifications, to revisionist efforts in the history of futurism. In a specific case, Picasso pioneered a method of iconographic reduction, as with his work *Guitar* (1912–14), which many art historians understand to be a semiotic approach to visual inscription, which posed the image as a visual sign within which its parts developed in arbitrary relation to one another, rather than according to naturalistic resemblances.[10] It has been noted, for example, that the same repertoire of geometric forms denoting facial features is deployed elsewhere to represent the stringed instrument.[11] Picasso's emphasis on linear qualities bracketed out codes that imitated the natural appearance of objects or parts, thus producing meaning not by virtue of innate or indexical reference, but as a structure of differences between similar formal marks. In order to render a snapshot of the formal relationships among parts within a system, semiotics fixes relations by removing the destabilizing aspect of time.[12] Although well suited to historical interpretations of cubism, semiotic analysis is not particularly suited to interpreting futurist visual art. Unlike the Picasso's rigorous visual language, concentrating on subject matter that was often presumed to be static (e.g., still lifes and seated figures), the futurists aimed to show phenomena undergoing temporal change (e.g., physical actions). Rather than assuming that futurism, due to its different aesthetic concerns, is not conducive to a semiotic approach, my aim has been to

extend this methodology to futurism and to analyze how temporal cues become embedded in static visual forms. If futurism poses a kind of limit to this method's applicability, it may also be a test case for extending the semiotic approach to futurist works—as signs of motion. A shift from Picasso's static arrangements to the futurists' impressions of movement works like a shift from Saussure's static sign to Peirce's index that implicitly acknowledges a process or a passage of time. I propose that, in contrast to cubist iconographic reduction, the profuse effects of the futurist explosion of energy manifest a class of indexical signs—that offer visible traces of motion, heat, or other temporal changes.

The energetic burst provides a flexible interpretive structure for tracing diverse tendencies emerging from visualizing movement, from aesthetic experimentation, and from the core futurist belief in an accelerated rate of sociohistorical change. The analogy of explosive force provides a structure initially derived from common visual strategies, but also describing a range of techniques moving across a number of discourses and unifying physical, psychic, and social dimensions of movement. While this energetic analogy is not absent from historical and theoretical accounts of early Italian futurism, it has not been formally specified, and its social implications have not been drawn out.[13] While this study is not a comprehensive view of early futurist visual art and while it does not even exhaust the topic of how visual strategies manifest visual, social, and conceptual movement, it aims to revise the mechanistic version of early futurism and to provide a way to shift among various interrelated practices and discourses. Recalibrating the machine myth becomes integral to identifying a more systematic, if less rigid, structure of the flowing force, and, even as it remains distinct from the machine analogy, this expansive interpretive structure repeatedly intersects with the technological domain. Even for Boccioni—who was a critic of using technological processes in creative expression—the human figure negotiates its potentials, actualities, and limitations amid the diverse forces of modernization that include vehicular and communicatory means. Overall, early futurist visual works represent specific artistic responses to both the formal inventions of

cubism and the technological processes of the still and film camera, while also rebelling against Matisse's idea of the serene image, devoid of troubling themes and free from the effects of overexcitement.[14] To paraphrase somewhat reductively, I look at how the strategies and discourses used to present futurist explosiveness interfaces with and interpolates both avant-garde practices and machinic imagery. As recurrent motif and conceptual analogy, the explosion organizes a set of aesthetic strategies loosely affiliated with futurism, capturing an anxious sense of renewal and uncertainty, as well as those consequences, some problematic and grave, that emerged from its expression. In my effort to analyze futurist figural motion as both historical (i.e., as symptomatic of aesthetic and social problems of the era) and semiotic (i.e., as a set of visual strategies for presenting the static forms connoting change), these chapters look to define certain techniques to visualize temporal processes to signal sociohistorical and cultural changes. This study has been structured around four interrelated topics: crowds, mechanical reproduction, bodily motion, and coloration, and each of the seven chapters centers on these areas, examining types of energetic discharge across a spectrum of physiological, technological, intellectual, sociopolitical, and formal concerns.

Chapter 1 demonstrates how futurist crowd imagery participated in competing models of social and cultural change and in historical discourses of collective identity. I discuss four different types of mass agency that mediate between artistic practices and sociohistorical ideas: productive, agitated, consumptive, and patriotic. While the productive crowd inspires a sense of collectivity and socioeconomic betterment through the expenditure of physical forces, the agitated crowd uses various strategies to depict some of the perceived threats posed by the general population and by radicalized workers. By contrast, the leisure crowd avoids the worrisome effects of social conflict by emphasizing perceptual disruption rather than social disturbance, and, after more than two years, the patriotic crowd emerged as another type of collective from a combination of elements found in earlier crowd images. Within and across this typology, futurist crowd types carry highly differentiated sociopolitical and psychological

valences. To analyze forms of mass agency in relation to developments in the visual arts, I attend to formal, social, and even technical issues, navigating among methodological approaches—specific social contexts and broader intellectual currents, for example. Sociocultural and historical materials offer important contextual markers that align the formal registers of artworks with intellectual and political discourses. This opening chapter outlines the extent to which early futurist images corresponded with competing sociopolitical ideologies, even if often in unorthodox ways. In their animated and visceral appeal, the futurist works present diverse modes of *art-action*, a concept that Marinetti used in 1911 to describe an integration of aesthetic and social tendencies. While some art historians documenting the political context of futurism have proposed interpretive models of aesthetic activism, rooted in an Italian tradition of public action, these models have not been fully extended to the formal ideas for presenting activist attitudes.[15] Revealing some of the tensions and outright contradictions within futurism and providing important background for subsequent chapters that investigate more strictly formal concerns, this chapter gives an overview of the visual strategies developed to convey different visions of mass society, and it poses some specific art historical and methodological problems to be explored further.

If there is a place for technological innovation in the story of early futurism, it is surely with respect to the camera, which provided an adaptable tool for illustrating bodily movement. Indeed, both still and moving images underwrote various systems of visual inscription that influenced a variety of avant-garde artists, not only the futurists. Avant-garde artists responded literally and conceptually to the historical prominence of the photographic apparatus, though they arrived at different conclusions about the ways technology could mediate psychophysical expressiveness. In chapters 2 and 3, the myth of the machine is redirected to the diverse visual strategies used by futurists and other artists that present motion as effects of mechanical processes. The biomechanical method developed in the late nineteenth century by Étienne-Jules Marey was applied to aesthetic ends by Marcel Duchamp and Giacomo Balla,

who rendered bodies in motion according to the principles underlying Marey's productive innovations: reduction and parallelism. The biomechanical method produced a recognizable visual mode based on sequences of repeated elements connoting temporal change, and the automatic processes of photography grounded the indexical concepts to particular visual forms. Duchamp's paintings of figural trajectories from 1911–12, for instance, used the scientific method in a manner that was intentionally schematic and impersonal, in order to convey a sense of ironic detachment. Although Duchamp denied any relation between futurists' texts and images and his own work, he shared a common source in the biomechanical method with futurists Balla and the collaborative brothers Anton Giulio and Arturo Bragaglia.

After laying out the essential principles in the biomechanical method in the second chapter, chapter 3 considers the Bragaglias' futurist-inspired system of photographic research. Framed as a response to issues of subjectivity endemic to Marey's biomechanical method, their theory and practice of futurist photodynamism attempted to reconcile seemingly incompatible aesthetic, scientific, and technological aims, exhibiting a novel strategy for signaling bodily expressivity through mechanical reproduction. As with Duchamp, the camera provided a key source for revising figuration, but, unlike the French artist's mode of reductive analysis, the brothers developed a means of preserving—even inducing—brief bursts of activity. Relying on the contemporaneous research on gesture by physiologist Wilhelm Wundt, my analysis of the Bragaglias' images outlines their visual system that presented both general modes of behavior and unique traces of individuals. While Duchamp used biomechanical forms to establish a purposeful distance from emotive and gestural expression, the Bragaglias wanted to capture photographically the fleeting evidence of expressiveness, in order to reveal the purportedly vitalist essences of subjects through the mechanical inscription of their bodily movements. Central to their research was the photographic technique of blurring that indicated movement outside the conventional rules of figuration and beyond naturalistic photographic

representations. The energetic forces they sought to represent also extended to an interest in metaphysics, directly linking their research to a spiritualist approach to image making. Their ideas and techniques helped to reframe Marey's key innovation involving indexical processes—from simply providing a source for reductive forms to finding more expressive and abstracted forms of rendering bodily motion.

Even though they were related to mechanical processes, the visual systems based on the biomechanical method largely eluded direct reference to technological content. In chapter 4, I turn to explicitly mechanomorphic imagery found in avant-garde visual and literary works of the prewar period. Although one frequently finds hybrid human-machine imagery in Marinetti's futurist literary works, the visual artists associated with the movement eschewed this association. In light of a common misconception about early futurism, it is important to distinguish between futurist visual imagery and the images of mechanized bodies that were prominent in French and British art prior to World War I. The mechanomorphic figure composes a unique constellation of motifs that reveals both a desire to integrate human anatomy and technology and the threat posed by that integration—to the physical body, to forms of communication, and to traditional ways of life. Subverting the purportedly natural body, mechanomorphic images envision an adaptable bodily medium onto which mechanical forms and automated behaviors can be readily imprinted, while implicitly curtailing overflowing expressive emotion and channeling them toward well defined purposes. Also, if these mechanical figures mediate thematic and formal concerns about technology, they also mark the displacement of the artist by automated processes of production, as with photographic and filmic mediums. This dichotomy between manual and automatic processes in mechanized figures illustrates some of the visual strategies by which artists negotiated an underlying tension playing out in during that historical period—between the mechanical and functionalist views of modern society, on one hand, and the physiological and vitalist approach to modernization, on the other.

In chapter 5, the convergence between futurism and early Italian cinema provides the backdrop for investigating the correlation between futurist works and historical epic films. Instead of documenting the futurists' involvement with the film medium, I look at how certain commercial films made during this period absorbed themes and strategies of visual representation from futurism, as well as how this process of aesthetic diffusion reproduced overflowing psychosocial energies in terms of forms and figures situated in the ancient world. In this phase of Italian film production, a sense of group identity was affirmed through images of a shared, heroic past, particularly by making use of imagery of large crowds. In this epic film crowd, contemporary social agitation was repositioned in the distant past in the form of the unruly onscreen crowds, overwhelmed by the uncontainable and unpredictable phenomena of disaster. A recurring image for modernization, cinematic disaster presented the idea of sociohistorical transformation in a spectacular form adjacent to avant-garde visual art. The onscreen responses to unpredictable natural events absorbed and redirected the social and psychic disruption expressed in futurism: for instance, the agitated and productive energies presented in futurist crowd imagery were diffused into the hypnotizing visual effects of simulated crisis. This chapter gauges the parallel visual developments in cinema and this avant-garde movement, even if some futurists remained wary about the film medium and distanced themselves from its mechanical processes.

If futurist crowd imagery from 1910–11 imagines the critical power of crowds based on spontaneous social action, Boccioni's figural works from 1912–13 render this spontaneous agency as a basic mode of anonymous bodily exertion and reconfigure the naturalistic body to exceed social and aesthetic boundaries. Chapter 6 investigates how Boccioni's drawings and sculptures invent a language of plastic form associated with a modernized subject—acclimated to speed and industrial growth, but also left to chart its own course in an unknown world. The artist imagined the proliferating vectors of the body through a range of unbounded shapes and volumetric extensions, transcribing internal forces into external forms. If the abrupt

motion of his works verges on the loss of control and creates an aggressive visual effect, often mistaken for machine-like determination, it also opens to the potential for escape—into the anonymous crowd. The aesthetic of bodily motion plays mobile against immobile elements and fuses the figure with its surrounding architecture as a way to capture unfolding actualities. The central example in this chapter is Boccioni's *Unique Forms of Continuity in Space* (1913), a work that offers complex formal and conceptual registers of meaning and that lends itself to a range of comparisons with modern and ancient works. My argument hinges on the plaster version of this iconic statue that carries distinct connotations from the posthumous castings of the work. While its visual pattern indicates an explosive force that makes the work seem complicit with both a militaristic, masculinist discourse and a growing nationalist fervor, my assessment of the work's significance mutes the patriotic dimension of the work by bringing to the fore specific strategies for inscribing the fluid motion of a subject exposed to shifting economies of desire.

Another dimension of early futurist aesthetic invention derived from its experiments with coloration, explored in chapter 7. In order to break out of the constraining systems of color in French and Italian painting at the turn of the 20th century, the early futurist painters made repeated appeals to extreme forms of chromatism in their writings, premised on a rejection of both cubism and the medium of film. For instance, Boccioni asserted his desire to present living processes that are colorful rather than gray, and he had a hand in developing a chromatic theory that suggested various spiritual connotations for colors. In early 1912, the artist shifted his rhetoric and formal practices, declaring a new interest in applying color in planes, rather than in strokes. Many of his paintings from 1911 to 1914 chronicle his various attempts to solve the problems associated with presenting movement chromatically, and his works are contrasted with those of other futurists, as well as with the works of other avant-garde painters, such as František Kupka, Robert and Sonia Delaunay, and Fernand Léger. A central issue to avant-garde approaches to color was to conceive of chromatic variation apart

from naturalistic codes. Reflecting a widespread interest in the modernizing effects of color, futurist painters sought to express the experience of change through chromatic principles that were absent from cubism and were as-yet impossible to capture by the available forms of mechanical reproduction. They resisted machinic imagery in favor of exuberant bursts of color that comprised a search for a visual language to express temporality. Based on a shared interest in nonnaturalistic coloration, this concept of colorized processes provides the basis for broad historical and conceptual analysis in this chapter that highlights a split within futurism between those who employed traditional mediums of expression and those who explored the qualities of technological mediums.

When a machine metaphor is used to describe early futurist aesthetics—both with respect to its referential content, as well as a deeply embedded metaphor for discipline and social order—this avant-garde movement is usually linked to the dominant paradigms of rationalization used to define historical change in Europe from the mid-nineteenth until the mid-twentieth centuries. This machinic analogy places futurism in a historical lineage that extends from Marxist revolution to the efficient social machinery of fascism. For instance, Marx's idea of the "motor" of history posits that social inequality triggers a collective response to forces of exploitation and greed. This seemingly mechanized historical force operates under the assumption of social equilibrium through which the social awareness of workers translates into radical social change and inevitably steers history toward social and economic betterment for everyone. This homeostatic principle of society is similarly evident in an approach to sociological research, termed functionalism, which influenced a range of disciplines and extended from the late nineteenth century to the middle of the twentieth century. In this functionalist paradigm, a societal organism comprises a spectrum of definite roles for different groups and classes, as well as for persons of different backgrounds, aptitudes, and interests.[16] Not just workers, but all sectors of society have specialized functions, and each person adds to the whole, like one of the interrelated parts of a larger machine. In a similar vein, the idea of

the “human motor” followed a commitment to rationalized production, focusing on worker activities to elevate overall socioeconomic output.[17] Through the science of work in the late nineteenth and early twentieth centuries, this factory model of efficiency manifests a view that a society can function more efficiently—with less wasted energy, less unfulfilled potential, etc. If this makes some sense in the economic sphere, when applied to the political sphere, it translates into a drive to eliminate any dissent that might drag down productivity. An extreme form of this model of efficient socioeconomic functioning takes the shape of authoritarianism, gaining momentum, even as some members of society are left behind or discarded. Perhaps inadvertently, the machine metaphor positions early futurism historically and conceptually within this lineage of social modernization that links the mechanics of production to the ideological machinery of the stable, strong nation.

Challenging the myth of the machine reveals that futurist visual practices cannot be fully assimilated into the historical lineage that culminates with fascism, and their practices likewise resisted the mechanical explanations of accelerating social forces. Although the futurists shared a developmental view of history with Marx’s economic philosophy and with functionalism, their concept of motor forces was bound to those spontaneous social and bodily forces unleashed for the cause of artistic freedom.[18] For instance, the principle of *art-action* signaled a break from social and economic rationalization and instrumental reason. In 1914 Marinetti described a willful lack of clarity for the futurists regarding sociohistorical determination: “We do have some notion of where we are going, but we systematically banish these visions from our brain, since they are almost always unhealthy and almost invariably the product of a depressed frame of mind.”[19] Because they were allied with means and not with instrumental ends, the temporal structure emerged through action and through aberrant, unpredictable forces. He then proceeded to characterize futurism in energetic terms: “The public will come to understand us [futurists]; it’s all a question of energy, and this we have in plenty.”[20] Not predetermined or mechanical, the explosion of energy stands at the conceptual

core of the cultural movement, opening to an unknown future, and the early futurist visual artists endeavored to show these expansive forces at work.

In 1913, poet and critic Guillaume Apollinaire described how poets and artists modulate those forms that convey impressions of unfolding experience and that come to represent a historical epoch: “Poets and artists together determine the shape of their time and the future submissively falls into line.”[21] I try to better understand the shape of time in early futurism and to trace the diverging and intersecting lines that present its ideas of emergent action. For instance, Boccioni’s *Muscles in Speed* conveys an impatience for the future: it shows a discharge of physical forces, adding up to a hasty reconfiguration of the visual terms by which the body is presented, and it signals an evacuation of the space of the anatomical body, a pursuit of freedom in motion, and a testing of limits. In the context of prewar Italy, Ferrero referred to “perpetual agitation” in the context of cultural activities, such as athletics and other types of active leisure, that manifested irrepressible potentiality for the individual subject and that served to limit its psychic and behavioral excitement. It was a dire situation, according to him: “The modern world has need, great and urgent need, of balance, measure, and harmony, if it is not to run the risk of being stifled by the excess of its energy.”[22] Ferrero asserted the need to limit what he envisioned to be inherently unbounded.

This idea of overflowing psychic and physiological forces appears in the context of contemporary thought as well. Philosopher Brian Massumi describes the tendency of bodily forces to become reorganized due to “*the actuality of an excess over the actual*,”[23] and this expanded framework for thinking about the energetic flows supposes a mode of subjectivity that extends beyond the individual subject, while anticipating other modes of existence in the world. According to this reformulation of the terms for describing embodiment, the human form does not comprise a kind of social or historical clockwork, unwinding predictably toward definite ends; rather, the profusion of forces traversing the body suggests a pronounced tendency toward systemic openness and adaptability, derived not from static form, but from

the depictions of motion. Avoiding clear delineation and mechanization, the open, adaptive model shapes a formal and conceptual field in which bodies are not simply physically active, but they compose images of complexly interconnected movements. Responding to a generalized historical condition of energetic excess, the futurists sought to express diverse forms of movement—through crowds, figural action, lines, and colors—using a variety of aesthetic strategies to indicate their sense of a different shape of time. Their visual works frame a historical moment in which the mobility of visual signs mapped an explosion of psychosocial potentiality.

This research employs a combination of art historical methods to trace the concept of movement through various interpretations of the central motif in early futurism—energetic excess. While this structural analogy revolves around the shape of time in specific formal, social, and historical ways, my work offsets historiographic claims of machinic dominion and charts the visual language of time and motion suddenly rushing forth. One of the challenges of my work has been to construe social and historical significances alongside formal innovations without unnecessarily limiting the interpretive scope of an elusive, complicated cultural project that had the ambition to remake the world. Among the issues prompting my work, I have wanted to learn: what are visual techniques indicate movement, and what do they signify? To preserve the most exciting elements in the answers I found, I have used a range of art historical methods, including developing a model for integrating these methods with ideas from outside the field. The force of my interpretation relies, I hope, on adopting an open structure of energetic expansiveness, rooted in the futurist visual practices. Particularly in my analyses of the signs of motion amid social, historical, and intellectual currents, I have been able to reassess the significance of those visual strategies oriented to indicating the passage of time in a system of fixed and static forms. This interpretive structure has the capacity to accommodate diverse, at times competing strategies for visualizing the effects of modernization, and it also shifts among the key themes of early futurism, while setting them

within an expanded context. Through my diverse thematic and methodological framework, I aim to demonstrate that the futurist premise—to present the forces of social and historical change—continues to shape time, by informing the way art history is practiced.

Notes

[1] Guglielmo Ferrero, “The Limit of Sport,” part 5 in *Ancient Rome and Modern America: A Comparative Study of Morals and Manners*, 1914, 339.

[2] Ibid., 339–40.

[3] Enrico Crispolti, *Il mito della macchina e altri temi del futurismo*, 1969. Futurism is positioned within the more general lineage likewise called the machine myth in Roberto Tessari’s *Il mito della macchina: Letterature e industria nel primo Novecento italiano*, 1973.

[4] Among the numerous examples of Marinetti’s mechanistic imagery before World War I are “The Founding and Manifesto of Futurism” (1909); his novel *Mafarka the Futurist* (1909), in which a mechanical child is constructed by a man; and the manifesto “Extended Man and the Kingdom of the Machine” (1910–15). I will detail this machine myth in the context of contemporary futurist scholarship in chapter 2.

[5] I have opted to translate the title of Boccioni’s *Muscoli in velocità* as *Muscles in Speed*, rather than as *Muscles in Velocity*, in order to reflect a common usage of the term *velocità* in the context of physical fitness. It is more common to say that an athlete has speed, rather than to say he or she has velocity. For example, see Davide Rizzo, ed., “Le capacità condizionali,” published by Centro Sport e Cultura, Venice; http://www.csc.ve.it/Index_uso.php?pubblica =capacita/cap_condizionali_forza_ velocita_resistenza.php (accessed May 2011).

[6] Umberto Boccioni, “Plastic Dynamism,” 1913; reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 2001, 94. This text was first presented as a lecture on December 12, 1913; then published in *Lacerba* on December 15, 1913.

[7] Ibid.

[8] Boccioni, *Pittura e scultura futuriste*, 2006, 76. [Original reads: “Le linee e i contorni esistono come forze sprizzanti dall’azione dinamica dei corpi.”]

[9] Lista uses the different social and political investments between cubism and futurism (i.e., bourgeois and workers) as a formative dichotomy for the later group and its vociferous challenge to cultural traditions. Giovanni Lista, "The Activist Model; or, the Avant-Garde as Italian Invention," *South Central Review* 13, no. 2–3 (Summer–Fall 1996), 13–34.

[10] As one example, Yve-Alain Bois has described Picasso's methodical response to African sculpture: "The Grebo masked proved to him that it was not a sign's morphology that was important but its function, its value within a system." Bois, "Kahnweiler's Lesson," *Representations* 18 (spring 1987), 55. This perspective was originally asserted by Daniel-Henry Kahnweiler in his article "L'art nègre et le cubisme," *Présence Africaine*, no. 3 (1948); reprinted in Kahnweiler, *Confessions esthétiques* (1963). It was recovered and reformulated in Rosalind Krauss's "In the Name of Picasso," *October* 16 (spring 1981); reprinted in Rosalind Krauss, *The Originality of the Avant-Garde and Other Modernist Myths*, 1985, 23–40. Recent art historical texts in which the approach adopted by Picasso has been characterized as having been rooted in a semiotic understanding of visual form include David Cottington, *Cubism and Its Histories*, 2004, 203–214; and Christopher Green, *Picasso: Architecture and Vertigo*, 2005, 157–59.

[11] Christopher Green, *Picasso: Architecture and Vertigo*, 2005, 157–59.

[12] Johannes Fabian describes the structuralist perspective of time: "The possibility of identifying and analysing semiological systems is unequivocally said to rest on the elimination of Time and, by implication, of such notions as process, genesis, emergence, production, and other concepts bound up with 'history.' Diachrony does not refer to a temporal mode of existence but to the mere succession of semiological systems one upon another." Johannes Fabian, *Time and the Other: How Anthropology Makes Its Object*, 1983, 56; cited in Peter Osborne, *The Politics of Time*, 1995, 27. Osborne goes on to observe, "Structuralism explicitly

excludes the actively constitutive phenomenological present, the durational 'now,' from its framework" (ibid., 28).

[13] Hal Foster refers to the energetic motif: "Futurist motifs of the burst of energy and the gesture forced free of the body, and futurist lines as vectors of force and traces of speed, tend to disintegrate form and to interpenetrate objects" (Foster, *Prosthetic Gods*, 2004, 131). In Foster's argument, the bodily outburst reinforces a psychosocial process rooted in castration anxiety, whereby the futurist subject becomes more tightly bound to the aggression it harbors. In a text on the mechanical body in futurism, Ada Masoero refers to Boccioni's "splinters of energy" in her text "Stile d'acciaio," appearing in Ada Masoero, Renato Miracco, and Francesco Poli, eds., *L'estetica della macchina* (Milan: Mazzotta, 2004), 15, note 2.

[14] Henri Matisse, "Notes of a Painter" (1908); reprinted in Matisse, *Matisse on Art*, ed. Jack Flam, 1995, 30–43. Matisse uses the term *overexcitement* (ibid., 38), and he also claimed: "What I dream of is an art of balance, of purity and serenity, devoid of troubling or depressing subject matter" (ibid., 42).

[15] As an example, Günther Berghaus has documented the social and political contexts in Italy at the time, as well as the attitudes of the futurists, as best as they can determined from the historical record. His exemplary historical research into this question has been useful for my research, which remains separate from my more resolutely visual or "aesthetic" framework. See Berghaus, *Futurism and Politics: Between Anarchist Rebellion and Fascist Reaction, 1909–1944*, 1996. In addition, Giovanni Lista sketches out an "activist model" of futurism that frames the movement's confrontational dimension as a conscious rehearsal of a common patriotic claim (from the time of national unification) that Italian identity is based on action. Giovanni Lista, "The Activist Model; or, the Avant-Garde as Italian Invention." For Lista, this activist model in futurism provides a clear contrast to cubism's "atelier model," oriented more toward nonconfrontational practices both in the studio and for the gallery exhibition. While not

addressing Lista's idea of preeminent futurist influence on the interwar avant-garde movements dadaism and surrealism, I do attempt to modify and extend this central activist premise to make it more suited to analyzing the developments in the visual arts.

[16] From the functionalist perspective, social relations are not aggregated, but are rather being perpetually delineated: instead of all workers united, the teacher remains distinct from a road worker, who is distinguishable from a factory worker, and, even among factory workers, the drill press operator differs from the riveter, etc. This functionalist model would have difficulty explaining a broad socialist uprising, for example, since it deemphasizes the significance of class as a social division. Examples of thinkers who followed this approach include Herbert Spencer and Talcott Parsons.

[17] A well-known example of the rationalization of the workplace is Frederick Winslow Taylor's research on the specific routines of factory-based labor; Frederick Winslow Taylor, "Shop Management" (1903) in Taylor, *Scientific Management*, 1947. Historian Anson Rabinbach has documented the late-nineteenth- and early-twentieth-century analogy between physiology and technology in his work. Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity*, 1990.

[18] Marinetti makes reference to futurism being akin to functionalism, though this reference, rather than constituting an endorsement, simply tries to correct the misunderstanding that the futurists were nihilists: "We prefer being accused of functionalism rather than of being prophets of pessimism, harbingers of the great Nothingness. Our intense focusing on the present is preparing the way for a Tomorrow which will emanate directly from us." F.-T. Marinetti, "On the Subject of Futurism: An Interview with *La diana*" (Jan. 1915); reprinted in Marinetti, *Critical Writings*, 146–47.

[19] F.-T. Marinetti, "In This Futurist Year" (November 29, 1914); reprinted in Marinetti, *Critical Writings*, 233.

[20] Ibid, 234.

[21] Apollinaire, *The Cubist Painters*, 2004, 19.

[22] Ferrero, “The Limit of Sport,” in *Ancient Rome and Modern* America, 1914, 348–49.

[23] Brian Massumi, *Parables of the Virtual: Movement, Affect, Sensation*, 2002, 131 (original emphasis). In relation to this actuality of this energetic excess, Massumi also uses the phrase “a new mode of extended existence” (ibid.).

1. Crowd Formations

> The crowd has always held in its unconscious hands the fate of the world.
>
> —Scipio Sighele[1]

In "The Founding and Manifesto of Futurism," futurist writer and leader Filippo-Tommaso Marinetti offered a striking image of crowds energized by labor, leisure, and violence, flooding into the streets with revolutionary intensity: "We will sing of great crowds excited by work, by pleasure, and by riot; we will sing of the multicolored, polyphonic tides of revolution in the modern capitals."[2] Although he was, in early 1909, one of only a few members of this invented movement, he enlisted the sweeping, first person plural "we" to conjure an imagined collective of artists to serenade the gathering people. Like Karl Marx's vision of an international uprising, Marinetti's image of solidarity seized on a potentiality for social change that was able to flourish in the space of the imagination. Adamantly refusing a Romantic vision of isolated suffering, artists would catalyze a sense of shared purpose amid the crowd. His optimistic style employed vivid imagery reminiscent of fairy tales, while its speculative appeal imitated actual modes of public speech that historically urged political and economic outsiders to form diverse local and regional associations. It is a concise text based on dubious assumptions and bold exaggerations, painting a complicated, unsettled picture of the bond between art and political action. Among its peculiarities, this manifesto simultaneously addressed two distinct groups—the vanguard artists banded together and the working people mobilized around shared social or political aims—and the uncertain relationship between these separate collectivities generated immense rhetoric power, even while remaining unresolved in concrete aesthetic or political terms. This contradiction between call to action and undefined aims made the original tract worthy of ridicule, but also attractive to visual artists, writers, and musicians who were desperate for a new era of cultural modernity

to begin. Announced in a language of rebellion, futurism portrayed itself as an uncompromising manifestation of rapid social and cultural changes and as audaciously opposed to the traditional institutions of academic training for artists that fed conservative aesthetic tastes.

From this initial vision of "multicolored, polyphonic tides of revolution" to numerous tracts subsequently penned by other self-proclaimed adherents, the early futurist manifestos engaged consistently with the public discharge of social energies.[3] In a series of effusive, disjointed texts—giddy with demands, jammed with polemics, and overflowing with hyperbole—the futurists issued a new currency of modernist cultural politics. Such prescriptions for collective action aimed to convert workers and intellectuals alike to the ideals of social, political, and cultural renewal.[4] Even though such a desire for renewal guided modernists of various stripes, the futurists were unique in proposing a populist program that reconciled art with mass society.[5] Their exuberant rhetorical style, boisterous tone, and stirring cadences imitated the incendiary speech of political agitators who projected their voices over packed meeting halls.[6] Like political radicals of the day, the futurists believed their disruptions would lead to social transformation, but, in their case, this renewal depended on an artistic movement allied with the limitless energies of the crowd. Along with instigating social antagonism in print, their fiery prose was incorporated into live performances in various cities, often sparking physical altercations with audience members. On occasion, the physical texts also became an element in the public delivery of the futurist message, as, for example, when with hundreds of thousands of printed manifestos were used to litter Piazza San Marco in Venice.[7] While the futurists' language of rebellion was complexly intertwined with a philosophy of action and with actual political movements, comprising a vast subject by itself, my interest lies with the vivid imagery of the anonymous crowd—which defined the commencement of the movement and provided thematic continuity during its early years.[8] In the mirror of the raucous

crowd, the futurists recognized the ghostly visage of a modern urban society contorted by the forces of an imagined rebellion.

When the futurist painters launched their visual program with a manifesto in early 1910, they followed Marinetti's lead by evoking revolutionary action and by aligning themselves with the formidable power of the multitude. After an initial "cry of rebellion," the painters expressed a "violent desire" to "rise up," to "declare war," to "rebel against" cultural stagnation or anyone ill-disposed to modernization.[9] They suggested, "Italy is being reborn. Its political resurgence will be followed by a cultural resurgence."[10] An affiliation with the riotous crowd served to rally supporters and to antagonize other constituencies: "We condemn as insulting to youth the acclamations of a revolting rabble for the sickening reflowering of a pathetic kind of classicism in Rome."[11] Since the pejorative "revolting rabble" referred not to an actual mob, but rather to those traditionalists who formed the cultural status quo, this sentence produces a type of reversal: the establishment is symbolically debased and disempowered. Underlying this combative tone was a divisive, class-based logic that attacked the same bourgeois ideals that had historically permitted a measure of creative freedom. Likewise, this aggressively populist tone was at odds with the assumption, shared by many modernists, that artists required literal or conceptual distance from the crowd. In effect, by conflating artistic and political aims, the painters expressed an inconsistency similar to the one voiced by the founder. While Marinetti called for outrageous symbolic acts, such as the destruction of museums and libraries, the futurist painters extended this incendiary attitude to the visual arts. Another text by the futurist painters from a few years later attempted to resolve this perceived split between art and the people by describing new visual strategies that would concretely enact *art-action*, a principle describe by Marinetti as the guiding ideal of the movement.[12]

Signed by several futurist painters in 1912, "The Exhibitors to the Public" aimed to harmonize art with social change by correlating their compositional strategies with disruptive social and political activities. Expressed with unsettling precision, the painters claimed, "Our

art is violently revolutionary."[13] Instead of advocating revolt against the State, they aimed to inspire new social relations according to a two-fold plan to bridge the divide between art and the people. First, in order to put the spectator at the center of an artwork, they proposed that its visual qualities should convey the rebellious content. For instance, an image of a riot should present "sheaves of lines corresponding with all the conflicting forces."[14] Second, they explained their didactic intention to help the general population appreciate art: "In order that the crowd may enjoy our marvelous spiritual world, of which it is ignorant, we give it the material sensation of that world."[15] This desire to share aesthetic experience with the crowd supplied a not-so-subtle elitism that presumed to remedy the workers' lack of taste and their ignorance of the "spiritual world." In spite of this superior tone, not uncommon in the writings of many Italian modernists, the futurist painters had a unique strategy for achieving if not full reconciliation between social classes, then at least a sort of provisional resolution to social conflict. While common people were invited into the rarified realm of art, the visual forms were simultaneously recalibrated to better reflect the experiences of a disaffected, working population. It was in the spirit of this synthesis—to express rather than repress social conflict—the futurists turned to the theme of crowds in their imagery.

Echoing this language of social activism and situated within a complicated social and political landscape, the crowd images engaged with a set of social and political discourses converging around the subject of mass society. Committed to competing visions of social relations, the futurist addressed their subject in multiple, divergent ways—across a spectrum of imagery. In part, this chapter aims to revise an interpretative model that treats the futurist crowds as multiple versions of the same confused idea about modern society, rather than as distinct types of crowd images with highly differentiated content. In my view, the futurist painters expressed some of the various contemporaneous discourses related to explaining collective purpose in a modern, mass society. In a general sense, the futurists enthusiastically entered a capitalist marketplace to aggressively sell their products and ideas to mixed

audiences; at the same time, they positioned themselves in a media environment that increasingly channeled the forces of diverse constituencies into the dominant forms of mass politics. Synthesizing a clear commercial sensibility with forms of sociopolitical mobilization, futurism developed an unusual set of strategies for expressing social differences and turning pervasive conflict into a source of renewal. Their visual works, however, revealed some of the same inconsistencies evident in their texts—between art and politics, between individual liberty and collective action, and between commerce and sociopolitical conflict. These inconsistencies played out in the movement as distinct, at times divergent, views of the crowd. My approach to this imagery will be to highlight how their works represented some of the ideological schisms that existed both within the movement, and they continue to offer a valuable perspective into the deep ideological friction in Italian, indeed European, society before World War I.

This chapter analyzes four types of futurist crowd image that together render distinct versions of collectivity. The scenes of the imagery are organized around production, agitation, leisure, and patriotism. The first three crowd types manifest identical motivations to those attributed by Marinetti to revolutionary crowds "excited by work, by pleasure, and by riot," expanding on the implications of these different social behaviors; while the fourth type emerged somewhat later from a similar desire to envision social cohesion and cultural rejuvenation. To summarize briefly, the productive crowd imagines a gradual process of social betterment that conformed to and extended mainstream socialist ideology, and the agitated crowd envisioned violence as a viable means for achieving sociopolitical aims, in tune with progressive political thought of its day. Antithetical to that antagonism, the pursuit of recreational pleasure in the leisure crowd presented adjacent forms of social differentiation. These three types of futurist crowd appeared together in the first futurist exhibit in Paris.[16] More than two years later, the patriotic crowd marked a separate interpretation of social renewal and aesthetic innovation, which combined elements from those earlier types. After

investigating each crowd type separately, I will outline the significant features of their thematic relationship, giving particular emphasis to the implications of that temporal gap before the outbreak of patriotic fervor. Together these crowd image types directed social energies toward different visual ideas of social vitality, amounting to diverse speculations about the multitude's biopolitical potential. Their images of crowds produce distinct, sometimes incompatible, visions of collectivity that spoke to the intense social conflict in Italy and across Europe after the turn of the twentieth century. Casting the multitude in a spectrum of potential solutions, early futurism enacted visually a historical battle over the concepts, metaphors, and rationales for defining collectivity.[17]

This imagery falls in a long lineage of picturing crowds in France and in Italy. Across nineteenth- and twentieth-century visual arts, different approaches to representing crowds marked changing ideas of what constituted the public sphere and how differences (at times conflict) among social classes were expressed. Seduced by scenes of urban leisure, many of the French Impressionists portrayed popular middle-class entertainments, as with Auguste Renoir's *Dance at the Moulin de la Galette* (1876), and, in a more discordant vein, Edouard Manet's *A Bar at the Folies-Bergère* (1882). The postimpressionists in France approached the subjects of crowded urban spectacles with skepticism, as in the case of Georges Seurat's visions of capitalist alienation (e.g., *The Circus*, 1890–91), or else they imagined escaping the congested city altogether in their images of idyllic rural life, such as in Camille Pissarro's *Apple Picking at Eragny-sur-Epte* (1888). While French crowd images from the last quarter of the nineteenth century were primarily concerned with forms of bourgeois leisure, the Italian urban crowd imagery from around the same period expressed a greater sense of the agitation felt by workers and the poor. In the more agricultural and less urbanized country, the Italian school of postimpressionism, called divisionism, mostly saw in the crowd an image of class difference, which underwrote variations on the theme of social and economic injustice. Examples of crowds that present a more assertive class-based association include Plinio Nomellini's *The*

Strike (1889; Fig. 2) and Emilio Longoni's *The Orator of the Strike* (1890–91; Fig. 3). An unconventional, but important revision of the urban crowd theme occurs in a work by Belgian artist James Ensor from 1888–89, *Christ's Entry into Brussels* (Fig. 4), in which the redemptive figure of Jesus is engulfed by a diverse multitude of revelers and revolutionaries. By the turn of the century, the appeal of the crowd had ebbed for French painters anyway. In a series of paintings made in the years 1901–1906 depicting *saltimbanques* in private moments off-stage, Pablo Picasso deliberately evacuated the crowd from the visual field, and he would later eliminate expressive poses and gestures in his reductive cubist figures. Unlike the withdrawal in cubism from scenes of crowding, futurism sought them out. Expressing social ideals consistent with Italian divisionism, the futurists frequently opted to depict images of energized urban collectivities and workers that had secured a visible and vocal place in the public sphere. If the futurists were not unique in representing this type of class experience, they framed this social conflict in a positive, even festive, light. This heterogeneous and volatile crowd would figure prominently in the futurists' program of renewal.

Long associated with a loss of individuality and deemed a mystery to be deciphered, the crowd is often thought of as a hoard of people against whom solitary, self-conscious individuals struggled to define themselves.[18] Acknowledging the distinct type of experience within a crowd, Sigmund Freud claimed very early in his career: "There is a psychology of the common man which differs considerably from ours."[19] This psychic dichotomy between individual and the general populace plays out, in part, according to the physical proximity among bodies. A crowd presses together in a physical space, indoor or outdoors, and it constitutes an unspecified number of persons—even those from diverse backgrounds—who, when taken together, have something in common. While the grouping of bodies cannot be too dispersed, else it loses cohesion, it does not necessarily need to form a tightly packed entity or to express inflammed passions. By the early twentieth century, various intellectuals and artists confronted an increasingly stubborn sociohistorical fact that—by marking a limit to, or

suspension of, an individual will—the crowd exhibited a type of agency distinct from individual agency. In *Group Psychology* (1921), Freud reformulated this conceptual difference in terms of the psychic unconscious: "In a group the individual is brought under conditions which allow him to throw off the repressions of his unconscious instinctual impulses."[20] The crowd was likened to the unconscious: an individual eclipsed by collective forces might experience pleasure, but there was a danger of instinctual aggressiveness too.[21] Years earlier, in a popular study of the crowd (published in 1895), Gustave Le Bon suggested that the apparently revolutionary tendency in crowds owed simply to their predisposition to unconscious acts and to their propensity for violence without purpose: "Their rebellious and destructive outbursts are always very transitory. Crowds are too much governed by unconscious considerations."[22] Substantiating this claim, Freud equated the unconscious with the aggressive, revolutionary forces reminiscent of crowds: it was "a chaos, a cauldron full of seething excitations" and filled with unruly phenomena akin to strangers or foreign invasions.[23] Following the analogy between mental processes and the crowd, Freud, like Le Bon before him, presumed a basic need for strict discipline: "The group still wishes to be governed by unrestricted force; it has an extreme passion for authority."[24] The dichotomy between the individual and the crowd thus presented an inherent, structural tension that effectuated uncontrollable energies and a strongly repressive force. The early Italian futurists visions of unbounded instincts and their imagined collectivities amounted to a kind of reconciliation between individuals and the crowd.

When the futurists addressed social agitation in their texts and images, they were exploiting bourgeois fears about the working populace, exemplified in turn-of-the-century crowd psychology. Before 1900 Italian criminologist Scipio Sighele published several books portraying crowds as a threat to social order and as an overtly criminal force, and these texts proved to be indispensable sources for Le Bon's study of the crowd. Other crowd psychologists also disparaged crowds for their unpredictable, atavistic behaviors, which conveniently provided an important justification for the political exclusion of various groups at a

time when voting rights and wider questions of democracy were being hotly debated. Frequently cited in scholarly discussions of early Italian futurism, crowd psychology had been introduced, in some instances, more than fifteen years before Marinetti conceived of the avant-garde movement. With a similar interest in the workings of modern society, futurism represented a complicated response to those earlier social theories, rather than simply illustrating them.[25] Although often citing crowd psychology, art historical research on futurism does not typically take into account the historical lag, and such research tends to obscure their somewhat different social agendas. Given the nearly fifteen years between Le Bon's *The Crowd* and the first futurist manifesto, one might ask: how did futurism re-imagine the agency of the collective? Instead of reiterating themes of criminality and mass suggestion found in the works of Sighele, Le Bon, and Gabriel Tarde, for example, the futurists subverted an image of the unconscious, violent crowd through a nuanced cultural politics that treated the general population as a source of cultural renewal and as a social threat—often simultaneously. Futurist visual works will be discussed in this chapter in light of their unique, at times contradictory, approach to the theme of the crowd, which integrated pernicious threat of the mob with discourses of artistic creativity. Before looking at the ways futurist painting depicted crowds, it is worth considering a text by Sighele that constituted an anomaly for crowd psychology, because the author amended his earlier conclusion concerning the dangers posed by the masses. So, like the futurists' engagement with various complicated valences of the crowd, Sighele's text counteracted an almost entirely negative image of the unpredictable, aggressive multitude, so that, alongside well-rehearsed dichotomies, between one and the many, the crowd also became integrated into social and discursive fields.

In addition to his better-known cautionary prose on delinquent, murderous crowds, Sighele penned a collection of essays entitled *The Intelligence of the Crowd* (originally published in 1903 and significantly restructured in 1911). Instead of fueling bourgeois fears about riotous workers and the poor, Sighele depicted the collective in a more positive light,

thus making his investigation of crowd phenomena more complete, according to the author.[26] In the opening chapter, he noted how the individual, a negligible force by itself, has been lost to a collective that is "the true protagonist of history."[27] Reiterating this striking claim, he suggested the collective held the fate of the world in its hands and it maintained "absolute control" of the world's destiny.[28] Even if these statements are exaggerated, they still demonstrate a clear attempt to redress his earlier vilification of it. Sighele's congenial tone was not always consistent, however, since he also described the people as a form of despotism that needed to become more aware of, and more worthy of, its historical role.[29] This prescriptive tone marked his subtle shift toward advocating for social control, through which the population would be reformed or modified. Acknowledging the power of collective agency, while at the same time hoping to manipulate it, his populist stance was reform-minded but consistent with authoritarian views. The futurists trafficked in a similar brand of ambivalent populism, by espousing the virtues of collectivity, while simultaneously attempting to enlighten an "ignorant" populace.[30] Another notable similarity, to which I will return later, was that the enthusiastic turn to nationalism and militarism by the futurists loosely paralleled Sighele's involvement with the Italian Nationalist Party between its founding in 1910 and its fracturing into competing populist and authoritarian camps in 1913.[31] This duplicity within Sighele's text between positive and negative assessments of the crowd reveals inconsistency in approaching the role of the general population, while showing conflicting tendencies embedded within the populist rhetoric. Although this type of populism has been discussed in the histories of early futurism, it is also the case that the various futurist crowd images have not been examined systematically—as a set of coherent positions responding to a complex historical situation, rather than as simply a mélange of incongruous images and ideas.

Writing on the social role of art in *The Intelligence of the Crowd*, Sighele thought individual artworks should be considered as collective achievements, since artists benefited from the accumulated labors of everyone.[32] He framed this reciprocity between art and the

people in starkly socialist terms, claiming artists, like millionaires, needed to give their riches back to the group in order to increase the sense of shared prosperity.[33] Artistic talent was analogous to money, which he proposed should be circulated, not stockpiled. Although art manifested a sense of collectivity, the artist still retained a privileged social status, since "the sacred fire of genius is never released from the collective mind: it is the exclusive gift of the individual brain."[34] An amorphous, inexpressive phenomenon, this collective spirit needed to be mediated by and manifested through artworks that, at the same time, facilitated the general populace's intellectual elevation and moral redemption. This idea of "the exclusive gift" undercut his original premise of collective historical destiny, since, in this view, the people need to be guided by the artist, who served as educator and moralist.[35] The futurists shared this equivocal notion of reciprocity between art and the masses, in that, like Sighele, they claimed their work could actualize the crowd's sociohistorical potential, even as they would attempt to correct and direct it. More specifically, the futurist painters harmonized their visual strategies with mass society, but they also translated the activities of the crowd into visual mediums and physical materials that molded that social potential. In tandem with their texts, futurist paintings of crowds chronicled a complicated relationship between art and the people, charting competing discourses related to the crowd and its transformative potential in a time of great sociopolitical unrest. I now want to discuss in detail the four types of futurist crowd imagery that open to diverse forms of collective potential—productive, agitated, leisure, and patriotic.

The Productive Crowd

As the number and the concentration of urban workers increased, according to Karl Marx and Friedrich Engels, industrialization would lead to an increased strength of the working class, culminating in a radical reorganization of social relations.[36] Whereas workers were dispersed into an incoherent mass, according to an economic logic of competition, he

asserted, they would eventually be brought together to form a new type of collective consciousness.[37] The idea of social revolt reached its apotheosis in the powerful metaphor of a gathering crowd. Exemplifying the collectivity of Italian workers, Giuseppe Pellizza da Volpedo's *The Fourth Estate* of 1898–1901 (Fig. 5) captures both the revolutionary potential and the perceived threat of the workers' movement internationally at the turn of the twentieth century. A homogeneous group of laborers walks into the midday sun—a symbol of both unlimited natural resources and the *Mezzogiorno*, a term literally meaning midday and figuratively describing Italy's agrarian southern region, also implying the persistent problem of integrating poor southerners into the newly industrialized nation.[38] If the futurist crowd images later convey frenzy and agitation, this socialist crowd is neither impetuous nor aggressive in its movements, but rather calm and directed. Its serried ranks exhibit a forward momentum that, if continued, would eventually engulf anyone positioned along its path, including idle viewers. This impending arrival lends tangible weight to Marx's idea of the working class achieving political sovereignty.[39] Extending across the picture plane and beyond its edge, the dense distribution of bodies affirms their shared identity, illustrating "the ever-expanding union of the workers," which Marx describes as "the real fruit of their battles."[40] In the crucible of the productive crowd, a virtual association of workers emerges to unite people across empty spaces and geopolitical borders. The three leading figures (one carrying a child) give the group a sense of determination, but both the shape of the canvas and its arrangement of figures formally insists on a horizontal relationship among all the figures, signifying equality within the group. Their similar attire rendered in an earthy palette of washed-out colors reaffirms the idea of collectivity, since no person or color stands out from the crowd and each one has been calibrated to blend with its neighbors. These formal qualities support a message of peaceful, socialist revolution: the steady social forces compelling innumerable workers to become organized and to advance tirelessly toward progress.

A large-scale study for *The Fourth Estate* made in 1895–96, Pellizza's *Human Torrent* (Fig. 6) rehearses this socialist composition of advancing workers, but it carries a different tonality. Using a much looser formal treatment, the painting traces many indistinct or multiple edges in dark red lines that suggest invisible limbs, missing torsos, or entirely virtual bodies. This elusive visual effect creates not so much shadows as visual parentheses, both amplifying and diminishing the figural phrases. With its visible echoes, this alternate version of the same basic message has an eerie quality of ghostly multiplication. Historian George Mosse notes nineteenth-century society was "haunted by a spectre," which had been the problem of how to include more groups of people within the normal operation of political systems.[41] Something akin to this specter of collective agency is evoked by Pellizza's phantasmal workers, whose partial dematerialization and visual plurality are at once heroic, anonymous, and unsettling. The study reveals, perhaps inadvertently, a problem for the pictorial representations of crowds: how to convey the qualities of non-individualizing subjectivity? Simultaneously long forgotten, ever-present, and yet-to-come, this ghostly multitude approximates the sea of humanity ushering in a century of mass politics.[42] As with the Marx's myth of the historical emergence, Pellizza articulated how the physical and psychic interconnectedness of workers represented a challenge to traditional notions of social stability and political sovereignty. Together these paintings produced interlacing visions of the productive crowd—the determined surge of social progress and the phantom presence of unpredictable historical forces.

The productive crowd in early futurism continued this lineage of socialist painting by envisioning a similarly straightforward correlation between image and ideology—rooted in social progress, while linking collective action to physical routines. Boccioni's ambitious *The City Rises* of 1910 (Fig. 7) conveys an explosion of productive activities in an urban setting, equating the expenditure of physiological forces with economic development and with the construction of a modern society. Combining material forces and immaterial aims, it presents

an energetic system based on a conversion of labor into concrete social gains, but its profuse visual effects threaten to obscure the activities and to dematerialize the social conditions of work. With its mix of humans, animals, and machines, the grouping is not an anonymous throng and rather retains the markers of a social milieu and a clear division of labor: people in the background carry loads on their backs into an unfinished building, while others in the foreground lead horses to and from the worksite. A passing streetcar and an approaching train indicate the contemporary setting of Milan. In a letter from late 1910 describing his progress on this large canvas, the artist wrote, "The crowd grows and I hope to give everything, even the smallest figure, this sense of *fatal becoming* that crowds have when they work."[43] He considered the workers in this image to comprise a crowd whose productive capacities might translate a socialist belief in progress into a concrete image of "fatal becoming." At the heart of the work, a gigantic draft horse strains under a substantial weight: its gnashing mouth is visualized as an intense flurry of color, and its energetic power derives from the techniques of elongated brushstrokes radiating into the surrounding field. The composition maps out a complex choreography of human and animal forces that is like a modern, urban version of sixteenth-century equine ballets.[44] This and other examples of the workhorse motif signify the barely containable forces of urbanization.

A symbol of both labor and struggle, the horse appeared in works spanning Boccioni's entire career—from his student drawings to his futurist paintings and sculptures.[45] After his relocation to Milan in 1908, workhorses fill the periphery of his landscapes and crowd the backgrounds of his portraits, including *The Foltzer Factory* (1908–09), *Morning* (1909), *Twilight* (1909), and *Suburb* (1909). Horses trudge matter-of-factly through his images, as they no doubt did through the streets of Milan at a time when large-scale population growth prompted the rapid construction of factories, power plants, and housing projects. While his numerous works containing horses documented the urban environment, they also emerged from a tradition of portraying the sometimes grim actualities of physical labor in paintings, and

even early films.[46] Boccioni's urban images correspond with a common humanitarian concern with the material struggles of workers and the poor, as depicted in works by his mentor Giacomo Balla and the other contemporary Italian painters.[47] Alongside the symbolism of grinding labor and material struggle, Boccioni seized on the horse as a metaphor for his own artistic development—and for spiritual crisis. In a diary from his pre-futurist years, he likened his search for artistic innovation to a workhorse, which he considered "low and base."[48] Appearing throughout his career, this motif signified an enduring element of his own artistic vision, even after he became involved with futurism. Reminiscing about that early period, Marinetti recalled a visit by modernist writer Giovanni Papini to Boccioni's new studio in Milan in 1912. Papini commented to the artist, "You're beginning the life of a great gentleman," but Marinetti promptly interrupted:

> I correct Papini
> "Boccioni you're becoming a workhorse in a hectic city and you're trying down deep to capture the uncapturable at any price the ecstatic crisscross of lines of an unfinished block of houses rising slowly with the leaping lines of a racehorse..."[49]

Revising Papini's image of Boccioni as a refined *artiste*, Marinetti affirmed, in his elliptical style, the artist's affiliation with working class identity. Marinetti's image of the artist reinforced a complicated symbolism, already apparent in the painter's own texts and images, that carried the weight of multiple equine connotations: the artist as workhorse, the image of struggling "to capture the uncapturable," and an ekphrastic description of Boccioni's painting *Elasticity* (1912; Fig. 8). The horses in Boccioni's paintings captured an animal quality that Nietzsche had attributed to art in general—"an excess and overflow of blooming physicality." Associated with labor, socialist values, artistic development, and even an existential human condition, the horse provided a layered motif in Boccioni's work long before and well after he created *The City Rises*.

Rather than showing equine figures scattered over the landscape, *The City Rises* makes workhorses an essential, load-bearing force in the composition. No longer relegated to

the periphery, they are a vast reserve of energy feeding the image from the center. Vibrant hues extend from the central horse's mane and feather into a hazy optical field, and this technique of interwoven strokes captures the effect of an urban atmosphere thick with smoke, dust, and steam. Whereas Pellizza's workers move steadily forward in the spirit of gradual change, Boccioni's energized bodies have frenzied motion fused with intense coloration to imply the rapid rate of social change. Leading the horses are human handlers, whose faces are largely obscured and whose slender bodies mimic the sharp angles of laborious exertion. The chaotic pulse of the painting makes it uncertain whether horses or humans are in control, undoing a presumption of human mastery over their charges. A rearing horse nearby is less startled than overtly terrorized—its mouth agape with vivid color. Dwarfed, the humans offer requisite supervision to the brute forces expended. Underscoring the life of laboring, the central horse's dark gray yoke forms a fin-like protrusion that radiates in a vortical pattern through the entire ensemble of figures, buildings, and machines. Directly underwriting a broad project of urbanization, the chthonic energies of the horses are imprinted onto the city and transmitted to the whole society.[50] This allegory of work does more than denote specialized, coordinated tasks: it alters political as well as physical landscapes.[51] In the painting, the concrete aims of the urban construction are harmonized with ideals of progress through the vortex of bodily forces that opened to an expanded field of social and political discourses.

Alongside this image of work, Boccioni was briefly involved with the Chamber of Labor in Milan, a place where workers went to solicit employment, to pass time, and to listen to speakers. In early 1911, he helped organize a "free art exhibition" that included a separate room for showing futurist works.[52] A letter of January 30th, cosigned with several other artists, invited participation and outlined the show's open call by explaining that everyone is capable of "free creation," not only trained artists.[53] Written precisely at the time he was completing *The City Rises*, the letter lends support to the claim that the painting endorsed socialist ideals, even though the artist took a less sympathetic position toward the crowd and socialists three

years later. Still favoring rebellious language in his book *Futurist Painting and Sculpture* (1914), he supported the amorphous mob against a closed system of ruling elites: "The multicolored and febrile crowds are monstrous for the [noble] Italian."[54] Despite his populism, however, he realized that socialist intellectuals and the general public alike did not really care about authentic artistic developments in Italy. He described socialists, such as those he knew from the Chamber of Labor, quite differently: "We futurists have always found them [socialists] to be violently opposed and indifferent in front of all revolutionary art research, for which logically they should have found some basic analogies in their brains to the Chamber of Labour ... Ugh! How disgusting!"[55] Evidently, his idea of shared interest from early 1911 had not been reciprocated.[56] The painter was no less scathing when acknowledging the disinterest of the general public: "Right now, only one who thinks can see this terrible conflict between the public and the arts. And only observing and quietly judging the historical phenomenon of which we are victims can one find the courage to fight and to proceed immune to the vulgar prejudices that surround us."[57] He went on to harshly criticize democracy, the new face of collectivity: "The development of collective feeling has created a new monster: the PUBLIC ... It is a consequence of democracy…"[58] This democratic public was not the only mode of collectivity of course, and it functioned, for him, as an antithesis both to productive labor and to avant-garde ideas and practices. The dichotomies between socialist and democratic ideas and between art and the public mirrored an ongoing debate in Italy and around Europe about democracy and the desire for an intensified pace of social change. Notably, the contentious debate on democratic participation even ended up dividing socialists who were forced to decide whether to support reformist members serving as parliamentary deputies or to reject that form of political compromise by remaining antagonistic towards the State.

From the early part of the century, Italy's parliamentary democracy, led by Prime Minister Giovanni Giolitti's ruling party, gradually incorporated mainstream socialism into the government. The first formal recognition by the State that labor should have an institutional

role comes in 1902, and in 1906 Giolitti voiced his government's qualified support for socialism against corporate interests in a memo to regional prefects:

> I remind all State officials that in this period of profound social transformation, government action must be inspired both by absolute neutrality in the struggles between capital and labour, and by affectionate concern for the legitimate aspirations of the working class. And it must be the government's special task to persuade everybody that the struggles for progress can only be fruitful when they are peaceful, disciplined and non-violent.[59]

At the same time, radicalized offshoots of mainstream socialism intensified their opposition to the parliamentary system, moving toward the extremes of syndicalism, anarchism, and nationalism, especially after being expelled from the party in 1908.[60] Even as the socialist party splintered into diverse factions, the groups continued to share certain basic socialist assumptions, such as the desire for collective action, social justice, and a vitalized national economy. It is my understanding that Boccioni retained the rudiments of socialist thinking, even when he explored competing ideological currents and participated with radicalized offshoots. When Boccioni derided the public and socialist intellectuals in 1914, it was due not so much to their politics as to their conservative aesthetic tastes. While his apparent exasperation with populism by 1914 contradicted an earlier futurist message of social disruption, this discursive shift also served the purpose of defending his vision of rapid cultural change from those who showed undue caution. His criticism was not inconsistent with his views on productivity and "free creation," especially given the general public and intellectuals were both conspicuously absent from his productive crowd image of 1910–11, with its productivist message of change inspired the exuberant bodily energies overflowing into the urban environment.

Productivism emerged even before the turn of the twentieth century as an influential principle saying that the capacity for a society or social group to achieve material gains was measured by its productive efforts.[61] The amount and intensity of production governed this social outlook, because these measurable inputs were thought to translate directly into social

and economic prosperity. Not only focused on employment, this outlook aimed to convert any available physical and psychic resources into tangible products. All social relations were, therefore, oriented toward performing some kind of work. Even when following materialist principles, the myth of energetic conversion retained a dimension of idealism—an abiding belief in social and economic progress.[62] That is to say, productivism became an article of faith about the effects of modernization: it assumed that outcomes would be necessarily positive and that productive forces would be controlled, or at least controllable. Embedded within specific material aims was an idealistic belief that productivity yielded a wholly beneficial march forward for society. This ideology drew from philosophical arguments about personal initiative and collective industry, as well as from positivist methods concerned with measuring efficient outputs, in what is termed "the science of work," and this perspective also manifested through images of workers. Such an optimistic belief in productivist ideas carries duplicity: as materialist methods merge with idealistic aims, there is an oscillation between depicting sociohistorical actualities and representing imagined goals. For the productive crowd in general, labor appears to be a kind of mirage in which actuality blurs with potentiality, as with Pellizza's ghostly workers in *Human Torrent*. In their capacity to inspire, such images of workers overflow with an aspirational dimension of progress that often outpaces the specific conditions depicted.

Boccioni's *The City Rises* envisions a specific type of labor at the construction site, but these productive forces stretch well beyond the efficient conversion of energies into a product: they invigorate the city at large, accomplishing the ideological work of revitalization. The outpouring force exceeds the figural movements, flowing into and transforming the city at large—its streets, buildings, inhabitants, and even its transportation systems. This frenetic activity overcomes, or at least obscures, the duplicity between actual conditions and imagined aims. Centering on the fin-like yoke of the struggling horse, a vortex of activity harmonizes specific physiological forces with urban life and with the broader idea of productivism.

Likewise, the vortical activity of Boccioni's brushstrokes generated an aura of productive effort that is not (and cannot be) fully rationalized: the vibrant hues radiate in all directions to animate and unite everything within a magnetized field of labor. With these interwoven strokes marking an excess of productive energies, the artist negotiated among actual and idealized phenomena. Irrepressible psychosocial energies infuse humans, animals, technology, industry, and sociohistorical processes to create an entire ensemble of socioeconomic modernization.[63] In this utopian view, social and economic gains are available to everyone through work. While Boccioni tended to idealize the conditions of work, *The City Rises* does not conceal the struggle experienced by Milanese construction workers and the draft horses.[64] Just as with the productivist myth, in which clearly delineated material conditions are subsumed by immaterial profusion, this futurist painting blurs the distinction between actual historical conditions and idealistic aims through its visual economy of interconnected expenditures.

Unlike the frenetic urban forces in *The City Rises*, his painting *The Street Pavers* (Fig. 9), made between 1910 and 1914, poses a more restrained image of production, and it fits a more modest ambition.[65] The close framing of the subject matter creates an intimate grouping of anonymous figures, depicting laborers involved with the difficult task of building a road. Their bent, cramped postures are carefully fit together on the visual plane, analogous to the stones being laid. Clustered physically to the point of obscuring the precise number of bodies, the workers thwart psychological monotony through a rhythmic synchronization of action. Akin to those auditory elements that compose a sonic image of simultaneous, interdependent tasks, a rhythmic alliance among parts of the painting is affirmed visually in the complexly synchronized patterns of color, line, and texture. Coiled figures with hammers in the foreground creates a formal structure of white shirts, dark pants, and black hats that plays against the lunging figures to the rear who employ long handled implements (i.e., shovels, rakes, or brooms). Born of repetitive gestures, the painting imitates the workers' manual

routines through its own formal repetitions, as with its cascades of yellow, orange, blue, and black strokes and its stippling in pink, lavender, and green. Adjacent to the congested field of bodies and painterly marks, the lower left corner has a looser arrangement of elements, bringing a glimpse of visual openness that contrasts with the scope of laborious production. If not literally indicating that the image is unfinished, this open area represents a visual break from physical labor of paving and painting. This "unfinished" foreground maps a zone of relative freedom within the composition—a space not fully utilized—and it suggests work still to be done, even though it reads spatially as newly laid road. The abundant energy evident in *The City Rises* is absent in *The Street Pavers*, whose optical effects of interwoven parts render not so much a sense of social and economic transformation as they pave the way for other more exciting aesthetic claims.

In contrast to the visual fusion in Boccioni's productive crowds, various non-futurist images were created that channeled the forces of work into a distinct, more efficient model of productivity. For instance, William Roberts rationalizes labor in the schematic contours of workers in *The Wiring Party* (1918; Fig. 10) and *The Traveling Cradle* (1919).[66] While his visual approach suppresses any sense of energies expended, his schematic figures remain visually differentiated from each other and within the surrounding environment—in line with Frederick Winslow Taylor's factory management that increased efficiency by prescribing more disciplined worker movements.[67] In Roberts' works, each figure remains individuated, in that it performs a specific task as part of a unified team. The artist calibrates aesthetic variation within an overarching conceptual and formal framework that includes a divided visual plane, indelible contours, and reductive coloration—a type of aesthetic functionalism, in which each formal element plays a specialized role within an overarching schema of production. While the logic of rationalized movement inspired other avant-garde artists, including some futurists, to compose biomechanical figures devoid of expressive power (treated in the next few chapters), Boccioni's productive crowd generated a model of mass agency in which productive forces

originated with physical actions, stimulated the social environment, and fed the ideals of collective action. Conversely, Roberts, like his compatriots Wyndham Lewis and David Bomberg, presented a more totalizing field of productivist efficiency not found in Boccioni's image of energetic abundance. Given the artist's effusive physical and economic energies diverged from machinic efficiency, it is not surprising that his key motif was the horse, not the machine. Without clear delineation or diagrammatic plan, Boccioni's productive crowds resolves amid a hazy optical field of vibrant, luminous strokes, emerging from a vortex of directional marks that inscribe physical struggle and bristle with energies that cannot be fully rationalized.

The Agitated Crowd

A language of rebellion permeated the manifestos by the futurist painters, who claimed that their works were "violently revolutionary" and exhibited a "sense of rebellion."[68] As with Marinetti's founding manifesto, those texts were modeled after Georges Sorel's theory of aggressive action, which had gained notoriety in Italy at a time when Prime Minister Giolitti's closed-door style of parliamentary governance was perceived as corrupt, weak, and opportunistic.[69] Sorel's doctrine of radicalism—a studied rendering of anarchist principles—instructed supporters to rebel without hesitation through "an infinite number of acts of violence" and "not to refrain from brutality when this might do them service."[70] Unlike the mainstream socialists who negotiated with the State to secure concessions, this radicalized form of socialism, called revolutionary syndicalism or anarcho-syndicalism, directed its efforts against the Italian government without qualification. The militant rhetoric of regenerative violence, justified on ethical grounds, proved seductive for those tired of intellectual debate and cautious negotiation, and it brought urgency and new tactics to the socialist platform during a time of rising worker militancy throughout Europe.[71] Following an activist tradition in Italian painting, the futurists developed a blend of aesthetics and social action in their visual works. They

translated the language of immediate action into images of crowds disrupting social order, as in Boccioni's *Riot in the Galleria* (1910), Luigi Russolo's *The Revolt* (1911), and Carlo Carrà's *The Funeral of the Anarchist Galli* (1911). Covering a range of aesthetic and sociopolitical values, these works deployed different strategies to present violent action, and each one creates a slightly different perspective on how and why violence erupted spontaneously in a crowd. Comparing these images leads to questions about what social or political ends were served by the violence and how the artworks managed to remain distinct from those aims.

Boccioni's *Riot in the Galleria* (Fig. 11) shows a violent altercation between two prostitutes that spills over into the gathered crowd in a popular district emblematic of commercial modernity.[72] The crowd's behavior is inscribed through the contagious power of bodily movement: gestures are repeated, emotions are amplified, and volatility bursts through the homogeneous atmosphere of leisure activity. Hysteria spreads among the onlookers like an electrical shock: the figures act as ideal conductors for a common mimetic energy.[73] A caricature of expressive emotion in the foreground, one male figure turns to the viewer with both arms raised, surrendering to unbounded social forces with a shriek of surprise and perhaps disgust. All the other figures are turned toward the brawl, providing a simple visual solution for conveying urban anonymity through literal facelessness. While the spectacle presumes a level of visual fascination—what sparked it, who, if anyone, will step in, and how will it resolve?—its distant and elevated perspective implies separation from the rabble. Close enough to observe, yet not so close as to be able to affect the course of events, the viewer is not persuasively drawn into the image. Oscillating between visceral excitement and moral composure, the visual structure generates a mixed message of bearing witness without being involved. A division in the image likewise reinforces the dichotomy between tranquility and frenzy: the upper section of the canvas is impassive, while the lower section indulges in instinctual action. Working against this basic split are two bright reflections in the upper half that hover anxiously over the crowd like white beacons of nocturnal frenzy. The light patterns,

glancing off and refracting through the large panes of glass, create a visual shock within the restrained rendering of architectural elevation. These spontaneous bursts preside over a similar refraction of social energies in the crowd below, breaking through the fragile surface of bourgeois calm. With multiple light sources in the scene creating an inconsistent illumination, the shadows of the figures dart unpredictably across the ground and add another aspect of uncertainty.

While this riot painting matches the language of social disruption inflecting the futurist idea of cultural renewal, one might wonder what ends Boccioni's vision served. Did his agitated crowd present affirmative possibilities, or did it demonstrate unnecessary antagonism? Aside from the general connotation of agitation, his subject matter is incidental to the message of social change. For instance, the crowd depicted gives no indication of comporting to Marx's idea of being "swept into movement by a proletariat revolution," and social disruption without any guiding ideal is pathological (according to Marxist philosopher and critic György Lukács anyway), even if it stems from underlying social or economic conditions.[74] By contrast, Boccioni's slightly later *The City Rises* offered a more coherent vision of collective action, going beyond the earlier work's spontaneous discharge of agitated energies. The crowd hysteria of *Riot in the Galleria* offers a crude interpretation of social potential, triggered arbitrarily and disconnected from the actual sources of conflict. It depicts violence as a characteristic of a social type—the prostitute. A temporary disruption of everyday life, the agitation shows the sort of fascination that appears to offer no potential for social or aesthetic reassessment. Obscuring the idea of social or economic development, this image of pathological flaring up affirmed the confused description of collective action found in turn-of-the-century crowd psychology.[75]

Years earlier crowd psychology had unified diverse threats under the general sign of disorder and sought to defend civil society from such depravity. Reflecting a grotesque image of the populace, the crowd revealed bizarre contortions of the social body—from

somnambulism to emotionalism, from docility to violence. While posing the crowd as a phantasmagoria of chaotic energies, this theory treated the subject inconsistently—by using different assumptions and by assuming a conceptual cohesion among crowd types. A lack of precise definition or categories made crowd psychology a powerful tool for projecting exaggerated stereotypes onto the screen of "the masses"—portraying hypnotized crowds or violent mobs exhibiting inhuman traits. Whether consciously or not, the theory served to undermine one of the key formulations of Marx's philosophy: social aims are achieved through collective organization.[76] The idea of an organized response of a large group hauntingly materializes at the heart of this pseudo-scientific theory, animated by an implicit disavowal of mass agency. The deficiencies of crowd theory are demonstrated by Sighele's admission in *The Intelligence of the Crowd* that average people control the fate of the world, an unacknowledged premise at the heart of his criminological research on crowds.[77] This general theory focused on the worst aspects of the crowd, in order to present a pervasive threat to social and political order, and its findings were used to support the claim that certain social classes should be excluded from legitimate political participation Although striving to preserve the rational workings of the public sphere was a noble endeavor, the a priori exclusion of social groups—such as illiterates, the poor, prostitutes, and political radicals—tended to exacerbate divisions, leading to agitated responses by excluded groups.

Boccioni's riot painting presents the crowd in a manner not so different from the disorganized psychological theory, oriented around social threats. Unlike his productive crowd, this violent episode lacks a positive sense of collectivity, and it illustrates some of the difficulties that surrounded the futurists' images of social disruption. If this was a concrete instance of their program for cultural renewal, then what did it accomplish or inspire? The problem of unclear aims extended to the initial public responses to futurist visual art. In Paris, the inaugural exhibit of futurist painting in early 1912 caused a sensation, pitting their defenders against their harshest critics, sometimes within the same publication. For instance,

Mercure de France printed a positive review of the show by poet Gustave Kahn, followed by a scathing blurb penned by Auguste Marguillier, titled "The anathemas of 'Futurism.'" While Kahn gave his qualified support of their overall vision, according to Marguillier, the movement appealed to "the new barbarians," those people who are "predisposed to advance any anarchist cause and who are perpetually haunted by the fear of not appearing 'modern' enough."[78] The latter painted the futurists with a broad stroke of being generic rabble-rousers. Revisiting the topic two weeks later, the same journal printed a lengthy essay on social agitation in Italy, which, according to the author Jacques Mesnil, expressed "the great global conflict between capital and labor."[79] Futurism was part of this ongoing debate in Paris, and elsewhere, about the role of the general populace in social institutions and in systems of governance, and their artworks demonstrated varied approaches to this subject. If Umberto Boccioni pictured an arbitrary discharge of emotion, Luigi Russolo and Carlo Carrà aimed to portray the agitated crowd with a greater sense of determination.

Russolo synthesized the idea of pervasive social conflict into a schematic diagram of social action in *The Revolt* (Fig. 12). As with Boccioni's *Riot in the Galleria*, the view of the riotous crowd comes from above the action.[80] The viewer remains at a safe distance from the marchers that compose an assertive wedge of dissent. Oriented to the left, the pointed shape is analogous to a shared belief that is literally impressed onto the material of the crowd. Continuing indefinitely beyond the right edge of the frame, this wedge gives visual shape to Marinetti's idea of "a single, immense phalanx of souls," uniting laborers and intellectuals alike in an "eternal, dynamic phenomenon of rebellion."[81] The crowd-wedge also traces the acuteness of desire for social change: its piercing point forged from the material of the collective within the fire of ideology.[82] Without distinguishing marks, the protesting bodies assume anonymous, block-like forms that avoid individualizing qualities.[83] *The Revolt* defies classical codes for expressing individual identity, so it visually encapsulates the critique of traditional painting espoused in futurist manifestos. For Russolo's crowd, anonymity becomes

a distinct advantage of number and density, constituting a sort of aesthetic blank stare of those anybodies that are organized en masse for purpose of political contestation. As the crowd leans to the left with resolve, the tenement buildings balance the composition with their strong rightward tilt. The building façades, with their dark, featureless windows, exhibit a slack-jawed expression of watching an unfamiliar social ritual being enacted. These countervailing forces of bodies and buildings compose a strong tension within the work between mobile and inert elements, between dynamic processes and static conditions, mimicking the general contour of ideological difference during that period between workers and a propertied class.[84] His image of mass politics aestheticizes the crowd by presenting the multitude as a homogeneous material to be sculpted and shaped—like an arrow pointing in the direction of progress.[85]

Although Russolo's anonymous group of marchers exhibited the qualities of standardization and impenetrability, they did not foreshadow militarism or an unquestioning allegiance to a leader.[86] Signaling a growing sense of dissatisfaction within the working population, the dynamic wedge envisioned a form of contestation not exactly synonymous with coercion or institutionalized violence. Effective sociopolitical opposition required organization to become, in effect, a prick against social complacency, and, while the directedness of Russolo's crowd combines anonymity and aggressiveness, it was not unlike other vocal gatherings—such as demonstrations and parades—that asserted various agendas before the war. At one level, the image functioned as a visual metaphor for widespread social and political agitation before World War I. At another level, the futurist's image transcribed the ongoing radicalization of workers that occurred between 1900 and 1915 in Italy—an actual sociopolitical shift towards more aggressive tactics.[87] Whether enacting revolt literally or symbolizing a more general case of political mobilization, the group's homogeneous identity is reinforced by the painting's striated palette that apparently converts social differences into separate colors occupying clearly demarcated areas. The narrow chromatic range of vibrant

reds is suggestive of a separate class interest. The luminous ember burns most intensely at the center of the group, and then reverberates through the cityscape like a chant announcing the arrival of the demonstrative collective. As a sensory index of agitation, this sonorous crowd also presages Russolo's interest in noise production, through which dissonant sonic patterns render a structure loosely homologous to urban psychosocial intensities. Through its bright palette, topographical separation among colors, and auditory component, the artist's crowd revised and intensified the calm demeanor and earthy solidarity of tones in Pellizza's image of workers. The qualities of anonymity and directedness contribute to making this crowd appear to be a vocal, mobile force for political agitation, yet the absence of a central, commanding presence would appear to steer the message away from demagoguery. The urban crowd in Russolo's painting manifested visually as monochromatic passion and as bodies without distinct features, yet the rudimentary figures share an aggressive, automatic disposition—with raised arms and synchronized motion.

Described as "social automatism" by Bernard Bosanquet in 1899, the force of habit has in common with physiological automatism an involuntary quality.[88] For social automatism, there are social cues that trigger involuntary responses, just as, for the physiological type, there are perceptual or sensorimotor cues sparking reflexive action. Lacking a clear distinction between social habits and physical reflexes, this ambiguous range of stimuli and behaviors are, in effect, social and physiological at the same time, for example, laughter, obstinacy, and all manner of action associated with animal instincts. Those social classes made up of workers and the poor were presumed to display these involuntary behaviors more readily, owing to their lack of education or an absence of psychic individuation. Likewise, the reciprocity of actions among people in the same group, such as an agitated crowd, is rooted in automatism. This propensity to act according to nonconscious patterns may also afflict bourgeois individuals in certain circumstances, such as those losing themselves in the crowd.[89] Social automatism signified an acute condition, in which it was no longer possible to

maintain critical distance or to distinguish oneself from the many and in which interior and exterior worlds blurred together. This propensity to move from idea to action—again, not mediated by rational thought, but rather demonstrating immediate, uncontrolled responses—was historically tied to the idea of mental contagion in both Le Bon and Tarde, as well as the militant discourse of regenerative violence of Sorel.[90]

In contrast with the positivist prophylaxis against social dangers found in crowd theory, the futurists adopted an antimaterialist concept of social paroxysm: violent social change was espoused as an (aesthetic) end in itself. Alongside its analogy of art and revolutionary politics, the futurist visual and performing arts appropriated the chaotic, disordered physical energies associated with violent activity of a *corporeal unconscious*.[91] For example, Marinetti's concept of *fisicofollia*, or body-madness, was one version of their belief in unbounded physiological energies.[92] Other versions were investigated by the Bragaglias in the medium of photography and by Boccioni in the medium of sculpture and works on paper, taken up in later chapters of this text. In their paintings of agitated crowds, the futurists attributed a valuable social function to involuntary mass behavior that spontaneously discharges psychosocial energies and that could even trigger sociohistorical change.[93] If the futurist crowd imagery partakes of a similar commitment to action over thought, its formal inventions were also routed through bodily and social automatism. As the frame of reference shifted from manifestos to paintings, automatism was no longer simply a matter of revolutionary content or its propagandistic circulation, but it involved the development of a visual language—related to, but also distinct from the underlying ideology.

The automatism of the crowd became both a political and an aesthetic statement in an image of the agitated crowd by Carrà. Unlike Boccioni's and Russolo's images of riots, Carrà's *Funeral of the Anarchist Galli* (Fig. 13) resists safe spectatorial distance by positioning the viewer amid the tumult. Looking from the ground-level perspective, the viewer is not simply closer to the crowd and not just parallel with the crowd's plane of movement; the viewer is

positioned visually and spatially inside a volatile, unfolding situation. Without benefit of an elevated overview, the action unfolds chaotically in many different directions and with no clear resolution. At the center of the image, a red coffin is carried aloft during the collective send-off for the deceased metalworker and anarchist Angelo Galli, who was stabbed entering a factory in Milan during a strike in May 1906.[94] The flags of the mounted policemen on both sides of the canvas mark the skyline with an almost festive calligraphy, while a group of anarchists, who were among those in attendance, confronts the police, sparking a violent interaction. Based on published reports of the funeral, the violence depicted in the painting probably did not much resemble to the minor scuffle that occurred during the actual event.[95] In spite of Carrà's apparent liberty with the facts, his composition carries additional significance due to its innovative visual strategies: because of its interior perspective of the crowd, the clear separation between competing social forces collapses visually and spatially. While numerous critics have pointed to a rhetorical and imagistic correlation between this painting and the idea of putting the viewer at the center of the image (as expressed in the painting manifesto), in my estimation, the image's visceral power derives primarily from putting the viewer at the center of a violent crowd. Those pictorial conventions that have typically organized and distributed the forces of agitated crowds across the visual plane are here avoided. Instead, its visual impressions present a mosaic of colored and darkened fragments, mapping the chaotic sensations that jostle one another for the spectator's attention.

The scene is backlit by the sun hanging low in a patchwork sky pieced together in makeshift fashion. Golden light offers some intense highlights as it grazes past some figures to produce partially legible contours, while other figures remain obscured in the crowd's interior. Along with the interposed fragments of color, the main strategy used to convey explosive energies are the visual repetition of lines around the figures that trace the actual or projected paths of blows and parries. These force lines indicate a sense of vivid kinetic motion that is heightened by the aggressive posture of the central figure—leaning forward with legs

apart and arm raised. The cranium of this political agitator is also etched with a searing stroke of cobalt that visually echoes the bold blue of the electrical tower, suggesting a raw form of power interconnecting the crowd and contrasting with the circular yellow sun and the angular red coffin. This formal correlation of electricity and protest conveys a shared principle of transformation—a volatile current of social change.[96] In Boccioni's riot image, electrical lighting symbolizes the spontaneous discharge of social forces, while in Carrà's funeral image the blue hints at a link between electrical utility and sociopolitical disruption. The chaotic events unfold according to the automatic responses of the radicals and the police, the picture resonates with a sense of shared commitment in the face of violent opposition that presumes an "us" and a "them." Carrà's vision of conflict is reinforced by the solidarity incumbent upon rallying against a common enemy.[97]

Instead of shaping the contour of the crowd, as with Russolo's wedge, Carrà's riot takes on the visual forms associated with unpredictable events ignited spontaneously. Marx's linear narrative of historical progression has been transposed into divergent force-lines that follow multiple, simultaneous trajectories, adding up to an unstable sociopolitical situation. Amid this moment of escalating violence and suspended authority, a clear sense of mass determination dissolves into quantum uncertainty. How does each figure or each gesture contribute to a specific aim? They don't precisely, because amid the intensities of a packed moment such directedness is unclear. To justify social action, Sorel confessed to having a limited view: "Historians of the future are bound to discover that we [radicals] laboured under many illusions, because they will see behind them a finished world. We, on the other hand, must act and nobody can tell us today what the historians will know."[98] He describes the need to act forcefully (viz., politically) despite occupying a condition of historical uncertainty. He then extends this thought in an unexpected direction: "Nobody can furnish us with the means of modifying our motor images in such a way as to avoid their [historians'] criticisms."[99] Political participation has become sensorimotor activity that cannot be modified once triggered—it is

involuntary, so historical awareness remains limited. For Sorel, social action was a type of bodily reflex lacking in self-awareness and self-doubt, and this automatism triggered social change. As a diagram for collective action, *The Funeral* probes a sociohistorical truth—not as social documentation (for its verity is dubious) and not as propaganda (for it defies conceptual clarity), but rather as a concrete image of sociohistorical participation. It reveals a truth about the uncertainty inherent in action. Marinetti likewise forecloses contemplation about the long-range future by emphasizing the immediate future. "We are Futurists of tomorrow, not of the day after tomorrow ... Our intense focusing on the present is preparing the way for Tomorrow, which will emanate directly from us."[100] Buttressing a prevalent myth of political and cultural radicalism, physiological reflexes animate futurist imagery of social transformation. Unlike Marinetti's exaggerated sense of destiny, Carrà demonstrated that sociopolitical disruption manifested as scattered physiological responses, as paroxysmal antagonism. Rather than the wedge-like configuration of Russolo's *The Revolt*, imposed onto a crowd material from without, this discharge of psychosocial energies presents another quality of potentially revolutionary action—spontaneous irruption.

In their essay "The Exhibitors to the Public" (1912), the futurist painters make an allusion to Carrà's *The Funeral of the Anarchist Galli* when they prescribe putting the spectator in the center of an artwork: an image of a riot should be transcribed using "sheaves of lines corresponding with all the conflicting forces."[101] Aiming to connect thought and action, they are able to translate their feelings of emotive liberty "to the viewing public" through innovative visual properties.[102] Emotive liberty stands as the affirmative counterpart to social resistance and praxis: "In order that the crowd may enjoy our marvelous spiritual world, of which it is ignorant, we give it the material sensation of that world."[103] This affirmative dimension of their program seeks, through their images, to connect artistic materials with abstract ideals and, at the same time, to push ideas into physical action. Their statement embracing conflict underscores what a volatile fusion of sociopolitical radicalism and aesthetics this approach

generates: “There is with us not merely variety, but chaos and clashing of rhythms, totally opposed to one another, which we nevertheless assemble into a new harmony.”[104] A harmonization of art with social conflict correlates aesthetic ideals to the revolutionary interests of the people. This principle of aesthetic activism conforms to a classical structure of aesthetic judgment, in which sensorial perception underwrites the correspondence between external signs and abstract meanings.[105] Instead of disinterested contemplation and refined tastes, the painters wanted their images to trigger spontaneous responses; they pictured mass agency as a type of collective sociohistorical action. This concept of spontaneous revolution provided a seductive image of social change for artists and leftist intellectuals alike.[106]

In Walter Benjamin’s writings during the interwar years, spontaneous mass agency animates his concept of socialist revolution, and his frequent rehearsal of this idea helps to clarify the role of spontaneity in Italian futurism.[107] In 1929, Benjamin discussed the coupling of idealism and political action in the revolutionary intelligentsia, which earlier had attempted to challenge bourgeois intellectual norms by making contact with the general population. This strategy failed, he thought, because the people did not respond to intellectual appeals.[108] A few years later, Benjamin became more pessimistic about revolutionary aims—which cannot flow in a social body that lacks revolutionary “juices”—but he continued to identify automatic reflexes with radical social change.[109] The revolution Marx imagined could only manifest when a group was able to experience its anxieties physiologically, he claimed, and this “revolutionary discharge” served as the main aim of leftist aesthetics.[110] The futurists’ images of agitated crowds exemplify this belief in specifying the bodily origin of historical rupture and cultural regeneration. Like Sorel and Marinetti before him, Benjamin approached spontaneity in the population as a predisposition toward enacting social change, despite a lack of education: “If it is the misfortune of the workers’ rebellions of old that no theory of revolution directs their course, it is also this absence of theory that, from another perspective, makes possible their spontaneous energy and the enthusiasm with which they set about establishing

a new society."[111] In defiance of abstruse theories, the spontaneous energy underwrites an instinctual capacity for triggering collective action—a radicalized social automatism.

Alongside their agitated crowd images, the futurist painters thought their works expressed "the spasmodic struggle to conquer the unknown," and in a separate dispatch, they declared, "Our art is intoxicated with spontaneity and power."[112] If contemplation operates independently of social action, as Benjamin suggested, then perhaps the hyperbolic imagery of the prewar futurists and syndicalists was not incompatible with a leftist agenda.[113] Indeed, Benjamin developed a concept of spontaneous revolt in which social resistance was aligned with reflexive bodily innervation.[114] In 1936, Benjamin imagined revolutionary change as an involuntary mass behavior: "Revolutions are innervations of the collective—or, more precisely, efforts at innervation on the part of the new, historically unique collective."[115] This disruptive innervation counteracted an inflexible, paralytic "anaesthetics" of the political domain.[116] If spontaneous action was going to amount to more than an arbitrary outburst, as in Boccioni's *Riot in the Galleria*, there needed to be some guiding element (albeit nonconscious)—an innate sense of justice or liberty that provided some assurance (to intellectuals at least) that the automatic social processes could direct pervasive anxieties toward sociohistorical correction. The hope for change rested with uncontrollable collective behaviors that could manifest its corrective reflexes for social and economic justice.

Developing a visual structure that carries some conceptual correspondence with Benjamin's idea of innervation, Carrà's agitated crowd portrays the motor activities of the crowd as a force of potentially positive social change. Avoiding an overhead perspective, Carrà plunged the viewer into the crowd—a radicalized version of Baudelaire's immense reservoir of energy.[117] In contrast to Russolo's menacing wedge of action, which schematizes the complex anatomy of historical events, *The Funeral* gives a quantum diagram of historical processes, irrupting with unpredictable force from the obscure depths of actuality. Precisely that overriding indeterminacy guarantees that history can, in fact, happen spontaneously,

without being determined in advance or imposed onto the crowd like a generic template of social action. Unlike Boccioni's agitated crowd, which frames an arbitrary disturbance of commercial routine, Carrà's radiating force lines suggested uncertain outcomes generated by spontaneous, involuntary movements of political resistance.[118] Of the futurist images, Carrà alone mapped an indeterminate historical dimension related to social forces, in which the ultimate outcome remains uncertain amid a complicated, unfolding situation. By transposing automatism into a historical milieu, he posited the corrective potential of an agitated crowd. As did Benjamin years later, he invested violent discharge with a capacity to regain social equilibrium. Overall, all of the futurist images of social antagonism demonstrated unbounded psychosocial energies, but they did not all imagine a congenial dimension for the crowd. Spanning an array of social attitudes, their agitated crowd imagery entertained a recurring hallucination of collective action that haunted mass society—a violent echo of social anxieties repeatedly rehearsed and spontaneously discharged.[119]

As a myth characteristic of leftist thinking of this period, spontaneous revolt renders an idealized concept of sociohistorical change.[120] This idea of the beneficial effects of automatic social processes contrasted with more clearly articulated strategies for achieving and measuring positive change. Rooted in a similar desire for better socioeconomic conditions, the efforts to define rational positions (often plagued by organizational wrangling) made sustaining collective passion difficult over extended periods of time. Spontaneous revolt materialized a convenient wish-image in which the general population inherently knew the place and time to act without needing external guidance or a clear program. Although this seductive myth of violent automatism served the political left at this time, it knew no ideological master.[121] Adorno expresses a deep suspicion of crowds for this reason: they are incapable of resisting political, especially authoritarian, manipulation.[122] As with Sighele's idea of unconscious hands holding the fate of the world, the idea of spontaneous social action embodied an anti-materialistic belief that manifested as an undefined spiritual or immaterial force. This

metaphysical proposition inspired certain narratives of revolution found in early futurism. Similar to Benjamin's spontaneous innervation, the futurists placed their faith in involuntary social processes that shifted from contemplation toward the idea that bodily automatism can be a source for social progress. As with Sorel's motor images, their agitated crowd images prescribed sudden disruption without troubling over sociohistorical actualities. Yet, each one addressed the issue of violence according to different criteria, leaving unresolved the question of whether, sociohistorically speaking, the crowd had corrective potential. Initially, Boccioni's *Riot in the Galleria* presents disruption and alienation amid a crowd by emphasizing its arbitrariness. Later, Russolo's *The Revolt* offers a diagram of definite shape and color, in order to transcribe the idea of collective action onto the masses, as if they were a material to be molded. Finally, Carrà's image of Galli's funeral similarly frames antagonism as anarchical social energies that have the power to catalyze social and political change, if only because they are unpredictable.

Describing his affiliation with early futurism in his 1946 autobiography, Gino Severini offers a valuable account of its members' belief in social agitation from the perspective of an Italian living in Paris. His long friendship with Boccioni and Balla, notwithstanding, he gradually parted ways with the movement between 1913 and 1917, but his book remains a reliable source of information about those prewar years. Despite his earlier participation, the author is critical of his countrymen's bellicose language and their outrageous antics. He repeatedly describes a sense of antagonism that they brought to the Parisian art world, which he attributes to provincialism and "ethnic values."[123] Considering the tension between the artists in Milan and Paris, he claims, "the Parisian artists' hostility and injustice toward the Futurists was always [due to] the latter's lack of tact and their aggressive behavior."[124] Using surprisingly tough language, Severini accuses fellow futurists of "materialistic exhibitionism" and not comprehending "the serious problems posed by art."[125] Summarizing his criticism of them, he states: "I apologize for recapitulating, but each time the Parisian art world had

contact with the activities of the Italian Futurists, I always deeply regretted the erroneous Futurist feeling of antagonism, of competing with Paris and Cubism; it would have been more advantageous for them to function harmoniously."[126] Evident from his account is that their aggressive attitude colored their dealings with Parisians and that they felt competition with the cubists, who dismissed the futurists' attitudes and artworks as being juvenile.[127] It is also clear the author felt this rebelliousness detracted from their artistic pursuits. He does not acknowledge that this antagonism may have been a motivating principle, integral to their notion of *art-action*—artworks fused with social criticism.

In light of Severini's written account, the paintings visually manifest an aspect of the antagonism he describes. Even though he was referring to their interpersonal relationships with the Parisian art world, his criticism has some validity when applied to certain futurist artworks. When one considers Boccioni's *Riot in the Galleria*, for instance, his point about erroneous antagonism appears to be valid: its discharge of energies demarcates a pathological form of crowd behavior. While Boccioni's image embraces senseless disruption, Russolo's and Carrà's paintings of agitated crowds imagine sociopolitical action. Moreover, if Russolo offers a sort of caricature of ideological solidarity, perhaps unwittingly, Carrà augments the visual language of contestation in spite of that ideology. His formal concerns, though borne of his thematic content, push the idea of action in another direction, opening to a sense of uncertainty that simultaneously reaffirms and exceeds its theme. Taking into account their agitated crowd paintings, as well as their manifestos, performances, and other antics, the futurists enacted an ongoing program of expressing social conflict that, among other things, made a great show out of opposing the status quo in the French capital, just as they did in provincial Italian towns. Looking back, Severini was able to recognize a sense of agitation in his colleague's approach, yet, by dismissing it as evidence of their lack of refinement, he did not seem to appreciate how it also provided a platform for aesthetic innovation. More interestingly, this retrospective critique offers a readymade framework for interpreting

Severini's own crowd imagery as having a critical dimension that implicitly rebuts their ideas of social agitation through leisure activity.

The Leisure Crowd

Departing from the other futurists' self-consciously extreme views, Severini was interested in the aesthetic possibilities of presenting the crowd at leisure. To their images of agitated and productive crowds, Severini's work seems to respond with good humor—as if to say, if the aims of increased productivity and political agitation fail, then a measure of liberation can always be found in the dance hall. In his large canvas *The Dance at the Pan-Pan* of 1911 (Fig. 14), sensory gratification trumps a belief in social and political action. This colorful, oversized version of cubist visual decomposition breaks up the contours of figures and objects and reassembles the parts within the frozen armature of the picture plane. A room is packed with an assortment of spectators, musicians, and dancers, whose bodily forms jostle together in a mosaic of hue, saturation, and tonality. In the foreground, two gentlemen in black tie sit at a table of comestibles and libations, as a woman in green shuttles across their fixed positions. To the left of them, a woman in a black and orange dress with a blue hat gazes past the edge of the image, while the man on whom she sits buries his face in her bosom. Above them on the picture plane is a red stairway leading downwards, framing the figure of a woman ascending toward the viewer. In the upper left corner of the work, two mustachioed men look out across a dense pattern of geometric fragments toward another woman that leans over the railing above the stairwell. To the right of her, two seated women wearing pink look to the center of the painting at several women in high heels who bend and shimmy their way through a time-lapsed sequence of bodily motion. Above these dancers are members of the band in red jackets, crowded by patchwork figures and broken forms, stretching to the right edge. The interposed figural fragments derive from an application of the cubist technique for fracturing pictorial space, while elements such as facial expressions, articles of clothing, and fashion

accessories float like emblems of social legibility in a tableau of effervescence. Despite the futurists' images of street protests, Severini much preferred to stage his aesthetic experiments in a comfortable interior and in the company of an amiable crowd. But, if the spatial relationships among the parts can be adduced, sort of like solving a puzzle, those pieces do not comprise an integrated whole. Overall, the painting does not present emotional depth or capture a sense of shared experience so much as it traces the visual data clustered around a depleted moment of social choreography.

Living and working in proximity to such local luminaries as Pablo Picasso, Guillaume Apollinaire, Georges Braque, Gustave Kahn, and Paul Fort, Severini understood firsthand that Parisian avant-garde circles were largely unsympathetic to the futurists' program of *art-action*, which made overtures to the general populace—through public demonstrations, confrontation, and propagandistic activities.[128] In light of the cultural differences between Italy and France, Italian modernist painter and writer Ardengo Soffici came to regard futurism as a valid attempt to criticize Italian cultural traditions, even as he realized this criticism did not hold the same meaning in French cultural traditions.[129] Just as Severini's autobiography recounts his dislike of futurist antagonism, his visual works of that period constitute an eloquent response to their productive and agitated crowd images. If Georges Sorel identified as an explicit aim of radical political action "to ruin the prestige of bourgeois culture" and to resist cultural decadence, Severini's *The Dance at the Pan-Pan* frames the contrary view that aligns itself with bourgeois leisure.[130] Using a fragmented style to paint a modish crowd, Severini packs his composition with intoxicating visual stimulation, symbolizing a willing surrender to luxury and tracing the contours of social exclusivity. The decadence of the nightclub at once manages to avoid the conditions or inequities beyond the confines of the spectacle and serves to diffuse any latent social conflict, if only for some people at a certain price. The intensified sensorium turns disruptive psychosocial potential into the palliative of inebriation. If, as Baudelaire wrote, "the pleasure of being in a crowd is a mysterious expression of the enjoyment of the multiplication

of number," then Severini likewise locates the pleasure of the crowd in a *number*—literally, a dance routine—that draws the figures into a kaleidoscope of social exuberance.[131] This exhilarating pattern of sensation provides a benign alternative to both productive labor and agitational politics. Grasping bourgeois leisure from an insider's perspective, the artist disavows sociopolitical radicalism, seemingly unwilling to acknowledge the economic and political consequences of that type of social exclusion.[132]

In place of social disturbance, this image of the leisure crowd substitutes perceptual disruption—with its mix of sounds, tastes, kinesis, and vision composing the isolated shards of shattered collectivity. Despite allowing his name to appear on certain manifestos, Severini did not really endorse the futurist affiliation with social conflict. His visual retort to radicalism renders a fractured scene of social harmony. By focusing almost exclusively in the prewar years on images of bourgeois leisure, he avoided both antagonism and the troubling aspects of urban conflict and social injustice, which were felt so acutely by the other futurists. Thirty-five years after Renoir envisioned a soft-focus tableau of leisure in *The Dance at the Moulin de la Galette* (1876), Severini returned to the theme of musical entertainment to stage his own ideal of harmonious collectivity, at a time when most avant-garde Parisian artists did not depict the leisure crowd. Like Renoir's image, the futurist painting—with its array of figural details scattered over a plane of pleasurable sensations—carries a pictorial quality of innocence, which, by 1911, gives the effect of a willing denial. *The Dance at the Pan-Pan* enacts a nonconfrontational revision of futurist thinking that avoids the idea of working-class aggression and broader social collectivity. The outbreak of World War I tests the limits of Severini's visual strategy. According to his belief in maintaining an image of social harmony, warfare—not only troop movements and ballistics, but also the production of armaments and the waves of national pride—came to represent a monstrous betrayal of his bourgeois habits. In late 1914, Severini's work abruptly shifted to include scenes of military conflict, demonstrating how restrictive his earlier imagery had been, while proving that, by resisting the other futurists'

extremist tendencies, he ended up refusing to acknowledge social conflict, at least until it took the form of large-scale mobilization. Even when the artist did turn to depicting the horrors of war in 1915, he did so with an eye for harmonious visual effects, such as his *Armored Train in Action* (Fig. 15), in which a gleeful palette creates an unreal mood for the schematic of violence.

Briefly allied with futurism in early 1910, Aroldo Bonzagni presented his own visual rebuttal to social agitation with his painting *Worldliness, or At the Exit of the Ball* (1910; Fig. 16). The crowd leaving an exclusive cultural event was a familiar Belle Époque theme of departure and refined pleasure, but Bonzagni transforms the image of watching theatergoers from afar into an intimate portrait of a social class that reveals its affluence and sophistication up-close.[133] Depicted with exaggeratedly effete and rotund qualities, the decadent socialites fill the frame, as the painter gives only a hint of the location. Avoiding the staid, academic style of fin-de-siècle portraiture, the painting updates the visual language of ostentatious display and accommodates social status through its formal boldness, utilizing loose brushwork, a bright spare palette, and a dynamic framing of figures. Similar to the caricatures of Toulouse-Lautrec, the painting portrays this social group as larger-than-life characters—rather than as stiffly posed and socially removed. Moving toward the viewer, this leisure class forms an irrepressible force of wealth and privilege, a powerful retort to the human torrent in Pellizza's *The Fourth Estate*. In contrast with Pellizza's image, the viewer now gets a fleeting glimpse of overflowing affluence, made to appear fashionable and active by Bonzagni's insouciant style of painting. In a leisurely promenade, the figures perform their socioeconomic superiority. Similar to the ringmaster's whip in Seurat's *The Circus* (1890–91; Fig. 17), the cane of the central male figure signals forward motion, while doubling as a deterrent to others to not get too close. An effective visual cue for affirming socioeconomic hierarchy, this straight black line traces the minima of disciplinary threat required to maintain social privilege. Another telling contrast with Pellizza's earthy workers is that Bonzagni's figures stride forward on a red carpet

that separate this group from the dirt and grime of physical labor and material impoverishment. Extending an Italian tradition of depicting social conditions, Bonzangi provides a strong counterpoint to futurist agitation by observing the socioeconomic reality of accumulated wealth and power.[134] Although his presentation subtly parodies bourgeois taste, it also frames a clear indictment of the futurists' images of agitation, reminding them that wealth and stature still make up a potent historical force.

If leisure provided an important marker of social status, it was not, in each instance, an indication of class. Leisure was a complicated field of multiple, sometimes divergent, investments. American economist and sociologist Thorstein Veblen, for whom forms of recreation originated with the "leisure class," was well aware of a diffusion of recreational habits throughout society, which provided evidence of a general interest in these forms of social pleasure and which represented, for the less fortunate, a chance to assume the poses of superior stature.[135] For this reason, the leisure crowd does not always connote a separate class.[136] If Severini imagines recreation as a general social activity in *The Dance at the Pan-Pan*, Bonzagni's *Worldliness, or At the Exit of the Ball* does project a more specific idea of leisure that correlates with socioeconomic class. Indeed, those habits or traits associated with luxury had been filtering throughout the population, especially in the context of the modern city. As German economic historian Werner Sombart summarized in 1913: "The city is responsible for making available to large sections of the populace the enjoyment of festivities which heretofore had been the privilege only of members of the ruling court; and as a result the masses began to establish places for themselves where they could regularly enjoy their festivities."[137] As certain recreational behaviors were taken up by the general populace, as with various forms of sporting and athletics, the strictly upper- or middle-class connotations became more diffused socially, or else those forms were adopted by a different social class altogether. Of course, there is a limit to this rationale of diffusion. Even as "the masses" partook of new types of recreation and developed new tastes, some leisure habits associated

with wealth and privilege would have represented an intrusion into their ways of life. As Veblen observed, certain tastes "adapted to the upper-class scheme of life under the guidance of the leisure-class formulation" would also have "intruded into the lower-class scheme of life from the code elaborated by an element of the population whose life lies outside the industrial process."[138] Wrapped up with the images of Bonzagni's affluent theatergoers and Severini's affluent social types is the fact that the widespread availability—if also uneven distribution—of certain forms of recreation works relative to competition and social antagonism. Even when exhibiting a tendency to avoid conflict, their images of leisure presented a type of collective identity that necessarily found its place within the spectrum of mass society.[139]

Giacomo Balla also made an effort to incorporate the general population into his vision of modernized lifestyle that reimagined futurist visual practices according to a vast reserve of mass consumer desire. In 1913, he began to make designs for futurist clothing, interiors, and furnishings—designs that have in common an abstract visual language based on his observations of moving vehicles (Fig. 18). These sketches and paintings present multiple trajectories and complicated rhythms of motion according to a visual strategy for indexing auditory and visual stimuli on the visual plane, to be explored further in the next two chapters. Revolving around sensory flows of the modern world, these repetitive patterns established a basic syntax of physical speed, dating from 1912–13, which is transformed into decorative motifs in his later design works. His vehicular lines of movement became a set of futurist "form-forces," tracing motifs of energetic discharge and defining a new range of design possibilities. In his designs for men's suits (Fig. 19), for instance, he varied the color, the fabric pattern, and the cut to create unique stylizations aligned with the new rhythms of modern life. These so-called "anti-neutral" suits were meant to correspond to the times of the day, following the idea that outfits give different accents for a daily routine given over to leisure. Rather than a single multi-purpose suit, the futurist foresaw multiple garments to meet the demands of different moods. This design schema of temporal differentiation repeated the structure found in

his painting *The Worker's Day* of 1904 (Fig. 20), in which the times of the day are consigned to different areas of the image. For those in search of a nontraditional style, these vibrant, colorful fashions inscribe social differences; for those wearing the clothes, there would have been not only a clear distinction from others, but an announcement of their affiliation with the cultural program of the futurists.

At the root of his sartorial innovation—indeed, all his designs—is a new understanding of consumption. He stated that futurist clothes should "simply and above all be made to last for a short time in order to encourage industrial activity and to bring constant enjoyment of the new to our bodies."[140] This shortened lifespan of goods matches a futurist commitment to living a more intensely modern experience, according to a faster pace, and this mode of radical proliferation of styles signaled a commitment to accelerating social and economic temporality, to modernity *tout court*. Also, while Balla referred to industrial production, it did not necessarily mean mass production in a factory, especially in light of a statement in 1915 by the artist in opposition to mechanical forms: "To renew ourselves by creating an art that no machine can imitate."[141] The apparent inconsistency comes from the unexpected assertion that motifs of vehicular motion were not to be constructed by machines, but this was not such an unusual approach to design-intensive industries, such fashion and furniture, just as it is not unusual to encounter today. However, due to his strong emphasis on modern experiential intensities, it points to a subtle distinction. The futurist seemed to be agreeing with Georges Sorel's belief that artisans were in the best position to spark technical and technological innovation given their daily, hands-on experience with machines of manufacture.[142] Balla's redesign of daily objects converts the idea of artisanal invention more explicitly into a commercial model of increased industrial and aesthetic production. Indeed, they are artistically crafted objects for an emerging mass market. During this period of activity, lasting into the 1920s, he made sketches for an assortment of men's and women's garments and accessories, as well as ceramics, textiles, furnishings, and rugs (Fig. 21). His commercial

intent may be inferred from his statement about shop windows: “Any store in a modern town, with its elegant windows all displaying useful and pleasing objects, is much more aesthetically enjoyable than all those passéist exhibitions which have been so lauded everywhere.”[143] In 1913, Balla aimed to recalibrate futurism to the commercial sphere, and, while his designs did not depict crowds per se, they focused on leisure and mass consumption in such a way as to appeal to audiences other than those associated with traditional artworks—aimed at a multitude yet-to-come.[144]

Calling futurism “the first artistic movement of mass society,” art historian Germano Celant claims the futurists turned away from typically avant-garde practices when they attempted to remake everyday life through mass production. Unlike cubism and other avant-garde art movements at that time, futurism embodied a “mass avant-garde” through “its orientation to the masses.”[145] Combating an aesthetic ideology marking an elite stature, the futurists affirmed “a new mode of being” by acceding to *banalization*—his term for when “art dissolves into quantity and into anti-artistic vocation.”[146] Intriguingly, Celant claims futurism continues to be of historical interest “not as a stylistic development, but as an avant-garde development that consecrated the banal to art and thus represented the ascending curve of mass anonymity in the sphere of creativity.”[147] In his view, the dichotomy between elite interests and mass interests at the time paralleled the differences between cubist and futurist practices.[148] After the futurists begrudgingly surrendered to mass culture, Celant says, “the avant-garde reveals itself incapable of resisting new movements created by the masses and by industry.” It signaled a new alliance with the people. According to this account, the futurists saw the crowd, rather than the individual artist, as the protagonist of culture, so the movement radicalized the relationship between art and the masses.[149] Celant’s account of how futurism responded to the historical tension between fine arts and mass society gives a distorted image of the futurists’ investments in mass culture, however, this account represents an initial attempt to frame the discussion about how the movement engaged with some of key terms at

the core of a modern society.[150] At the levels of consumption and production, futurism grappled with the significance of a mass audience that was no longer constrained by bourgeois tastes. Also, this argument helpfully points to the possibility that commercial considerations and consumer demands may have redirected some of the social and economic antagonism between classes. In the case of Balla's product designs, futurism realized that, for the general populace, economic power through consumption could be a weapon that was, in some ways, more powerful than their capacity to organize around a political agenda.

The sketches Balla made for clothing and domestic goods provided an extension of both his aesthetic experimentation and his socialist ideas—into the realm of commerce. As a strategy for producing and propagating his stylizations of velocity, his commercial designs signaled a significant shift in avant-garde practices, as Celant surmises. By transcribing features of his urban environment onto objects, he managed to infuse his visual forms with a futurist attitude that separated new from old, modern from traditional. They were the "force-forms" of a new psychosocial potentiality. This aesthetic of motion and fragmentation helped to introduce people to an accelerated cycle of innovation based on updated modes of consumption and production. In keeping with the aggressive social and cultural agenda of the futurist program, the visual style based on the concept of velocity involved incorporating and inscribing social differences. As a case in point, his ceramic lamp design from 1914 (Fig. 21) turns an electric lamp metaphor for the working class (as a modernizing force in society) into a utilitarian object—at once merging socialist ideals with commercial tastes and channeling a pervasive sense of social conflict into the domain of leisure.[151] In effect, the recreational forms he imagined demonstrate a categorically different mode of mass agency from the agitated and productive forms discussed above. Significantly, Balla remained faithful to artisanal methods of production, and his aesthetic of individualized products was a model of modern design for a modernist clientele. Supported by the unconscious forces of the market, new patterns of leisure and consumption gradually extended to the multitude yet-to-come. The once

imaginary, typically anarchical collective was matched to a unique lifestyle that suited its distinct habits.[152] His vision supposed that the design of everyday objects held an immanent form of social differentiation, providing a way to integrate diverse social types into a unifying field of commerce.[153]

A range of imagery from this prewar period re-visualizes the social field through an ethos of leisure: Severini's perceptual disruption, Bonzagni's aura of wealth, and Balla's abstract motif of movement. Overall, the leisure crowd mitigated political and social conflict by directing psychosocial energies toward sensory gratification. Through an inventive interpretation of recreation, Balla imagined a modern lifestyle that posited a crucial link between productivity and commerce, opening the path to a social field, in which mass disruption could be mediated by design. Offsetting the social antagonism felt during years of intensifying strife, Balla brought commercial and productivist ideas together in a visual system oriented toward psychosocial mobility and economic stimulus. Notably, this reconciliation of art and mass production provided one of the impetuses for the emergence of vibrant design and fashion industries in Italy during the interwar years. His design works also marked a conceptual shift in futurist images of the crowd—from bourgeois leisure based on social exclusion to a mode of leisure rooted in intensified force of social differentiation. Not simply pegged to cultural and historical styles, the modern designs envisioned by Balla created an expanded space for the expression of socioeconomic differences, in which a collective would be supplied with futurist goods that sought to remake the world in their image: "We Futurists, Balla and Depero, seek to realize this total fusion in order to reconstruct the universe by making it more joyful, in other words by an integral re-creation."[154] The reconstruction depended on a new style of futurist object, which demanded a different type of artist: "[With futurism] art became the Present, the new Object, the new reality created with the abstract elements of the universe. The hands of the traditionalist artist ached for the lost Object; our hands suffered agonies for a new object to create."[155] One of the specific types of object that

exemplified for Balla and Depero the futurist transformation of social (and economic) life was the futurist toy—an object that "will be of great use to adults too, since it will keep them young, agile, jubilant, spontaneous, ready for anything, inexhaustible, instinctive, and intuitive."[156] In this instance, an ideal of joyous, psychophysiological recreation inflected the desire for physical re-creation of the world. Balla's designs for clothing and household items fit into this idea of the recreational object, yet this commitment to cultural and rejuvenation entailed the social and economic bases for a radical reimagining of production. By inscribing (and reinscribing) social differences in the form of new objects, social conflict could be remade into a mode of play. Even as the futurists proposed this reciprocity between an ethic of productivity and a desire for relaxation, this form of socioeconomic modernization was being challenged by a growing alliance between social agitation and nationalism.

The Patriotic Crowd

The renewal of Italy was one of the original and guiding premises for the futurist language of revolution and for its embrace of modernization, and this desire for change at the national level harbored a kernel of nationalist aggression. Following Marx's belief that nationalism was one of the initial phases of socialist revolution, Georges Sorel, in 1908, had applied socialist principles to the geopolitical map of Europe, imagining proletarian nations set against their bourgeois neighbors.[157] Enrico Corradini and his cohorts in Italy actually put that theoretical argument into practice—developing a patriotic discourse pitched to Italian workers. Founded in 1910, the Italian Nationalist Party competed for the sociopolitical allegiance of the Italian working class, and, at the first congress of the party in Florence in December 1910, Corradini reiterated socialist doctrine in the context of country: "Italy is a nation physically and morally proletarian."[158] In this same speech, he argued, counterintuitively, that patriotic aggression served a budding internationalism of proletarian forces: war would be a gain for workers, he claimed. Among the futurists, Marinetti was the first and most committed voice in

support of a strengthened national image, fomenting passion for the revitalization of Italy.[159] Envisioning *art-action* with a more overt nationalist politics, Marinetti letter to Giovanni Papini in October 1913 provides a succinct justification for the appeal of nationalism to artists: "There are many, many millions, who demand with anguish and faith a directive, an enthusiastic cry, not only in the artistic, but also in the political and national field. Art is tied up with politics!"[160] The other futurists were more equivocal on the topic. Boccioni, for example, who accompanied Marinetti to the Second Nationalist Congress in Rome in December 1912, criticized the movement for having conservative views.[161] Despite their periodic espousals of patriotism in their texts, the futurist painters came to depict patriotic themes in their visual works only after prolonged exploration of crowd imagery from other perspectives (productive, agitated, and leisure). The patriotic crowd is fourth type of futurist crowd image that did not appear in their visual works until the middle of 1914. It ended up being an unusually potent unifying theme that drew from the visual strategies of the three previous types of crowd imagery, and this crowd symbolized a very different expression of social antagonism, emerging from early futurism.

Carlo Carrà's *Free-Word Painting—Patriotic Festival* (1914) transposes the vibrant crowd into a flurry of collaged and hand-drawn elements, circulating amid an ocean of text that represents vocalizations unmoored from the rules of written syntax and usage. After Red Week, a period of mass strikes throughout Italy in June 1914, Carrà depicted a nationalistic gathering using a chaotic proliferation of fragments—text, image, and even music.[162] A radiating pattern presents the multidirectional and agitated forces of rebellious political action, similar to his *Funeral of the Anarchist Galli*. Rather than physical force-lines, this later image maps straight lines of text extending toward the edge of the frame. Suggesting a crowd's number and density, the words also appear to show the affective sensations moving rapidly through the congregation. Red and yellow patches and rose-colored washes accentuate lateral segmentation, while dark shading and white highlights mold concentric rings into a

pinwheel of successive layers. The worded flows are pushed and pulled into an ominous constellation of national pride. In fact, one fragment literally references the stars: “WE are the FIRST CONSTELLATION for the new, most acute astronomers.” White lettering on a black ground forms into patriotic chants (“Long live the king!”), which intensify around the central pivot of the word *Italy*. Allusions to health and hygienic circulate amid this visual cacophony, expressing the desire for a strong, healthy nation, purified of deviant and weak elements.[163] The composition registers the microecologies of political demonstration—here music and festive song, there vituperative slogans, and elsewhere obscurity or downright absurdity. As with his riot image from 1911, a vortex of rectilinear and curvilinear forms generates visual uncertainty; it is a disorienting flood of linguistic and graphic connections and disconnections. Using multiple auditory cues and radiating forces, like signals transmitted across an urban terrain, *Free-Word Painting* diagrams a sort of wireless broadcast in the new mass medium of radio, in which the waves of text propagate, overlap, and interfere across the cityscape.[164] The projection of nationalist agitation in favor of State militarism marked an explicit shift from his earlier funeral image of agitation against the State. This ideological realignment accompanied his personal sense of disillusionment with socialism, as well as the more general sense of dissatisfaction in Italy with socialist ideas and activities, both radical and mainstream.

After August 1914, during a period of agitation in favor of military intervention against Austria-Hungary and Germany, the futurists mostly sided with the interventionists, who equated national strength with militarism. Although it is often assumed the interventionists played an important part in Italy’s entry into World War I in 1915, the government’s decision to declare war was based on full diplomatic engagement and not on the agitation of a minority of interventionists.[165]

In early 1915, Balla made no fewer than eight paintings of crowds that loosely coincide with patriotic demonstrations in Rome at that time. This imagery represents a continuation of his earlier experiments visualizing motion and recreation, but it also introduced

a few modifications: a nationalist palette and a technique of volumetric rendering. In these patriotic images, the motif of motion became an all-purpose chromatic swathe that conveyed energetic discharge, as if literally inscribing Marinetti's poetic image of "multicolored, polyphonic tides." These dynamic curvilinear shapes render the festive rallies in the language the artist's earlier used to present the futurist city: "All around us we shall find acrobatic blocks of colours."[166] Evident in his earlier vehicular images and commercial designs, the kaleidoscopic patches look like undulating planes of color, indicating the bursting forth of modern rhythms reminiscent of the vortical shape in Boccioni's *The City Rises*. In the work *Parade + crowd* (1915; Fig. 23), Balla several triads of vibrant hue dance together like the Three Graces, celebrating amid the urban crowd.[167] Elsewhere, the swathes resemble the Italian flag either by creating a single, unifying structure—as in *The Shout "Viva l'Italia"* (1915; Fig. 24) or *Patriotic Song* (1915; Fig. 25)—or by repeating tri-colored forms across the picture—as in *Parade + crowd* and *Demonstration in Piazza Quirinale* (1915; Fig. 36). The flag color scheme sutures the formal markers of difference (literally, different colors) into the unifying theme of national pride. This patriotic symbolism also reiterates the red, white, and green suit design of the previous year, whose wearers would be recognized as "living Futurist flags," he claimed.[168] The carefree forces of leisure were invested in the nationalist cause, but the message of the works is one of exuberance rather than aggression. Whether small or large, this adaptable swathe motif captured a range of visual meanings—from huge numbers of people in the street to singular soaring passions. Just as this wedge-shape harnessed agitated social energies in Russolo's *The Revolt*, Balla's oversized abstract shapes visualized large eddies of activity, thus continuing the idea of mass agitation by formal means. In lieu of Russolo's straight-edged exactitude, the revised template of crowd depended on a flexible design to accumulate disparate social energies. Similarly, Russolo's and Boccioni's elevated perspectives for viewing the group became an aerial view of the crowd, as in *Flags on the Altar of the Country* (1915; Fig. 27) and *Patriotic Song*.

Another development in the Balla's abstract motif of movement came from its volumetric rendering in his later paintings. No longer rendered flat, the motif gained depth—its planar extension to three dimensions provided by shading and coloration. Beyond the individual dynamic forms, the artist uses this volumetric technique to suggest urban architecture: in *Flags on the Altar of the Country*, the monument to Vittorio Emmanuelle II becomes as an imposing upright volume; in *The Shout "Viva l'Italia"* vertical modulations, etched into the orange-blue striations, suggest adjacent buildings; in *Parade + crowd*, the flowing forms contains similar vertical shading to connote depth. The adaptable motif and its volumetric undulation expressed the celebratory spirit of national rejuvenation in the streets of the capital, but his stylistic flair also communicated the colorful anonymity of the festive crowd. This seductive version of the urban multitude permitted diverse types of viewer to experience patriotic cohesion. What is perhaps most intriguing for art history about this patriotic crowd imagery is neither its political agenda, nor its presumed influence on politics, but rather its synchronization of visual strategies in the national cause. Balla's patriotic crowds offer a myriad of cases in which there is a reordering of aesthetic investments—from production, agitation, and consumption to an all-consuming nationalism. Perhaps incongruously, at the same time his patriotic imagery stoked interventionist passion, his commercial designs directed social conflict toward physical objects to consume. Even as he presented an inventive way to mediate conflict, he was indulging an apparently contrary idea of violent agitation in favor of international conflict. For Balla, the actualities of violence were obviously disconnected from the festive atmosphere of nationalist demonstrations.

Although not futurist, Wyndham Lewis's *The Crowd* of 1915 (Fig. 28) is not only a patriotic image comparable to Carrà's and Balla's works, but it also lends more weight to the argument that the patriotic crowd derived from the earlier types of productive, agitated, and consumer crowds. *The Crowd* shows an anonymous, amorphous crowd flowing through the streets of central London. The clumps of insect-like bodies fill the narrow strips (i.e.,

passageways) that separate larger pictorial areas (i.e., buildings). While Balla often magnified the patriotic colors of the Italian flag to the size of the crowd, the national flags appearing in Lewis's painting are just one small feature in the spare landscape of mass sentiment. Unlike the assembly in Carrà's *Patriotic Festival*, which converges on a symbol of country, *The Crowd* is not oriented around a central feature, but rather it forms a mimetic script scrawled haphazardly onto the walls of the city. Also, if Russolo juxtaposed bodies in movement to immobile architecture in *The Revolt*, Lewis saw a more intimate convergence of these phenomena: with their vertical sections of rectilinear gridwork, his schematic figures mirror the visual structure of the buildings. These repetitive crowd-particles also seem to emerge from the buildings—not in the sense of exiting them, but in the sense of literally materializing out of them. This reconstitution of architecture into human figures revisited the idea of the general populace as a comprising a malleable construction material, but here that building-body conjunction constituted two consecutive phases in a single urban life cycle, similar to the way jellies shift from polyp to medusae.[169]

Writing in 1914 about the pro-war crowds gathering in London on the eve of World War I, Lewis employed another zoological metaphor to describe the instinctual qualities of the patriotic collective: "THE CROWD now is formed in London. It is established with all its vague profound organs au grand complet. / It serpentines every night, in thick well-nourished coils, all over town, in tropic degustation of news and 'stimung.'"[170] A giant serpent feeding on daily reports and rumors, Lewis's predatory collective captures the restless spirit of agitation in favor of military intervention. Through its analogy between the crowd and digestion, his text affirms an alliance between agitation, patriotism, and consumption, articulating a powerful response to the work-leisure routine of industrial capitalism. His visual analogy between buildings and bodies in *The Crowd* is reminiscent of Boccioni's productive crowd, in which workers literally and figuratively construct the city; however, Lewis converted that socialist vision of steady socioeconomic progress into a population agitating for international military

intervention. The bloodthirsty mob can be assuaged neither by appeals to productivity or to commerce, nor by the alignment of productive and consumptive forces, as with Balla's commercial designs. Locked in fierce competition for mass allegiance, the nationalist image succeeded, in part, because it effectively fused various aesthetic strategies. Particularly, the potent ingredient of political agitation provided a degree of social instigation that overrode pacifist ideas and that brought together a volatile, if also disparate, collectivity.

At the same time Lewis's painting reveals the crowd's frightening power, his inhuman figures form a dehumanized collective, distinct from expressive individuals. Well-articulated bodies in the fore of the pictorial space remain separate from the faceless numbers behind them. Concerning the relation between individuals and the collective, Lewis wrote in 1914: "Death is, however, only a form of Crowd. It is similar to surrender."[171] Etched deeply into the psyche of the general population, the Freudian death drive served as a tangible limit, helping to circumscribe the life of an individual, according to Lewis: "The Crowd is an immense anaesthetic toward death."[172] His crowd inured the individual to death, constituting surrender to a sort of social sublime, in which the awe-inspiring experiences of modern society prompt a perceptual shift and a gradual erosion of that protective buffer called individual identity.[173] Nonetheless, for Lewis, the individual remained separate from the collective (if not physically, then at least conceptually), thus inducing the paradoxical condition of submission and mastery at the same time—a submission to immense collective forces in order to attain a type of individual mastery. This crowd mastery affirmed personality: "I was master *in* the crowd, not master *of* the crowd. I moved freely and with satisfaction up and down its bloodstream, in strict, even arrogant, isolation from its demonic impulses."[174] He reveled in a sense of authority originating in his isolation *among* others, and he became a master who acted rather parasitically toward an animated, if also dead, crowd. Freud describes a similar mind set of one who watches the multitude and who projects a desire for order onto it—the authoritarian: "The leader of the crowd is still the dreaded primal father; the crowd still wishes to be

governed by unrestricted force; it has an extreme passion for authority; in Le Bon's phrase, it has a thirst for obedience."[175] Through nationalist agitation, the collective induced a mode of authority not inconsistent with a psychological trait Freud termed "the instinct to master."[176] In his textual and visual images, Lewis offers a vivid culmination of patriotic festivity in the haunting vision of crowd mastery and collective destruction. Likewise, the futurist patriotic crowd was anti-pacifist in its basic agitational premise, despite its celebratory tone, and it likewise showed a tendency toward authoritarianism, rooted in a stridently anti-democratic demand for a unified collective will.[177]

Before World War I, the critics of democracy were numerous in Italy, as well as in other European countries, and few writers summed up this anti-democratic perspective better than sociologist Vilfredo Pareto, who took a pragmatic approach to explaining different styles of governance and their relation to diverse social types.[178] He observed that the few always rule the many, and he claimed that elites emerge naturally to lead any social group or economic class—that is, elitism exists *within* each social group.[179] Pareto's social model included the capacity for ruling elites to be constantly replenished from a vast reserve of non-elites, and this so-called "circulation of elites" was due either to competition or to just plain sociohistorical exhaustion. While his idea of constant power struggle within any group was part of a complex vision of competition within society, it effectively diffused a key premise for socialist revolutionary activity: the idea of a unified socioeconomic class. A practical effect of Pareto's model of constant struggle and "circulation" believed that, within the crowd, and irrespective of its psychosocial composition, there would always be a domineering (viz. authoritarian) element. This perspective was conducive to explaining the extremes of aggressiveness and paranoia in the general scope of governance, but it also illustrated, in a more restricted historical context, the split within the Italian Nationalist Party at the end of 1912 between authoritarian and populist factions, led by Sighele and Corradini respectively.[180] Although both figures rallied a relatively small, but vociferous minority to the cause of the

nation, a struggle among these two leaders revolved around the movement's choice to defy anti-government sentiment and to become absorbed by the parliamentary system. The concept of individual action beat out populism, and an authoritarian attitude was reasserted in 1913.

For his sake, the futurist leader F.-T. Marinetti left no doubt about his anti-democratic views, though his vehemence was not shared by all the futurists.[181] The patriotic crowd images presented in this chapter highlight some of the divergent forces among the avant-garde responses to nationalism: a populist dimension emerges from Balla's patriotic festivities; a domineering elitism can be discerned in Lewis's crowd; a mélange of populist and authoritarian fragments coalesce in Carrà's image. Similar to Lewis's crowd master and complicit with Pareto's "circulation" of social forces from non-elite, non-ruling backgrounds, the futurists described themselves as new elites who intended to replace the old elites.[182] Allied with modernization and social change, the futurists declared the previous rules and traditions null and void (even as they worked in traditional artistic mediums). If this type of cultural and spiritual renewal presupposes an unavoidably populist premise of mass national sentiment, its collective activity also depend on an elevated, privileged position from which to evaluate and direct the crowd—a paradox akin to Lewis's mastery through submission. As it traces the collective forms of work, leisure, and riot, futurist crowd imagery explores a precarious, complicated relationship between the individual and the collective, similar to Sighele's idea of the artist who praises the crowd and draws from its accumulated resources, but who necessarily stands apart from it in order to create an enduring image of collectivity.[183]

These four crowd image types in early futurism generated distinct, but interrelated ideas about social relations in modern society. Each crowd type developed strategies for harnessing the multitude's abundant social and psychic forces (commonly associated with unconscious instincts). Such eclectic strategies invariably framed the crowd as a vital sociohistorical force endowed with a vast and unpredictable biopolitical potential. While this

crowd imagery offered views onto the competing discourses related to the masses' possible integration into the normal workings of society, enacting a sort of counterdiscourse to prevalent ideas, these images also exposed some of the schisms that played out within the movement. If these crowd image types present different visual solutions to the problem of reconciling art and the people, there are formal and conceptual similarities found among them, as well as rhymes and resonances. For instance, the productive and consumer crowds both mobilize a desire for material betterment that reinforces a prevalent work-leisure dichotomy, while the threat of aggressive outburst pervades both the agitated and patriotic types. In addition, there is an essential division between those crowd images that represent a belief in gradual social change (along a productive–consumer axis) and those images that offer a sense of spontaneous or sudden change (along an agitated–patriotic axis).[184] The radicalization of collective action in the latter is evidenced by rebellious language and antagonistic images, while the former directs conflicting social forces toward more constructive and peaceful resolutions. Rather than simply negating the pacifist forms, however, the patriotic crowd adroitly co-opts the visual strategies and motifs of those earlier crowd types. It choreographs divergent approaches within the same pictorial field, such as presenting abundant mass energies, diagramming agitation, suggesting both historical ambiguity and perceptual fragmentation, and inscribing social differences. The patriotic crowd enhanced its visual language by appropriating earlier strategies, while simultaneously constructing a narrative of unification and national strength that undermined those earlier visions of collectivity. A shift from earlier versions of mass agency to the nationalistic model depended not only on a successful co-optation of strategies, but also on a sociohistorical situation in which the earlier imagery lost its speculative force and gradually exhausts its transformative potential.

Another differentiation among crowd images arises from their chronological sequence: a temporal gap separated the emergence of the first three (productive, agitated, and

consumer) prior to 1912 from the appearance of patriotic crowd in mid–1914. This two-year-plus period marked a vital period of development in futurist visual art, after which the patriotic crowd arose as a sort of extension and synthesis of those earlier types. This historical gap marks a shift in the futurist imagery, framing an art historical problem: what prompted the shift in early futurist visual practices during those intervening years? Answering this question leads away from crowd imagery proper and toward an investigation of different modes of futurist figuration during the years 1912 and 1913. These various figural modes are the subject of the following chapters, covering such material as a dichotomy between reductive and excessive forms; filmic and chromatic analogies for bodily intensities; and, the modeling of the open bodily contour. As with the diverse types of crowd image, futurist visual ideas about mass agency partook in a broad historical discourse within Italy, characterized as a search for the "new man."[185] While it is clear, from a vantage of historical remove, that this myth of the "new man" constituted an essential ingredient in the image of a transformed, modernized nation, perhaps less appreciated are the subtle iterations and variations of this psychosocial renewal in the futurist oeuvre during this relatively brief period of a few years, moving through a range of historically significant permutations, including a reckoning with Marey's biomechanical method, the subject of the next two chapters.[186]

Notes

[1] Sighele, *L'intelligenza della folla*, 1911, 3. ["La folla ha sempre tenuto nelle sue mani incoscienti la sorte del mondo."] A slightly different version of this same idea from a few years later reads: "La folla tiene nelle sue mani incoscienti la sorte perpetua del mondo. Parte immensa la sua, ma passiva." ["The crowd holds in its unconscious hands the perpetual fate of the world. An immense part it has, but passive."] See Scipio Sighele, *Morale private e morale politica*, 1913, 40.

[2] F.-T. Marinetti, "The Founding and Manifesto of Futurism" (1909); reprinted in Apollonio, ed., *Futurist Manifestos*, 22.

[3] Ibid.

[4] In his article "Our Common Enemies" (originally published in the anarchist journal *La demolizione* on March 16, 1910), Marinetti sought to form a coalition between intellectuals and proletariat revolutionaries. Reprinted in Marinetti, *Critical Writings*, ed. Günter Berghaus, 2006, 51–52.

[5] Berghaus suggests a relation between bourgeois sphere (i.e., artists, writers, and intellectuals) and the people was forged through the futurists' experimentation with various aesthetic strategies that embraced involuntary modes of production, such as automatisms of speech, writing, and physiological processes, for example. See Berghaus, *Futurism and Politics*, 1996, 53. The idea of reconciliation circulated in avant-garde circles before World War I, as evidenced by Apollinaire's discussion of the work of Marcel Duchamp (first published in May 1912 and republished in *Les peintres cubists: Méditations esthétiques*, 1912): "It will perhaps fall to an artist as free of aesthetic considerations and as concerned with energy as Marcel Duchamp to reconcile Art and the People." Apollinaire, *The Cubist Painters*, 2004, 75.

[6] Marinetti spoke many times for socialist groups, gaining converts, even though prominent socialist commentators never considered futurism to adequately reflect workers' concerns. For

example, “The Necessity and Beauty of Violence” (1910; reprinted in *Critical Writings*, 2006) is a speech he originally delivered to workers’ organizations. Also, Antonio Gramsci said futurism achieved surprising strength in the industrial proletariat before the war; cited in Walter Adamson, “Modernism and Fascism,” *American Historical Review*, 378. Berghaus writes, “Marinetti exercised enormous fascination for the workers and popular masses. Despite the disagreement with many of his political viewpoints, the workers and young revolutionaries kept inviting him back to their assembly rooms and listened to his speeches and reflected on the viewpoints presented to them” (Berghaus, *Futurism and Politics,* 1996, 56).

[7] Marjorie Perloff, *The Futurist Moment*, 2003, 103; also, Giuliano Manacorda, ed., *I manifesti del futurismo, 1909–1913*, 2001, 45.

[8] The activist dimension of futurist rhetoric derives from both Sorelian political philosophy, which was oriented around a radical shift in social relations, and the Bergsonian philosophy of freewill and intuition, which served to validate creative practices in response to dominant scientific and rationalist discourses. Alongside this radical language and its performativity, the futurists were directly involved with politics—such party congresses, street demonstrations, and riots not of their own making.

[9] “Manifesto of the Futurist Painters,” 1910; reprinted in Apollonio, ed., *Futurist Manifestos*, 24–25.

[10] Ibid., 25.

[11] Ibid.

[12] The term *art-action* appeared in F.-T. Marinetti’s French article *Le futurisme* (1911). An excerpt of the text is translated in Marinetti, *Critical Writings*, ed. Günter Berghaus, 152; however, in this version the term *art-action* has been translated “art-as-action.” In 1919, Carl Einstein eloquently restated this same revolutionary aesthetic project: “We need a collective art. Only a social revolution offers the possibility of a transformation of art, only a revolution

gives art a premise; it alone determines the value of artistic change and provides the artist with a task" (from Einstein, "Primitive Art," trans. Charles W. Haxthausen, *October*, 105, Summer 2003, 124).

[13] Umberto Boccioni, Carlo Carrà, Luigi Russolo, Giacomo Balla, and Gino Severini, "The Exhibitors to Public," 1912; reprinted in Apollinio, ed., *Futurist Manifestos*, 2001, 45.

[14] Ibid., 48.

[15] Ibid., 50. Educating the general population to artistic ideas is also mentioned in their first group text from two years earlier: "In the land inhabited by the illiterate peasant, schools will be set up; in the land where doing nothing in the sun was the only available profession, millions of machines are already roaring; in the land where traditional aesthetics reigned supreme, new flights of artistic inspiration are emerging and dazzling the world with their brilliance" ("Manifesto of Futurist Painters," 1910; in Apollonio, ed., *Futurist Manifestos*, 25).

[16] In one of his reviews of this exhibit, Gustave Kahn mentioned paintings from each of these first three categories. Kahn, "Les Futuristes italiens," *Mercure de France* 96, no. 353 (March 1, 1912), 184–86.

[17] Before World War I, social democracy had not yet demonstrated its effectiveness for reconciling complex social and political differences (let alone demonstrating any superiority over other political models). During the period from the Unification to the rise of fascism, no single sociopolitical platform was obviously more efficacious, and competing ideologies created a climate of confusion in which no single model was thought to best suited to all or most constituencies.

[18] In a letter to Walter Benjamin, February 1, 1939, Theodor Adorno describes the crowd as "a secret script" for nineteenth-century authors; printed in translation in Adorno and Benjamin, *The Complete Correspondence*, 1999, 302.

[19] Sigmund Freud, letter to Martha Bernays (future wife; letter dated Aug. 29, 1883) from Freud, *Letters of Sigmund Freud*, 1975, 50–51; cited in José Brunner, *The Politics of Psychoanalysis*, 1995, 167.

[20] Sigmund Freud, *Group Psychology and the Analysis of the Ego*, 1975, 9.

[21] On the pleasure in the crowd, Freud wrote, "It is a pleasurable experience for those who are concerned, to surrender themselves so unreservedly to their passions and thus to become merged in the group and to lose the sense of the limits of their individuality" (Freud, *Group Psychology*, 1975, 22). In contrast with that sense of pleasure, Freud solemnly concluded in a late work that "men are not gentle creatures who want to be loved, and who at most can defend themselves if they are attacked; they are, on the contrary, creatures among whose drive endowments is to be reckoned a powerful share of aggressiveness" (Freud, *Civilization And Its Discontents*, 2005, 103).

[22] Gustave Le Bon, *The Crowd: A Study of the Popular Mind*, 2003, 62.

[23] The quotation is from Freud, "The Claims of Psycho-Analysis to Scientific Interest" (1913); cited in Brunner, *Freud and the Politics of Psychoanalysis*, 1995, 75. The other references are from Freud, "A Difficulty in the Path of Psycho-Analysis" (1917); cited in Brunner, 1995, 62.

[24] Freud, *Group Psychology*, 1975, 76.

[25] Futurist scholars have noted the significance of the crowd theme for futurism, but they do not treat the images and their interrelations systematically. For instance, Christine Poggi states the crowd "occupies a central place within the constellation of Futurist topoi" (Poggi, *Inventing Futurism*, 2009, 35), but her explanation of particular artworks relies heavily on Gustave Le Bon's discourse of unconscious violence. Also, see Poggi's "Mass, Pack, and Mob: Art in the Age of the Crowd" in Jeffrey T. Schnapp and Matthew Tiews, eds., *Crowds*, 2006, 170–72.

[26] Scipio Sighele, *L'intelligenza della folla*, 1911, ix (preface to the second edition).

[27] Ibid., 3. The quotation reads: “Today it is understood that the true protagonist of history, though not always visible, is the people ...” [“Oggi si è compreso che il protagonista vero della storia, quantunque non sempre visibile, è stato il popolo ...”] “Il problema morale dell’anima collettiva” [“The Moral Problem of the Collective Mind”] is the first chapter in the second edition, but it is the last chapter in the first edition.

[28] Ibid. The first citation comes from this sentence: “The crowd has always held in its unconscious hands the fate of the world.” In the same vein, he adds (ibid.): “Today in fact one must not only recognize—from a literary point of view—the influence of collectivity on human evolution: one must above all observe—from a political point of view—the absolute control that collectivity has now taken in the destinies of the world.” [“Oggi infatti non si tratta soltanto di riconoscere—da un punto di vista letterario—la influenza della collettività nell’evoluzione umana: si tratta sopratutto di constatare—da un punto di vista politico—l’impero assoluto che ormai la collettività ha preso sui destini del mondo.”]

[29] Sighele writes (ibid., 6): “It seems to me necessary to discuss ways and means by which that despotism can be made more conscious and more worthy."

[30] “In order that the crowd may enjoy our marvelous spiritual world, of which it is ignorant, we give it the material sensation of that world” (Boccioni, Carrà, Russolo, Balla, and Severini, “The Exhibitors to the Public,” 1912; in Apollonio, ed., *Futurist Manifestos*, 2001). Christine Poggi highlights the elitism of both Marinetti’s early texts, such as *Le Roi Bombance* (Poggi, *Inventing Futurism*, 2009, 37–38) and Boccioni’s pre-futurist imagery of equestrian monuments (ibid., 39–40).

[31] Sighele’s participation in nationalist politics from 1910 to 1912 did not contradict this populist message of social empowerment, since there was a populist appeal despite an authoritarian tone. Eventually, in late 1912–early 1913 Sighele’s populism precipitated an irreparable rift

with the more authoritarian faction of the nationalists, led by Enrico Corradini; see John Alden Thayer, *Italy and the Great War: Politics and Culture, 1870–1915*, 1964, 224–25.

[32] The chapter is titled “Art and the Crowd,” and Sighele summarizes the idea as: “Genius, is ... the fruit of hereditary and unconscious labor of thousands and thousands of men.” [“Il genio, è ... il frutto del lavoro incosciente ed ereditario di migliaia e migliaia di uomini.”] Sighele, *L’intelligenza della folla*, 39.

[33] Ibid. “Artists, these ingenious millionaires, do not have to imitate some financial millionaires who keep all their wealth for themselves and who despise those who do not have as much. They must acknowledge, above all, that their wealth, genius, is like the capitalist’s gold, the fruit of hereditary and unconscious labor of thousands and thousands of men and (is) not their sole personal asset: they should feel instead that their duty is to throw this wealth into the crucible of the collective spirit in order to make it fruitful, just as the duty of the rich is to return its gold to circulation, in order to increase the prosperity of a country.” [“Gli artisti, questi milionari dell’ingegno, non devono imitare certi milionari del danaro che tengon tutte le loro ricchezze per sè e sprezzano chi non ne possiede di equivalenti. Essi devono riconoscere, anzitutto, che la loro ricchezza, il genio, è come l’oro del capitalista, il frutto del lavoro incosciente ed ereditario di migliaia e migliaia di uomini e non un loro esclusivo merito personale: devono sentire inoltre che il loro dovere è di gettare questa ricchezza nel crogiuolo dell’anima collettiva per farla feconda, come il dovere del ricco è di rimettere il suo oro in circolazione, per aumentare la prosperità di un paese.”]

[34] Ibid., 29. [“Il fuoco sacro del pensiero di genio non è mai uscito dall’anima collettiva: è il dono esclusivo del cervello individuale.”]

[35] Sighele claims the author “cannot despise the multitude that will come after him” (ibid., 34).

[36] Karl Marx and Friedrich Engels, *The Communist Manifesto*, 2002, 229.

[37] Susan Buck-Morss describes this period of class-consciousness as a version of the transformative myth of autotelic creation; in that, the conscious mind shapes a conscious collective. Susan Buck-Morss, “Aesthetics and Anaesthetics: Walter Benjamin’s Artwork Essay Reconsidered,” *October* 62 (Autumn 1992), 28.

[38] In another work by Pellizza da Volpedo, *Sunrise* (1903–04), the sun is used as a symbol of daily routine, but also the breaking of a new day (i.e., socialism), with its penetrating rays triggering a kind of blindness to the historical past.

[39] Along with its literal representation, the painting’s dynamism is conveyed allegorically—as an analogue for Marx’s proletarian class, “the lowest stratum of our present society,” which “cannot stir, cannot rise itself up, without the whole superincumbent strata of official society being sprung up into the air.” Marx and Engels, *The Communist Manifesto*, 2002, 232.

[40] Ibid., 229.

[41] George Mosse, “The Political Culture of Italian Futurism: A General Perspective,” *Journal of Contemporary History* 25, no. 2 (April 1990), 253.

[42] Sighele says a genius cannot despise the multitude yet to come; see Sighele, *L’intelligenza della folla*, 34. In 1912, suffrage was granted to all males of a given age in Italy, so the electorate nearly tripled overnight to 8.5 million; historian Martin Clark notes how with that decree “the age of mass politics had arrived.” Clark, *Modern Italy*, 1996, 188.

[43] Umberto Boccioni, *Lettere futuriste*, edited by Federica Rovati, 2009, 24 and 206. [“La folla è aumentata e spero di dare in tutte anche alla più piccola figura quel senso di *andare fatale* che hanno le folle che lavorano.”]

[44] At the request of Catherine de’Medici, Baldassairno di Belgioioso choreographed the horse ballet *Circe* (1581) in honor of the marriage of Duc de Joyeuse and Marguerite de Vaudemont. See *Glorious Horsemen: Equestrian Art in Europe*, 1981, 51.

[45] At the time horses figured prominently in the visual and literary arts, triggering a set of associations with a glorified and mythic past, such as in the work of Guillaume Apollinaire, as well as carrying utopian connotations of spiritual awakening, such as with Der Blaue Reiter group. On the horse motif in the poetry of Apollinaire, see Willard Bohn, *Apollinaire, Visual Poetry, and Art Criticism*, 1993, 99–126.

[46] For examples, early films documented the intricate collective routines for different workers (such as for coal workers, harvesters, street pavers, etc.). These film images of coordinated labor contrast with the more pastoral, sentimental artworks showing solitary workers, such as Pissarro's *Woman Breaking Wood* (1890), van Gogh's *Sower with Descending Sun* (1888), and Constantin Meunier's *The Sower*. As the movements of workers were imprinted with the labors they perform, their coordinated routines created a typology of productive teamwork and automatic behaviors. By contrast, when workers were not working, their movements were less synchronized, less predictable, and this potential for action remained ambiguous. For example, the Lumière Bros films of workers leaving a factory illustrate the moment when daily toil gives way to leisure, when managed routines give way to playful movements. In contrast with these images of departure for leisure, a Sagar Mitchell and James Kenyon's film from 1900 shows twenty thousand workers entering an ironworks in Northern England (titled *20,000 Employees Entering Lord Armstrong's Elswick Works, Newcastle-upon-Tyne*, 1900). The sheer quantity of workers and the visual confusion lend an ominous dimension to regularized daily routines—in which experiential material in forged by the forces of modernity.

[47] For example, Angelo Morbelli, Pellizza da Volpedo, and Emilio Longoni, and Giovanni Sottocornola. See the catalog for the exhibition *Divisionism/Neo-Impressionism: Arcadia and Anarchy*, edited by Vivien Greene, 2007. Although he followed the divisionists' style of depicting social actualities, the artist also drew from the work of Symbolist painter Gaetano Previati, whose allegorical scenes and mythic figures often reflected spiritual ideals, rather

than material conditions. In particular, horses developed a mythic association in Previati's work, such as in *L'eroica*, 1907. A good account of the concerns of Italian divisionism and its complex relation to Symbolism, pastoral imagery, social strife, and politics can be found in Vivien Greene, ed., *Divisionism/Neo-Impressionism*, 2007.

[48] Boccioni's diary entry from Feb. 13, 1908, reads: "To go on living, one needs a religion, a faith, and I feel my spirit has it, but it is terrifying because it is limitless, not finite … The works of man, the mysteries of the animal mind, the clouds, the waters, do they not fill me with joy and love? … yet something is missing. Perhaps it is that I have never been strong enough to carry through and fulfill what I have promised myself to do. And if that is the cause, am I so low and base as to need the whip laid on to make me do what I say? And if the whip made me do it, would I be any more content?" Ester Coen, *Umberto Boccioni*, 1988, 261.

[49] Marinetti, *La grande Milano tradizionale e futurista* (dated 1943; published in 1969); excerpts of this text published in translation in Coen, *Umberto Boccioni*, 1988, 254.

[50] Walter Benjamin writes: "Within the labyrinth of the city, the masses are the newest and most inscrutable labyrinth. Through them, previously unknown chthonic traits are imprinted on the image of the city." Walter Benjamin, *The Arcades Project*, 1999, 446.

[51] Boccioni's friend Nino Barbatini confirmed it is an allegory of work in his review in *L'avvenire Italia* (May 19, 1911; republished in Coen, *Umberto Boccioni*, 1988, 96).

[52] By "free" the organizers meant "without selection criteria," and anyone who brought work to the exhibit hall was able to participate. Berghaus concurs that Boccioni came to futurism with a socialist and Marxist vision of society (Günter Berghaus, *Futurism and Politics,* 66).

[53] The letter is reprinted in Giovanni Lista, *Arte e politica: il futurismo di sinistra in Italia*, 2009, 127–29.

[54] Boccioni's full citation reads: "The multicolored and febrile crowds are monstrous for the Italian, who in all his noble existence has discussed the past grandeur of the Fatherland in the

quite streets of his dear small town—a former capital, no doubt—full of glorious shadows of old closed buildings, closed gardens, closed minds..." ["Le folle multicolori e febbrili sono mostruose per l'italiano che in tutta la sua nobile esistenza ha discusso sulla grandezza passata della Patria, nelle quite vie della sua cara piccola città—ex capitale, senza dubbio—tutta piena di ombre gloriose, di vecchi palazzi chiusi, di giardini chiusi, di menti chiuse..."] Boccioni, *Pittura e scultura futuriste*, 2006, 42.

[55] Ibid., 36–37.

[56] Despite conservative artistic sensibilities, political radicals were intrigued by the futurists. As Günter Berghaus notes, "Anarchists, syndicalists and revolutionary socialists of the industrial North of Italy followed with interest the development of the [futurist] movement" (Berghaus, *Futurism and Politics,* 1996, 53); this included anarcho-syndicalist Maria Rygier and anarchist Leda Rafanelli (ibid., 58–9). See M. Rygier, "Futurismo politico," *L'agitatore* (Aug. 7, 1910) and Rafanelli, "Futuristi," *Il navatore* (July 29, 1911). For additional analysis, see Giovanni Lista, "Marinetti et les Anarcho-Syndicalistes," in *Présence de F.T. Marinetti: Actes du colloque international tenu à l'UNESCO,* edited by Jean-Claude Marcadé (Lausanne: L'Age d'homme, 1982).

[57] Ibid., 35. "Ora sola chi pensa può accorgersi di questo terribile conflitto tra pubblico ed artistica. E solo osservando e serenamente giudicando il fenomeno storico di cui siama vittime, si può trovare il coraggio di combattere e progredire immuni dai volgari pregiudizi che ci circondano."

[58] Ibid., 35. ["Lo sviluppo del senso collettivo ha creato un mostro nuovo: il PUBBLICO ... È una conseguenza della democrazia..."]

[59] Martin Clark, *Modern Italy*, 1996, 137.

[60] For a clear synopsis of the differences between mainstream and radical socialism, called reformist and revolutionary socialists respectively, see Clark, 140–45.

[61] Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (1990), 3–5. Also, this general concept or belief needs to be distinguished from the 1920s Soviet artistic movement, called Productivism, which is a specific historical case of artistic practices presenting productivist ideas.

[62] Rabinbach calls productivism a form of "transcendental materialism" that overcame the presumed dualism of spirit and matter and that historically made use of the metaphor of "the human motor"; ibid., 4 and 289–90.

[63] As a physiological source aligned with mechanical tools, the productive crowd manifests Georges Sorel's idea of a group of artisan-workers who have the capacity to direct technological innovation and social progress when not overly constrained by new industrial regimens. Georges Sorel, *The Illusions of Progress*, 1969, 156.

[64] In other works, Boccioni eliminated visual references to material aims and to the sociohistorical milieu, such as with his numerous figures in action in 1912–14 and his series of galloping horses in front of houses in 1913–14. A dissipation of labor into a field of optical effects is apparent in works by Giacomo Balla over the same period. In Balla's 1906 image of the worker's daily routine, an illuminated lamppost symbolizes long hours of toil, since workers would often return home after dark. In 1909 that artificial light becomes a stand-alone element in *Arc Lamp* (1909)—at once glorifying technological innovation and symbolizing the working class; the multicolored rays expand like shrapnel of ingenuity into the nocturnal unknown. By 1912, Balla abstracted from this same luminous array into interlocking planes of color, and his socialist symbolism transformed into chromatic patterns, which lost their anchorage in work, as with *Iridescent Interpenetration, no. 7* (1912). The labor movement, symbolized by the streetlamp, was transposed into the vibrant fragments of a street lamp, disappearing into abstract decorative patterns only to re-materialize in 1914 as commercial designs—a lamp, for example, refracting its chromatic patterns onto the collective.

[65] This work has not been not securely dated. Since the 1950s, some art historians have made the case it was made in 1914, since the compressed space and relatively loose style appear more formally developed than earlier works. However, for other chronological possibilities, one could point to various aspects in other comparable works—the theme, spatial congestion, and palette in *The Street Enters the House*, 1911; the loose brushwork in *Abstract Dimensions*, 1912; and the palette in *Dynamism of a Cyclist*, 1913. Perhaps the best evidence for dating it to 1914 comes from the fact it was not exhibited prior to the memorial show in 1916 (following his death in August of that year), suggesting it may not have been completed in time to include in earlier futurist shows.

[66] Examples by other artists are David Bomberg's *Sappers at Work: A Canadian Tunelling Company* (1919) and Wyndham Lewis's *A Battery Shelled* (1919). From a later period and from a different country, Karel Capek's play *R. U. R. (Rossum's Universal Robots)* (published in 1921 and first performed in 1922) brilliantly re-articulated the perceived threat posed by workers and articulated a new threat posed by industry placing too much emphasis on productive efficiency.

[67] Fredrick Taylor, "Shop Management" (1903), republished in Taylor, *Scientific Management*, 1947, 133.

[68] Boccioni, Carrà, Russolo, Balla, and Severini, "The Exhibitors to the Public" (1912), in Apollonio, ed., *Futurist Manifestos*, 45; and Boccioni, Carrà, Russolo, Balla, and Severini, "Futurist Painting: Technical Manifesto" (1910), in ibid., 27.

[69] Martin Clark, *Modern Italy*, 173–177, also 136–160. See also Marinetti, "Against Sentimentalized Love and Parlimentarianism," (1911); originally published in French as "Le Mépris de la femme" and reprinted in Marinetti, *Critical Writings*, ed. Günter Berghaus, 2006, 55–59. The key texts by Georges Sorel included *Reflections on Violence* (1908) and *The Illusions of Progress* (1908).

[70] Georges Sorel, *Reflections on Violence*, 1999, 183. In the introduction to this volume, Jeremy Jennings also points out that Sorel's idea of violence, based on the general strike and on guaranteeing that right, cannot be considered very destructive by today's standard of extremist religious and guerilla tactics (ibid., xi). On Sorel's supporters, see Martin Clark, *Modern Italy*, 1996, 145 and 156–158; also, A. James Gregor, *Young Mussolini and the intellectual origins of fascism*, 1979, 94–95.

[71] Marcel van der Linden and Wayne Thorpe, "The Rise and Fall of Revolutionary Syndicalism," in Marcel van der Linden and Wayne Thorpe, eds., *Revolutionary Syndicalism: An International Perspective*, 1990, 6–7.

[72] Christine Poggi describes this image as being "linked to a resurgence of atavistic behavior," based on artificial stimulants of commercial exchange. She mentions alcohol, cosmetics, hats and electric lighting as examples of these "new artificial intoxicants." Poggi, *Inventing Futurism*, 2009, 42.

[73] According to Poggi, the nocturnal situation presumes an immorality of after-hours leisure, in which the electrical lighting is a metaphor for the mental contagion of the crowd. Ibid., 43–48.

[74] György Lukács points to a lack of historical development in modernist literary texts that subscribe to what he considered a pernicious view that "the poetic necessity of the pathological derives from the prosaic quality of life under capitalism." György Lukács, "The Ideology of Modernism" (essay orig. published in 1958), in *Marxism and Human Liberation*, 1973, 289. According to his criticism, a modernist literary interest in pathology embraced an alienated condition that chooses to be cut off, rather than engaged with, sociohistorical conditions (ibid., 278–307).

[75] As Walter Benjamin stated, when referring to Poe's "Man of the Crowd," "the description of confusion is not the same as a confused description." Benjamin, *The Arcades Project*, 1999, 331.

[76] Daniel Pick observes, crowd psychology served precisely "as a counter-theory to mass-democracy and socialism." Pick, *Faces of degeneration: A European disorder, c. 1848–c. 1918*, 1989, 218.

[77] Scipio Sighele, *L'intelligenza della folla*, 1911, 3. Also, see Sighele, *Morale private e morale politica*, 1913, 40.

[78] Auguste Marguillier, "Les anathèmes du 'Futurisme,'" in the "Musées et Collections" section, *Mercure de France* 96, no. 353 (March 1, 1912), 186. It reads: "So now—these fiery 'Futurists' that Italy has just dropped on us, Mr. Marinetti indicated to us the other day with terrible vocal rumbling, warning of catastrophes—our libraries and our museums, shelters of 'moldy traditions,' of 'the dead cluttering the roads,' must be put to the torch or flooded to become free from the influence of the past those artists in search of new masterpieces inspired only by the spectacles of our admirable contemporary civilization. In these charming theories of works they support, all very worthy indeed, will be joined gradually, we don't doubt, by the gentile spirits now predisposed to advance any anarchist cause and who are perpetually haunted by the fear of not appearing 'modern' enough. Before the predicted times of the new barbarians arrives, make haste, poor 'traditionalists,' to review the works of old masters, not to call for sterile imitation, but rather to forget in front of them—which always suggest the vibrancy of paramount and beautiful times—the arrogant stupidity and ugliness of our own." ["Ainsi donc,—le fougueux de ces 'Futuristes', que l'Italie vient de lâcher sur nous, M. Marinetti, nous l'a signifie l'autre jour, avec de terribles roulements de voix précurseurs de catastrophes,—nos bibliothèques et nos musées, asiles de 'traditions moisies', de 'mortes qui encombrent les chemins', doivent être voués à la torche ou à l'inondation afin de libérer de l'influence du passé les artistes en mal de chefs-d'oeuvre nouveaux inspirés uniquement des spectacles de notre admirable civilisation contemporaine. A ces théories charmantes, tout à fait dignes, certes, des oeuvres qu'elles appuient, s'associeront peu à peu, n'en doutons pas, les gentils

espirits d'aujourd'hui acquis d'avance à toute cause anarchiste et que hante perpétuellement la crainte de paraître trop peu 'modernes'. Avant que soient arrivés les temps prédits par les nouveaux Barbares, hâtons-nous, pauvres 'passéistes', d'aller revoir les oeuvres des maîtres d'autrefois, non certes pour en souhaiter l'imitation stérile, mais pour oublier devant elles, évocatrices toujours vivantes des souveraines et belles époques, l'orgueilleuse sottise et la laideur de la nôtre."]

[79] Jacques Mesnil, who published separately on Italian art history and anarchism, writes from a socialist perspective in "La crise italienne," *Mercure de France* 96, no. 354 (Mar. 16, 1912), 230–249: "The solution to the social question through class collaboration is a dream of ingenuous and debonaire minds. In their fight for the right to live otherwise than as slaves of capital, the right to develop as members of a free association, where each brings his effort and each enjoys the results of communal work, the Italian workers necessarily look more closely to those who, in other states of Europe and across the sea, feel the same need, who struggle against the same oppression, who engage in the same battles. The great global conflict between capital and labor dominates our time; in this conflict borders no longer matter, the distinctions among races and languages disappear, new groups emerge, unknown values are created: irresistible forces are involved and against their upsurge, constantly growing, the efforts of nationalism can do nothing." ["La solution de la question sociale par la collaboration des classes n'est qu'un rêve d'esprits ingénus et débonaires. Dans leur lutte pour acquérir le droit de vivre autrement qu'en qualité d'esclaves du capital, le droit de se développer comme membres d'une association libre, où chacun apporte son effort et chancun profite des résultata du travail commun, les travailleurs italiens regarderont nécessairement de plus étroitement à ceux qui, dans les autres états de l'Europe et par delà les mers, ressentent les mêmes nécessités, se débattant contre la même oppression, livrent les mêmes combats. Le grand conflit mondial du capital et du travail domine toute notre époque; dans ce conflit, les

frontières ne comptent plus, les distinctions de races et de langues s'effacent, des groupements nouveaux se dessinent, des valeurs inconnues se créent: des forces irrésistibles sont en jeu et contre leur pousée sans cesse grandissante les efforts du nationalisme ne peuvent rien."]

[80] Perched safely out of harm's way, this overhead view imitates Marinetti's retreat to the balcony to watch the 1898 riots in Milan. F.-T. Marinetti, "Les émeutes milanaises de mai 1898," *La Revue blanche* 22, no. 173 (Aug. 15, 1900), 561–76. This elevated perspective also becomes a familiar trope in images of mass gatherings, since larger crowds require more elevation to document (and to address). Also see Jeffrey T. Schnapp, "Mob Porn," in *Crowds*, eds. Jeffrey T. Schnapp and Matthew Tiews, 2006, 1–45.

[81] Marinetti, "Our Common Enemies" (March 1910); republished in F.-T. Marinetti, *Critical Writings*, ed. Günter Berghaus, 2006, 51–52.

[82] A common shape for futurist painters, the wedge was considered by Carlo Carrà to be "passionate and dynamic, expressing will and a penetrating force." Carrà, *Plastic Planes as Spherical Expansions in Space* (1913); in Apollonio, ed., *Futurist Manifestos*, 91. Also, see Oliver Shell on the wedge-shape in Carrà's works; Shell, "Cleansing the Nation: Italian Art, Consumerism, and World War I," 1998, 31, 62–119 and 125–27.

[83] A key motif in early twentieth-century art, anonymous figuration takes such varied forms as the mannequins and dressmaker's forms in Giorgio De Chirico (e.g., *Andromache*, 1916; Fig. 101) and Carlo Carrà (e.g., *The Metaphysical Muse*, 1917), as well as the musician without a face in Guillaume Apollinaire's poem "Le Musicien de St.-Merry" ("The Musician of St.-Merry"), which was among the works from around 1913–16 that were published in *Calligrammes: Poèmes de la paix et de la guerre*, 1918. I will look more closely at the significance of anonymous figures in chapters 2 and 6.

[84] The differentiation between political radicals and property owners fits loosely into Vilfredo Pareto's model of social types in *Tratto di sociologia generale* (written 1907–12; published in 1916), 264.

[85] During the interwar period, this aestheticizing tendency assumed an exaggerated form in the images that carve the homogenous crowd-matter into the contours of the leader. Schnapp discusses the configuration of crowds as political leaders in his essay "Mob Porn," 11–12.

[86] The painting is described by Christine Poggi as a crowd with "mechanized figures" and a "para-militaristic character." Poggi, 49.

[87] Martin Clark, 141–45.

[88] Bernard Bosanquet, "Social Automatism and the Imitation Theory," *Mind* 8, no. 30. (Apr. 1899), 167–175. Originally derived from the philosophical concept of mechanical and deterministic behavior, automatism likewise applied to psychophysical disorders that appeared involuntary—beyond rational control. In the nineteenth century, scientific research on physical and psychological disorders were investigated (and invented) under the generalized heading of psychological automatism, which included a range of disorders, such as hysteria, somnambulism, and catalepsy. For example, see Pierre Janet, *L'Automatisme Psychologique* (1889). Impulsive acts were a social and psychological conundrum, allied with animal instincts (or lower order functions), with uneducated and poor people, and with criminals. Theorists of mass psychology, such as Gustave Le Bon and Gabriel Tarde, diagnosed irrational traits of the crowd, including its impressionability and impulsiveness. For example, Le Bon, *The Crowd: A Study of the Popular Mind* (1895).

During this period, automatism migrated from the clinical setting to the stage emerges from outrageous Parisian performance styles, intentionally aimed to provoke amusement and astonishment at such venues as Le Chat Noir, Moulin Rouge, and the Théâtre de l'Oeuvre. Popular modes of excessive, uncontrollable physicality triggered a range of cultural

associations—as an affront to bourgeois detachment, as a challenge to prevailing artistic conventions, and as a source of burlesque entertainment. Impulsiveness surfaced in the arts both as a character trait and as a performative strategy—which deployed bursts of speech or action to signal affective or passionate lack of control. Characters and personae suffering from uncontrollable behaviors, such as convulsions, contortions, and catatonia, became a performative trope, which was derived through the dramatic representation of clinical automatisms. For an overview, see Rae Beth Gordon, “From Charcot to Charlot,” in Mark Micale, ed., *The Mind of Modernism: Medicine, Psychology, and the Cultural Arts in Europe and America, 1880–1940*, 2004. The theatricality of hysterical symptoms is taken up in Georges Didi-Huberman’s *Invention of Hysteria: Charcot and the Photographic Iconography of the Salpêtrière*, translated by Alisa Hartz (Cambridge, MA: MIT Press, 2003). Around the turn of the twentieth century, an important conceptual shift occurred when automatism moved from representing psychophysical behaviors and disorder (both clinical and on the stage) to becoming a separate compositional strategy, employing techniques intended to defy a strict delineation between voluntary and involuntary activities. For example, experiments with motor automatism in the 1890s by William James and his students, most notably including Gertrude Stein, induce automatism in experimental subjects by employing various methods to distract their conscious attention. See Gertrude Stein and Leon M. Solomon, “Normal Motor Automatism” and Gertrude Stein, “Cultivated Motor Automatism” in *Psychological Review* (Sept. 1896 and May 1898). Techniques for inducing automatism were eventually adopted for writing poetry and other literary works. During the fin-de-siècle period, the ability to diagnose and treat uncontrollable, impulsive behaviors is a key factor in determining social typologies, in analyzing and diagnosing social ills, and in establishing order—however, artists and provocateurs challenged established convention by adopting this symptom as a conscious, creative strategy.

[89] Bernard Bosanquet and Gustave Le Bon both acknowledge this possibility, and Freud's concept of the psychic unconscious and his method for establishing normativity imply that individuals are susceptible to automatic behaviors.

[90] Gustave Le Bon, *The Crowd: A Study of the Popular Mind*, 22; Gabriel Tarde, *The Laws of Imitation*, 62; Georges Sorel, *Reflections on Violence*, 1908, 141.

[91] Rae Beth Gordon used the term *corporeal unconscious* to describe a concept of nonconscious psychosocial energies that cannot be contained by the psyche, emerging from a physiological source; her research shows a historical relationship between physical disorders in the psychology clinic and performance styles in Parisian café concerts, plays, and silent films. See Gordon, chapter 1 "From Charcot to Charlot: The Corporeal Unconscious" in Gordon, *Why the French Love Jerry Lewis*, 2001, especially 15–17.

[92] In "The Variety Theater" published later, Marinetti would label this style *fisicofollia*, or 'body-madness.' See Marinetti, "The Variety Theater," in *Critical Writings*, ed. Günter Berghaus, 2006, 189 and 190. Christine Poggi links *fisicofollia* with mimesis (Poggi, *Inventing Futurism*, 2009, 59–60): she says an orator depends on "his ability to provide a model for mimetic action" (ibid., 62), and she also claims, "Speed and the power of mimicry would be essential to this circumvention of reason" (ibid., 62).

[93] Spontaneous resistance to employers resulted in widespread strikes in Italy between 1900 and 1910; see Martin Clark, *Modern Italy*, 1996, 141.

[94] A group of strikers were entering to confirm that all of the factory workers were allowed to participate in a citywide strike. For the precise dating of Galli's death, see William Valerio, "Boccioni's Fist: Italian Futurism and the Construction of Fascist Modernism," 1996, 63–66. On the significance of the painting, see Valerio, 69–73 and 85–91, and Oliver Shell, 22–35 and 54–55 note 40.

[95] The anarchists carrying the coffin from the street into the cemetery tried to break through the line of mounted police in order to march to the historic center of Milan. Unable to get through, they resumed their procession to a gravesite ceremony. Valerio, "Boccioni's Fist," 1996, 67.

[96] An electrical connotation is implied when Baudelaire describes plunging into the crowd's reservoir of energy, an essential resource for social modernization. This linkage of electricity and modernization is brought into focus in Benjamin's understanding of the experiential "shock" of modern life.

[97] For instance, Marinetti pitched his futurist program to socialists, anarchists, and syndicalists using the language of collective resistance in "Our Common Enemies" (March 1910).

[98] Georges Sorel, *Reflections on Violence*, 1999, 141.

[99] Ibid. Also, in treatise exploring freewill, Bergson uses of term *motor images* meaning the automatic processes of physiological response that relate, he concludes, to the abstract concept of indeterminacy and to the nonmechanistic workings of living processes; for Bergson, freedom is proven by bodily automatisms and other indeterminate actions. See Henri Bergson, *Time and Free Will*, 2001.

[100] Marinetti, "On the Subject of Futurism: An Interview with *La diana*" (January 1915) in *Critical Writings*, ed. Günter Berghaus, 2006, 146.

[101] "The Exhibitors to the Public," in Apollonio, ed., *Futurist Manifestos*, 48.

[102] Ibid., 49–50.

[103] Ibid., 50.

[104] Ibid., 49.

[105] Plato outlined a model of aesthetic judgment in which sensations confirm what is, prior to determining both the correctness and the quality of the representation (*Laws*, Book 2, 669a7–b2). Following Plato, Aristotle believed mimetic art included among his three categories "the

sorts of things that were or are the case" (*Poetics*, 24.1460b10–11); see commentary on this section by Stephen Halliwell, *The Aesthetics of Mimesis*, 156 and 161. In *The Critique of Judgment* (1790), Immanuel Kant identified sensations as being an element underwriting aesthetic judgment, whether related to Beauty or the Sublime, even though it is also clear from his text that bodily sensations on their own did not trigger one's moral imagination (as, for example, in Part 1, §14, §39, and §51).

[106] Early cinema portrayed workers and the poor displaying disorderly behaviors. Disruptions, in the form of strikes, muggings, and hooliganism, are found in such films as Ferdinand Zecca's *The Incendiary* (1907), Alice Guy's *Child of the Barricade* (1907), and Romeo Bozetti's *Street-Rough's Strike* (1909). With audiences comprised mostly of lower class patrons, these portrayals of resistance to bourgeois society were more a source of amusement than authentic images of strife and violence, however, these violent moving images were censored as a way to avert civil disturbances since these uneducated filmgoers were presumed to mimic the images they viewed.

[107] While futurist art held little interest for Benjamin, his writings share thematic continuity with the Italians, on such topics as crowds, socialist politics, and mass technologies. One explicit reference to futurism comes in the epilogue of Benjamin's famous work of art essay, which discusses the destructiveness of war being turned into an aesthetic experience by self-alienated humans. As proof of the unsuccessful integration of technology with human perception, the author offers Marinetti's work on the beauty of warfare and "the dreamt-of metallization of the body." Rather than serving cynical aims, Benjamin says Marinetti's manifesto on the artistic gratification of warfare "has the virtue of clarity. Its formulations deserve to be accepted by dialecticians." Despite their many ideological and political differences, such a strong compliment from Benjamin cannot be easily dismissed, as it would appear to be authentic appreciation of Marinetti's stark assessment. I will return to this section

of this essay in chapter 5, in the context of my analysis of the relationship between futurism and early Italian cinema. Elsewhere, one of Benjamin's last texts acknowledges a link between culture and barbarism that is so clearly manifested in the works of Marinetti: "There is no document of culture that is not at the same time a document of barbarism" ("Paralipomena to 'On the Concept of History,'" 1940; in Benjamin, *Selected Writings, Vol. 4*, 2003, 407).

[108] Walter Benjamin, "Surrealism" (originally published in Feb. 1929); in Benjamin, *Selected Writings, Vol. 2, Part 1*, 2002, 217, 214, and 215. In light of that strategic political failure, surrealism had attempted to harness social energies for revolution, he claimed. The resulting aesthetic of automatism in surrealism returned to and extended the type of aesthetic automatism presented in Italian futurism.

[109] Walter Benjamin, "Left-Wing Melancholy" (1931); in *Selected Writings, Vol. 2, Part 2*, 2002, 426.

[110] Walter Benjamin writes: "Only when in technology body and image space so interpenetrate that all revolutionary tension becomes bodily collective innervation, and all the bodily innervations of the collective become revolutionary discharge, has reality transcended itself to the extent demanded by the *Communist Manifesto*" (Benjamin, "Surrealism," in *Selected Writings, Vol. 3*, 2002, 217–18).

[111] Walter Benjamin, "Exposé of 1935," in *The Arcades Project*, 1999, 13.

[112] "Manifesto of the Futurist Painters" (1912) in Apollonio, ed., *Futurist Manifestos*, 24; and "Futurist Painting: Technical Manifesto" (1912) in ibid., 29.

[113] Sorel's army of noble warriors and Marinetti's immense phalanx of strong and weak are both calls to action that intensify, but do not diverge, from the myth of socialist revolution. See Sorel, *Reflections on Violence*, 1999, 12, 161 and 247–48; and Marinetti, "Our Common Enemies" (March 1910) in *Critical Writings*, ed. Günter Berghaus, 2006, 51.

[114] In “Notes on a Theory of Gambling” (c. 1929–30), Benjamin discusses motor innervation as an involuntary capacity in roulette, akin to divination, for finding a winning number; he discusses this connection between motor stimuli and winning as fate rooted in a physical predisposition toward immediacy that depends on a reflexive process of stimulation during a moment of danger (i.e., possible loss of capital). Benjamin, *Selected Writings, Vol. 2, Part 1*, 2002, 297–98. While Benjamin’s theory of innervation suggests a metaphysical turn, it also presumes physiological and monetary outcomes that make it perhaps more sympathetic to a materialist perspective. It should be noted the idea innervation as a rebellious force was already found in Marinetti’s concept of *fisicofollia*; see “The Variety Theater” (1913); reprinted in *Critical Writings*, ed. Günter Berghaus, 2006, 189–90.

[115] Walter Benjamin, “The Work of Art in the Age of Its Technological Reproducibility,” (1936, second version), in *Selected Writings, Vol. 3*, 2002, 124, note 10. Bodily innervation remains linked for him with the collective and with revolutionary potential, however, for Benjamin, they are subsumed by a broad necessity to adapt to technology: “... Efforts at innervation on the part of the new, historically unique collective which has its organs in the new technology.”

[116] Susan Buck-Morss describes Benjamin's term innervation as a positive, empowering form of “mimetic reception” that contrasts with “anaesthetics,” a defensive, paralyzing mimesis that “protects at the price of paralyzing the organism, robbing it of its capacity of imagination, and therefore of active response.” Susan Buck-Morss, “Aesthetics and Anaesthetics: Walter Benjamin’s Artwork Essay Reconsidered,” *October* 62 (Autumn 1992), 17. By supposing an immanent form of social justice, innervation supplies a counterargument to Lukács’s analysis of pathological disruption in modernist literature.

[117] In “The Painter of Modern Life,” Baudelaire describes Poe’s man in the crowd as follows: “The lover of universal life enters the crowd as though it were an immense reservoir of

electrical energy. We might also liken him to a mirror as vast as the crowd itself." Cited in Benjamin, *The Arcades Project*, 1999, 443.

[118] William Valerio discusses differing journalistic accounts of this 1906 event (often mistakenly believed to have occurred 1904), but he leans toward the view that it was basically a peaceful march with only a brief scuffle. Valerio, "Boccioni's Fist," Ph.D. dissertation, Yale University, 1996, 50–96. This research is also cited by Oliver Shell when discussing the Carrà's painting in relation to both Marinetti's "The Beauty and Necessity of Violence" and Sorel's *Reflections on Violence*; see Oliver Shell, "Cleansing the Nation: Italian Art, Consumerism, and World War I," 21–29 and 54–55. It should also be noted that Christine Poggi indicates that Carrà had a faith in spontaneous revolutionary potential of the proletariat, which he would later disavow following Red Week in June 1914 (Poggi, *Inventing Futurism*, 52).

[119] Theodor Adorno writes to Benjamin on March 18, 1936: "The goal of the revolution is the elimination of anxiety. That is why we need not fear the former, and need not ontologize the latter" (Adorno and Benjamin, *The Complete Correspondence,* 1999, 131).

[120] Criticizing this faith in positive outcomes, Theodor Adorno says Benjamin replaces the bourgeois myth of personality with the myth of populism that is blindly trusting of the "spontaneous powers of the proletariat within historical process." Theodor Adorno and Walter Benjamin, *The Complete* Correspondence, 130. While Adorno cautions against placing too much hope in the revolutionary masses, he does himself identify spontaneity as one of the key qualities underwriting artistic expression. Describing the alienating constraints on composers of the commission structure, he says, being "tied down by deadlines and specific occasions is sufficient to kill off that instinctive spontaneity upon which the emancipated capacity for expression depends" (Adorno, *The Philosophy of Modern Music*, 2003, 22). In another text, Adorno couples spontaneity with individual autonomy as the antithesis of a disciplinary consumerism: "The true children of today's standardized mass culture" have been "largely

robbed of autonomy and spontaneity" (Adorno, "Freudian Theory and the Pattern of Fascist Propaganda," in *The Culture Industry*, 2001, 150).

[121] Prevalent in pre–World War I attitudes in Italy, such as those held by the early futurists, this belief in spontaneity also extended to postwar fascist ideology. Walter Adamson writes that fascism comprises "a kind of 'anti-ideology ideology' that celebrated its own incoherence as a virtue and that indicates a commitment to spontaneous action and its contempt for intellectualism." Adamson, "Modernism and Fascism," 1990, 362. Whether or not mass agency, as imagined in Italian futurism, necessarily leads to fascism is an issue to keep in mind during this exploration of futurist visual art before the war.

[122] Adorno noted: "There is no doubt that even the most progressive political movement can deteriorate to the level of the 'psychology of the crowd' and its manipulation, if its own rational content is shattered through the reversion to blind power." Adorno, "Freudian Theory and the Pattern of Fascist Propaganda," in *The Culture Industry*, 2001, 150. He adds that this mass coercion requires the leader (ibid., 150): "While there certainly exists potential susceptibility for fascism among the masses, it is equally certain that the manipulation of the unconscious, the kind of suggestion explained by Freud in genetic terms, is indispensable for actualization of this potential."

[123] Gino Severini, *The Life of a Painter*, 1995, 94.

[124] Ibid., 123.

[125] Ibid., 93–94.

[126] Ibid., 143.

[127] Picasso detested the futurists' debates about painting (according to Severini, 93). For more on Parisians' dislike of the Italian futurists, see Gertrude Stein, *Autobiography of Alice B. Toklas* (1933); a letter by Baroness d'Oettingen to Ardengo Soffici in 1912 (cited in Severini, *The Life of a Painter*, 1995, 97); and Apollinaire's article "Chroniques d'art: Les futuristes," *Le*

Petit Bleu, Feb. 9, 1912 (reprinted in Guillaume Apollinaire, *Apollinaire on Art: Essays and Reviews, 1902–1918*, 1972).

[128] Severini writes (*The Life of a Painter*, 92): "Well-acquainted with the art circles in Paris, I knew that they [their remarks] were anything but complimentary [of the futurists]."

[129] Ardengo Soffici, "Ancora del futurismo," *La Voce* 4, no. 28 (July 11, 1912), 852. One could argue that the Parisian cubists, with whom Severini was acquainted, were propagandistic and competitive in their own way. Showing as a group had clear publicity value for them, and they cultivated their image as a new avant-garde movement. Among others, Apollinaire touted them highly; his *The Cubist Painters* was a form of promotion for those artists. At the same time Severini accuses the futurists of propagandistic and opportunistic behaviors, he betrays his own, perhaps better disguised, habit: he complained how the extended tour of the traveling futurist exhibit prevented him from accepting invitations to show elsewhere, including at the Armory show in 1913. He was frustrated by missed opportunities, while perhaps failing to fully acknowledging the many doors his futurist affiliation had opened for him.

[130] Georges Sorel, *Reflections on Violence*, 33 and Georges Sorel, *The Illusions of Progress*, 176. Art historian Mark Antliff claims Severini "rejected their Sorelian vision for a more benevolent version of the dynamism of modern life." Antliff, *Inventing Bergson*, 166.

[131] Charles Baudelaire, "Fusées," cited in Walter Benjamin, *The Writer of Modern Life*, 88. Benjamin follows his citation of Baudelaire's poem with this cryptic message: "Extract the root of the human being"—a remark that apparently mimics Marx's quip: "To be radical is to grasp things by the root. But for man the root is man himself" (Karl Marx, *Early Writings*, 1992, 251). Also, Benjamin believes Baudelaire's sense of urban multiplicity is not based solely on increased population, but also on the idea that a person is a type of commodity among others; see *Writer of Modern Life*, 88–9. Elsewhere, Benjamin describes the city as "the obliteration of the individual's trace in the big-city crowd" (ibid., 74).

[132] By contrast, Baudelaire was aware of this contradiction within the Parisian capitalist milieu. Settling for enjoyment of spectacle rather than enjoyment of stature, Baudelaire exhibited sensitivity for the "charm even in damaged and decaying goods," according to Benjamin, meaning the poet empathized with commodities and was intoxicated by the consumer crowd, but he never let it "blind him to the horrible social reality." (Both citations are from Walter Benjamin, *The Writer of Modern Life*, 89.) This dialectic between enjoyment and actuality is overlooked in Severini's images of bourgeois leisure.

[133] One example is Arnaldo De Lisio's *L'Uscita dell'Opera* (*The Exit of the Opera*) (1900–03). This theme is also re-imagined in Carrà's *Uscita dal teatro* (*Exit from the Theater*) (1910) and in Lionello Balestrieri's *Andando a teatro* (*Going to the theater*) (1910–11).

[134] Bonzagni's interest in presenting the actualities of social class leads him in subsequent years to depict the middle class (e.g., *Tram from Monza*, 1916), the working class (e.g., *Returning from Work*, 1915–16), and the poor (e.g., *The Beggars*, 1916–17).

[135] In 1899, Thorstein Veblen wrote: "The whole question as to a class distinction in respect to spiritual make-up is ... obscured by the presence, in all classes of society, of acquired habits of life that closely simulate inherited traits and at the same time act to develop in the entire body of the population the traits which they simulate. These acquired habits, or assumed traits of character, are most commonly of an aristocratic cast. The prescriptive position of the leisure class as the exemplar of reputability has imposed many features of the leisure-class theory of life upon the lower classes; the result that there goes on, always and throughout society, a more or less persistent cultivation of these aristocratic traits." Thorstein Veblen, *The Theory of the Leisure Class*, 1973, 163.

[136] For Walter Benjamin, the petty bourgeoisie, for instance, was not a class but composed the mass. "The Work of Art in the Age of Its Technological Reproducibility" (second version), in *Selected Writings, Vol. 3*, 2002, 129 note 24.

[137] Werner Sombart, *Luxury and Capitalism*, 1967, 107.

[138] Veblen, *The Theory of the Leisure Class*, 1973, 224. The passage reads: "The propaganda of culture is in great part an inculcation of new tastes, or rather a new schedule of proprieties, which have been adapted to the upper-class scheme of life under the guidance of the leisure-class formulation of the principles of status and pecuniary decency. This new schedule of proprieties is intruded into the lower-class scheme of life from the code elaborated by an element of the population whose life lies outside the industrial process."

[139] As T. J. Clark remarks: "The world of leisure was ... a great symbolic field in which the battle for bourgeois identity was fought ... I think this implication of leisure in class struggle goes some way to explain the series of transformations undergone by the subject in painting, from 1860 to 1914." Clark, *The Painting of Modern Life*, 1984, 204.

[140] Giacomo Balla, "Futurist Manifesto of Men's Clothing," 1913, in Apollonio, ed., *Futurist Manifestos*, 132; translation modified. Original manuscript reads: "semplice e sopratutto di breve durate allo scopo di accrescere attività industriale e dare un continuo godimento del nuova al nostro corpo" (reprinted in Enrico Crispolti, ed., *Balla e il futurismo a Roma*, 1989, 189).

[141] Giacomo Balla, "The Late Balla—Futurist Balla," Dec. 1915, in Apollonio, ed., *Futurist Manifestos*, 206.

[142] Georges Sorel, *The Illusions of Progress*, 156.

[143] Giacomo Balla, "The Futurist Universe," 1918; in Apollonio, ed., *Futurist Manifestos*, 219.

[144] Scipio Sighele had warned, the artist "cannot despise the multitude that will come after him" ["non può spregiare la moltitudine che verrà dopo di lui"] (Sighele, *L'intelligenza della folla*, 34).

[145] Germano Celant, "Futurism as Mass Avant-Garde," 1980, 38.

[146] Ibid.

[147] Ibid., 41. This idea that futurism constitutes a mass avant-garde is echoed by historian Martin Clark, who writes: "The Futurists were the first *avant-garde* artistic movement to reach a mass audience" (Clark, *Modern Italy*, 174).

[148] The conflict between bourgeois and working-class interests is corroborated by writings of the period: first, in the tension Severini felt between Paris and Milan and, second, in a political idea regarding innate national differences between France and Italy, which led both Sorel and Corradini to describe a historical conflict playing out between "bourgeois nations" (France) and "proletariat nations" (Italy). See Severini, *The Life of a Painter*, 1995, 123; and, on Sorel and Corradini, see Berghaus, *Futurism and Politics*, 1996, 60.

[149] "Faced with the rise of the masses, there was no longer anything to propose, except 'society' itself … the vision for and by the many" (Celant, "Futurism as Mass Avant-Garde," 40; also see ibid., 39).

[150] In spite of the originality of his argument, the evidence Celant gives for claiming that cubism was elitist and that futurism was affiliated with the masses is limited and unconvincing. As an obvious example, the cubists made some attempts to incorporate mass culture through their techniques of collage, papier collée, and tromp l'oeil, while most futurists still worked with traditionally bourgeois art mediums (such as painting, sculpture, and drawing). In addition, Celant's notion of anti-artistic *banalization* appears to leave little conceptual space for reciprocity between social struggle and artistic practice, thereby appearing to either ignore or mischaracterize the works by futurists that complicated or diverged from a mass aesthetic. For instance, he says, "Futurism organized its own discipline in other directions, outside the center of art, because only outside did reality exist, contemporary mass society" (ibid., 40).

[151] On Balla's series of lamp and light images, see note 64.

[152] When Ardengo Soffici eventually embraced the futurist program for cultural change in Italy in 1913, he remarked on the need to transform Italian society by altering the habits of Italians:

"If we mentally change human beings, their works and their style we will have a demonstration of life and freedom" ("Anchor del Futurismo," *La Voce* 4, no. 28, July 11, 1912; cited in Severini, *The Life of a Painter*, 99).

[153] Akin to the design work of Balla, the Russian Constructivists propose a new type of object in the 1920s that competes with objects in the bourgeois sphere, counteracting the commercial desire sparked by capitalism. This "socialist object" is at first only a conceptual category that subsequently inspires artists and designers to experiment with different materials and forms, based on a form of commerce allied with collectivist attitudes. An excellent study of these "social objects" is found in Christina Kiaer's *Imagine No Possessions* (MIT Press, 2005). Although Balla had a socialist background, he also had a strong commercial sensibility, so I would not label his works as "socialist objects," following Kiaer's research.

[154] Giacomo Balla and Fortunato Depero, "The Futurist Reconstruction of the Universe," 1915; in Apollonio, ed., *Futurist Manifestos*, 197.

[155] Ibid., 198.

[156] Ibid., 199.

[157] For example, Marx writes, "The struggle of the proletariat with the bourgeoisie is at first a national struggle" (Marx and Engels, *The Communist Manifesto*, 2002, 232). Georges Sorel stated: "The syndicalist general strike presents a very great number of analogies with the first conception of war: the proletariat organizes itself for battle, separating itself distinctly from the other parts of the nation, and regarding itself as the great motive power of history, all other social considerations being subordinated to that of combat; it is very clearly conscious of the glory which will be attached to its historical role and of the heroism of its militant attitude" (Sorel, *Reflections on Violence*, 1908, 161).

[158] Enrico Corradini, "Classi proletarie: socialismo; nazioni proletarie: nazionalismo" ["Proletarian class: socialism, proletarian nations: nationalism"]; printed in *Il Nazionalismo Italiano: Atti del Congresso di Firenza* [Report of the (First Nationalist) Congress of Florence], 1911, 21.

[159] Examples of Marinetti's many political writings and speeches before 1914 include: "Primo manifesto politico futurista" (Feb.–Mar. 1909); "Trieste nostra bella polveriera" (March 1909); "I nostri nemici comuni" ["Our Common Enemies"] (March 1910); "Elettori futuristi!" (March 1909); and "Guerre, la seule hygiene du monde" (pub. in French in 1911). Prior to making any patriotic crowd imagery, Boccioni, Carrà, and Russolo had signed the manifesto "Futurist Political Program" (October 11, 1913), along with Marinetti. Also, Balla's "Futurist Manifesto of Men's Clothing" (Dec. 1913) reflects a "non-neutralist" political position in favor of the irredentist cause against Austria-Hungary. See also note 168.

[160] While the letter is undated, it is a response to Papini's text of October 1, 1913, and was sent along with a draft of the "Futurist Political Program," published on 15 October (Primo Conti Archive, Fondo Papini, Florence); the letter is cited and translated, in part, in Berghaus, *Futurism and Politics,* 70.

[161] Boccioni expressed suspicion in his private correspondence: "The Italian nationalism wakes up only with the rhetoric of ancient Rome. When it comes to recognizing the efforts and courage of an Italian intellectual, nationalism is silent or murmured softly. Half conscience!" Letter to Vico Baer, dated November 9, 1912; reprinted in Umberto Boccioni, *Lettere futuriste*, edited by Federica Rovati, 56. There is some question about where and when Boccioni and Marinetti attended the party congress. Berghaus claims they visited the Nationalist Congress in Rome in 1910, and he presumably meant either the first congress in Florence, 1910, or the second one in Rome, 1912 (Berghaus, *Futurism and Politics*, 59). The evidence suggests it was the later meeting, given they were both (very likely) in Rome at the time of the Second

Nationalist Congress, December 20–22, 1912. Boccioni wrote to Severini on January 1, 1913: "Siamo stati a Roma—Era l'antivigliglia di Natale e vi era un sole e un caldo tale che tutti andavano in giacca" (Umberto Boccioni, *Lettere futuriste*, 60). Other sources pointing to either the timing or the futurists' travel to Rome include Emilio Sentimelli, "Storia del partito politico futurista," December 1931; Giovanni Lista, *Arte e politica: Il futurismo di sinistra in Italia*, 2009, 45; Alexander J. de Grand, *The Italian Nationalist Association and the Rise of Fascism in Italy*, 1978, 40; and Ronald S. Cunsolo, "Enrico Corradini and Italian Nationalism, 1896–1923," 1962, 259.

[162] Shell provides a solid explanation of the relationship between Red Week and Carrà's *Free-Word Painting—Patriotic Festival* (1914) in "Cleansing the Nation: Italian Art, Consumerism, and World War I," 1998, 73–98. Also see Mario Visani, *La Settimana Rossa*, 1978.

[163] Shell discusses how the idea of hygiene functions within Italian mass media, alongside futurist writings and images, including Carrà's *Free-word Painting—Patriotic Festival* (Oliver Shell, 1998, 92–94 and 97–98).

[164] In cautioning against reading *Patriotic Festival* as a diagram of explosive force, presaging the actual bombs launched during the war, Oliver Shell points to the prevalence in the artist's work of circular motifs and vortexes that push against the edges of the frame, while defining a clear visual target. He argues for a sense of visual containment in that work rather than explosiveness; see Shell, 90–95 and 132–35.

[165] Martin Clark claims the myth that a small number of interventionists drove Italy into the war is powerful, but faulty; rather, he states, "Italy's entry into the war was actually a 'normal' diplomatic decision, taken by conservative-minded men worried about preserving Liberal institutions and public order" (Clark, *Modern Italy, 1871–1995*, 185). Poggi argues the opposite view that the interventionists influenced the declaration of war in 1915 (Poggi, *Inventing Futurism*, 54).

[166] Giacomo Balla, “Futurist Manifesto of Men’s Clothing” (1913), in Apollonio, ed., *Futurist Manifestos*, 132.

[167] It is uncertain whether or not Balla saw this motif in Robert Delaunay’s works from a few years prior—such as various studies entitled *Three Graces* (1911–12), as well as the different versions of *La Ville de Paris* (1912).

[168] Giacomo Balla, “The Anti-Neutral Suit,” dated September 1914. Berghaus suggests that the published version was altered by Marinetti to reflect a more nationalistic dimension; this later version differs in important ways from the December 1913 draft form “Futurist Manifesto of Men’s Clothing.” Berghaus, *Futurism and Politics*, 1996, 76.

[169] Lewis writes, “The war-crowds who roared approval of the declaration of war in 1914, were a jellyfish, in my judgement” (Lewis, *Blasting and Bombardiering*, 1967, 84)

[170] Wyndham Lewis, “The Crowd Master” (dated July 1914), *Blast* 2 (July 1915), 94. *Au grand complet* is French for “in its entirety,” while *stimung* is an apparent misspelling of the German word *stimmung* meaning “mood.”

[171] Lewis, “The Crowd Master,” 94.

[172] Ibid. Freud describes the death instinct, or death drive, as being typically expressed as aggressiveness toward others: “This aggressive instinct is the derivative and main representative of the death instinct which we have found alongside of Eros and which shares world dominion with it.” Freud, *Civilization And Its Discontents*, 2005, 119; this same passage is cited in Leo Bersani, *The Freudian Body*, 1986, 19. In *The Language of Psycho-Analysis* (1973), Jean Laplanche and J.-B. Pontalis describe the difficulty and import of the death drive, including a distinction between death and life instincts in certain Freud texts: “The death instincts, which are opposed to the life instincts, strive toward the reduction of tensions to zero-point ... The death instincts are to begin with directed inwards and tend toward self-destruction, but they are subsequently turned toward the outside world in the form of the

aggressive or destructive instinct" (ibid., 97). Despite this apparent distinction, the death drive was, for Freud, "the product of a speculative need" (ibid., 100) and unsupportable by clinical data. Thus, Laplanche and Pontalis explain the death instincts as inseparable from the libidinal drive: "Psycho-analysis has gradually come to give great importance to aggressiveness, showing it to be at work in the early stages of the subject's development and bringing out the complicated ebb and flow of its fusion with, and defusion from, sexuality. The culmination of this increasing stress on aggressiveness is the attempt to find a single and basic instinctual underpinning for it in the idea of the death instinct" (ibid., 17). Some additional confusion related to this concept is attributed to the shifts in Freud's view of instinctual forces, especially relating to his introduction of the pleasure principle. For another perspective on Freud's death drive as a key principle of mass psychology, see Serge Moscovici, *The Age of the Crowd: A Historical Treatise on Mass Psychology*, 1985, 263.

[173] This term *social sublime* is appears in the title of (and throughout) Jeffrey McGraw's PhD dissertation "The Social Sublime: Crowds in the Twentieth-Century American Novel," 2000. For instance, McGraw writes, "Like the technological sublime and unlike the solitary experience postulated during the Romantic era, the social sublime may be appreciated from within the crowd as a collective experience. It acts on its members as a unifying force and allows them to take pride in a sense of their own greatness and power" (ibid., 29). For McGraw, the crowd holds a frightening power: "While the crowd can become literally violent in destroying property and injuring people, its essence is a theoretical violence: walls are being symbolically torn down and boundaries destroyed in a sublime rush of limitlessness" (ibid., 231). The term also appears in Barrett Watten's text "Making the Social Sublime: Doug Hall's Work in the Public Sphere," published in the exhibition catalog *Out of Place* (Vancouver Art Gallery, 1993). In *Romanticism, Lyricism, and History* (1999), Sarah MacKenzie Zimmerman uses the same term to describe the nineteenth-century journals penned by Dorothy

Wordsworth. It should be noted Baudelaire implies a link between the sublime and social forces when he says of the Frenchman, “The sublime always affects him like a riot” (Charles Baudelaire, “Salon de 1846: De M. Horace Vernet”; cited in Walter Benjamin, *The Arcades Project*, 301).

[174] Wyndham Lewis, *Blasting and Bombardiering*, 1967, 84. Much earlier in 1908, he had written in his diary, “the artist, in his defiance of Fate, has always remain’d a recluse, and the enemy of such orgaic participation of life” (Wyndham Lewis, *Letteratura/pittura*, edited by Giovanni Ciancci, 1982, 104–105).

[175] Sigmund Freud, *Group Psychology*, 1976, 76. In *Moses and Monotheism*, Freud extends the crowd to all mankind: “We know that in the mass of mankind there is powerful need for an authority who can be admired, before whom one bows down, by whom one is ruled and perhaps even ill-treated … It is a longing for the father felt by everyone from his childhood onwards.” Sigmund Freud, *Moses and Monotheism* (1939); cited in José Brunner, *Freud and the politics of psychoanalysis*, 175. Brunner adds, “Freud justified his authoritarian position by the universalization of the father-son relationship into a prototypical mould underlying all political formations” (ibid., 170).

[176] This phrase *instinct to master* appears in Freud’s *Beyond the Pleasure Principle*, among other places. Adorno argues Freud’s view of instinctual forces underwent an important shift: “By 1921, he was therefore able to dispense with the liberalistic illusion that the progress of civilization would automatically bring about an increase of tolerance and a lessening of violence against out groups” (Adorno, “Freudian Theory,” in *The Culture Industry*, 2001, 143). In this case, “the liberalistic illusion” is a refusal to accept that the crowd and mass society are not only irrational, but bloodthirsty and delinquent—resembling the unreconstructed views of Sighele. According to Adorno, the authoritarian is “the product of an internalization of the

irrational aspects of modern society" (ibid., 150); this lends support to induction—the crowd producing authoritarianism within its psychosocial make-up.

[177] Among the futurist crowd image types, a democratic vision of the masses is conspicuously absent. Indeed, there are relatively few works that see the crowd through the lens of democracy during this pre–World World I period. One examples is Gerald Stanley Lee's book *Crowds: A Moving-Picture of Democracy* (1913), which offers a folksy, optimistic view of society without traces of socioeconomic or political conflict.

[178] Criticism of democracy and parliamentarianism includes Scipio Sighele, "Contro il Parlamentarismo," in *Morale private e morale politica* (1913) and "Il Parlamento e la psicologia collettiva," in *L'intelligenza della folla* (1911); F.-T. Marinetti, "Against Sentimentalized Love and Parliamentarism," (1911); and Italo Tavolato, "Bestemmia contro la democrazia," *Lacerba* 2, no. 3 (Feb. 1, 1914).

[179] Vilfredo Pareto writes: "Human beings are not equal physically, intellectually or morally ... From the fact that men do exist who are intellectually and morally better than other men, it can legitimately be argued that these men of superior qualities *could* be capable of increasing the sum of utility in acting as guardians of their inferiors. But there is nothing to justify replacing a conditional by an affirmative proposition, claiming that this increase in the sum of utility does actually occur." (from his text *Course of Political Economy*, 1896, republished in Vilfredo Pareto, *Sociological Writings*, 1966, 110.) It is notable that Pareto and Freud offer different explanations of elitism—one sociological and the other psychological. For Pareto, a dominant personality governs the group, while, for Freud, two specialized psychic agencies (the ego and the superego) negotiate for control over the psychic unconscious.

[180] John Thayer, *Italy and the Great War*, 224–25.

[181] Among the texts in which Marinetti expresses his antipathy for the parliamentary democracy current in Italy at the time is "The First Futurist Political Manifesto" (1909 and

1915) and “The Necessity and Beauty of Violence” (1910); both appear in *Critical Writings*, 2006, 49–50 and 51–52 respectively.

[182] Marinetti, “First Futurist Political Manifesto” (1909); in *Critical Writings*, ed. Günter Berghaus, 2006, 50. It reads, “We Futurists call on all the talented young people of Italy to engage in struggle to the bitter end against candidates who have any truck with the traditionalists and with the priests.” Also, Marinetti writes, “Stripping away the authority of the dead, the old, and the opportunists, to the benefit of audacious youth” (Marinetti, “Third Futurist Political Manifesto,” 1913; in ibid., 77).

[183] Scipio Sighele, chapter on art and the crowd in *L’intelligenza della folla*, 1911.

[184] One exception to this conceptual split was Balla’s oscillation between consumerist and patriotic imagery during the war years.

[185] This popular, masculine myth, both before and after World War I, appears across a range of writings—such as Sorel’s warriors, who march forward irrespective of rewards, Spengler’s barbarians, and to Ernst Jünger’s iconic worker-instruments, who represented “energy come alive,” which extended beyond any innate instincts. See Georges Sorel, *Reflections on Violence*, 1999, 247–48. In 1909, Prezzolini wrote of an intervention of human will and the vital energy of dedicated men as necessary elements of revolutionary consciousness, aimed at creation of a new man for a new society. See Prezzolini, *La teoria sindicalista*, 1909; cited in A. James Gregor, *Young Mussolini*, 1979, 93–94. This writer correlated political radicalism to the regeneration and the modernization of Italy and, ominously, framed “the making of a new man for a new society” within a specifically nationalistic context (ibid., 94). While it symbolized a new era, a new society, this image of the new man became another stereotype at the service of a dominant ideology, even though it begins as a symbol of modern vitality. George Mosse says the new man in Italy “was to symbolize a new age constituting an elite which would lead the nation into the uncharted future.” See George Mosse, “The Political Culture of

Italian Futurism," 1990, 266. Mosse adds, the myth of the new man "proved in the end to be but another stereotype: a symbol not of an open-ended modernity but of the fact that twentieth-century nationalism" (ibid.).

[186] The futurists' visual experiments constituted one version of this broader new man myth. George Mosse points to individualistic qualities of "this new man of Futurism" that separated it from the masses through a strength of will and through an awareness and an acceptance of modernity (ibid., 256). The futurists were unique in their unremitting commitment to modernity, which, according to Mosse, "took concepts like manliness, energy, violence and death, and sought to tear them loose from the moorings of history and immutability in which more traditionalist nationalist movements had anchored them" (ibid.)

2. Biomechanism to Blur, Part 1

> Is it not that the ugly is only the unknown, and that truth seen for the first time offends the eye?
>
> —Étienne-Jules Marey[1]

For over forty years, the machine has offered a convenient model for historians to characterize Italian futurism—both its governing ideology and its compositional strategies. Initially formulated in 1969 by art historian Enrico Crispolti, this futurist "myth of the machine" was constituted to describe the defining element of its visual aesthetic.[2] While admitting certain limits of the myth, Crispolti reaffirmed its centrality: "Even if it is not possible to resolve the futurist thematic heritage as only the exaltation of the machine, it is true that this theme, in diverse levels and modes of relation, remains an essential, and even characteristic, element."[3] A few years later, Roberto Tessari underscored the futurists' enthusiasm for technology, but he situated the myth of the machine in an Italian literary tradition, stretching back to the nineteenth century.[4] Central to both Crispolti's and Tessari's analyses was the work of author and futurist leader Filippo-Tomasso Marinetti, who employed a myriad of machinic metaphors in his manifestos, novels, poetry, and other writings and who launched the art movement in 1909 with a vision of technological rebirth.[5] Stemming from Marinetti's example, their mechanical interpretations employed the analogical structure of the machine to correlate artistic works with social life and political action, such that "the poetic gesture matches ... the political gesture," according to Tessari.[6] In a general sense, machinic imagery signaled technological modernization and industrial development, yet many of the visual artists affiliated with this movement were either not invested in these machinic themes or not invested in them to the extent that Marinetti was. If the machine myth articulated some of the productive developments in early futurism, especially in the writings of Marinetti, this model of

mechanized forces proved less able to capture the futurist visual strategies used before World War I. There continues to be a tension between the machine myth and interpretations of the prewar innovations in the futurist visual arts, and, despite the iconic references to machines in futurist painting, streetcars, automobiles, and trains, for example, the myth cannot really convey the substance of those efforts. While Crispolti had qualified the myth by saying additional historical and theoretical work would be needed to more fully "resolve the futurist thematic heritage," his machine analogy has come to overshadow some of the other key ideas. The myth over time has become a formidable historiographic construction—obscuring as well as elucidating significant aspects of futurist visual aesthetics.

In recent futurist scholarship, the all-purpose metaphor of the machine unifies numerous tendencies and performs a range of discursive functions that are not always clearly delineated. In *Inventing Futurism* (2009), for instance, Christine Poggi employs this technological metaphor to describe and analyze signs and strategies across a broad historical period—from the pre-futurist years (c. 1900) to the 1920s and 1930s.[7] The adaptability by this generalized structure to disparate contexts is impressive, but what had galvanized thinking forty years ago produces imprecision among its diverse registers of meaning, which at times effaces important differences. For instance, one might ask: how does machine imagery differ before, during, and after the war? Also, if a machinic icon connotes generalized historical developments, such as industrialization, can it also signify specific psychological or social processes? How do the various registers of the machine relate, and how do they diverge? To the extent that the machine metaphor informs current thinking about this cultural movement, a pressing problem is how to negotiate among different metaphorical usages. Stabilizing machine metaphorization in histories of early futurism amounts to evaluating which strategies cohere to this dominant interpretive model and which escape its suppositions altogether. A basic premise for this and the following two chapters is to complicate the futurist myth of the machine by analyzing different visual strategies that apply similar mechanical principles and

by framing the machine not as visual content per se but as a means of inscription. Another premise is to show the extent to which mechanical forms informed artworks within and outside the Italian movement. This comparative approach mobilizes a set of methodologies that seeks to place aesthetic differences within a shared context. These two premises lead to a recalibration, if not exactly a removal, of the machine myth, thereby clarifying a discursive structure that has frequently distorted the contributions of futurist visual artists, while disregarding aesthetic continuities across cultural movements. These chapters develop and deploy the analytical tools needed to navigate complicated historical concerns about technology and visual aesthetics.[8]

One place to start the project of rethinking the futurist machine myth is to highlight a term Poggi uses—*mechanicity*—that both indicates the voracity of the machine model and represents a breakthrough in conceptualizing futurist visuality. This term appears when she refers to the mechanistic qualities in Giacomo Balla's visual works from 1913, based on Étienne-Jules Marey's motion research at the end of the nineteenth century.[9] While Marey's experimental method will be explored in the first section of this chapter, it suffices here to say that his photographic analysis of bodily motion, or *biomechanics*, carried over to the visual arts.[10] Poggi contrasts the work of Marey and Balla: "By adapting the conventions of representation manifest in Marey's chronophotography, Balla nonetheless introduced a distinct element of mechanicity and repetition to his art."[11] From initial sketches in the 1912, such as *Racing Automobile*, to large paintings of 1913, Balla rendered the speeding car motif in a patchwork of sensory impressions strung together as interlacing visual patterns. As his work developed, he shifted from showing the outline of a moving object to showing just the effects it produced on its surroundings. In *Abstract Velocity* (1913; Fig. 29), Balla composed a field of illuminated glints and sonic reverberations that have been frozen onto a two-dimensional surface, making the outline of the moving vehicle unrecognizable. Without a referential object, this proliferation of sensory effects owes as much to a historical change in

perception, based on a photographic processes, as it owes to an innovation in physical transport. In these cases, the machine metaphor cannot adequately explain how references to chronophotography function formally and thematically, relative to vehicular motion. In order to extend the general metaphor and, in turn, to expand the myth, the term *mechanicity* marks the site of different discursive alliances at the intersection of vehicular and photographic technologies, which entailed, for Balla, a gradual shift from referential forms to nonreferential indices of motion. Indebted to Marey's biomechanical research, but oriented to different mechanical activities, this artist's works from 1912–14 relocate the source of experimental visuality—from the engine to the camera. They also serves as one of the impetuses for shifting the futurist machine myth from kinetic motion to photographic processes, as well as from a model of machine-in-motion to a model of machine-inscription.

A central component to Marey's analysis of physical motion, chronophotography opened new avenues of bodily inscription, helping to redefine how a human body moved and how a human figure looked. Showing that a camera can abstract from life as much as it can reproduce naturalistic perception, Marey's biomechanical research constructed a new vision of corporeality by effectively reducing mental and physical activities to a series of luminous signs. His method translated experiential depth into flat experimental results by applying automatic procedures, thus defying traditional poses and disrupting long-standing assumptions about subjectivity, such as the idea that the physical body contains immaterial forces of mind or spirit. The first part of this chapter introduces the basic principles informing his biomechanical method, and the second part centers on the main concept behind his innovation—indexicality. The aesthetic strategies derived from the biomechanical method manifest a lineage of indexical processes. While indicating routinization in mass society and while presaging the language of early cinema, the artistic modes of indexing physical motion likewise pointed beyond mechanistic forms and industrial techniques to immaterial forces lying beyond physicality, especially as they traversed and modified the human body—its physiology,

emotion, and perception. The applications of the biomechanical method to visual art constituted distinct visual modes in the early twentieth century for mediating the complicated relationship between the human body and the machine. Threaded throughout this chapter are images that adapt Marey's scientific research to aesthetic ends, including works by Balla, Marcel Duchamp, František Kupka, and the sibling collaborators Anton Giulio and Arturo Bragaglia. When the futurist machine metaphor and its images of vehicular velocities are placed in the context of this scientific correlation between technology and the body, it is possible to trace directly to biomechanical principles some of the basic visual terms informing the crisis in aesthetic subjectivity before World War I. In effect, I aim to reframe the discussion about technological imagery in early futurism by analyzing how indexical principles based on photographic devices informed new styles of figuration. Articulating the visual relationships among machines and bodies will put us in a position to more fully appreciate the futurist responses to the effects of modernization and, eventually, to address those questions posed in the previous chapter concerning the complex, even confusing, interrelations among images and ideologies.

Although Marey's physiological analysis suppressed bodily expressiveness, expressivity would become one of the key concepts that artists took up when applying his biomechanical method. Unlike the scientific context, an aesthetic context carries different assumption about the expressive capacities of the body and visual mediums. Also, we will find by reading Marey's research through the lens of avant-garde art that expressivity existed from the start at the core of his method as a sort of ghostly presence to be dispelled. As for the artistic applications, I have divided them into two categories—what I want to call reductive and excessive forms—in which the body's expressive forces are either intentionally bracketed out or purportedly revealed. As my main examples of each category, I use works by Marcel Duchamp and the Bragaglias. Duchamp employed a reductive principle to give a sense of remove from emotive expression, while the Bragaglias followed an excessive principle to

frame the psychic and spiritual connotations of figural traces. Duchamp's works will be the first artist discussed, in light of his more direct application of the scientific method, though his works were initiated slightly later chronologically than other artists.[12] In chapter 3, the Bragaglias' work will figure as the main proponent of an aesthetic similarly reliant on Marey's mechanicity, but rooted in excessive bodily energies. Oscillating between the two different categories, the works of Balla serve to bridge the gap between them with a range of visual experiments. By investigating diverse types of mechanized movement, this chapter and the following look at the ways avant-garde imagery from this period staged a historical confrontation with the photographic apparatus, amounting to a sort of contest between mechanistic and vitalist thinking that helped to extend the visual language of the body—from biomechanism to blur.

Biomechanical Method

Exemplifying late-nineteenth-century physiological research, the time-motion studies of Marey and his long-time assistant and collaborator Georges Demenÿ established a set of principles for analyzing bodily activity. Since the body's biomechanical forces were visually transcribed with mechanical apparatuses, such as the camera, Marey's overall methodological approach might be labeled *biomechanical* as well. This experimental research was an innovation in rendering bodily forces, but it also marked a conceptual shift in how experimentation was conducted and how the experimental subject was viewed. A key assumption behind Marey's method was that human perception has inherent limitations. To counter these built-in subjective constraints, Marey and Demenÿ developed techniques and devices for recording phenomena inaccessible to the unaided senses. Marey claimed, "When the eye ceases to see, the ear to hear, touch to feel, or indeed when our senses give deceptive appearances, these instruments are like new senses of astonishing precision."[13] He developed a number of different devices over his long career according to a principle he called

"the graphical method," with which he aimed to transcribe what was beyond human perception—to make the invisible visible.[14] The scientist invented chronophotography by adapting the photographic camera and its chemically treated plates to the task of fixing the traces of physiological activity onto flat surfaces. "There is nothing that can escape the methods of analysis at our disposal," Marey claimed. "These instruments [are] sometimes destined to replace the observer, and in such circumstances to carry out their role with an incontestable superiority."[15] Because this method replaced the human observer, the new sensitivity afforded by his specialized instrumentation became an implicit challenge to subjective experiences rooted in empirical evidence and in sensory data. This apparent incompatibility between technical inscription and human perception was a crucial premise of his methodological approach.

Aligning inscriptive techniques with bodily processes, Marey's chronophotographic research attempted to show the immaterial forces informing human and animal movements. Bypassing accepted linguistic and pictorial forms of description, Marey's graphical inscriptions appeared to emanate directly from biological processes. Since physiological processes wrote themselves automatically through mechanical processes, bodily actions were rendered truthfully, purportedly: the invisible was made visible and opaque objects were made transparent to a specialized visuality. According to the experiments, physical bodies appeared not in their subjective depth but in a flattened, objective plane through his new mode of graphical inscription.[16] The typical experimental set-up to produce the legible forms involved the photographic device with measured shutter releases, along with a black backdrop and strong, even lighting on a research subject, dressed in black. *Jump in place* (1884), for example, transcribes a sequence of visual impressions made by a specific action in time—or, rather, one half of a standing leap (Fig. 30). To the dismay of his critics, Marey treated the human body in the same way he treated animals and inorganic processes—as sources of data—that exhibit physical, measurable forces. His biomechanical method, thus, conformed to

a basic tenet of mechanistic philosophy: he viewed humans as specialized machines—that is, as composites of physical, material, or mechanistic processes. It mattered little whether a human subject is afforded special, dignified treatment when its physical forces were recorded. He considered the human subject to be one among other productive forces: "We should know exactly at what pace an animal does the best service, whether he be required for speed, or for drawing loads."[17] He eventually admitted that machines differ from animals and that animals differ from humans—to the extent that, in each case, the latter is able to regulate its movements to a greater extent than the former. Even this admission, which implicitly acknowledged free will for humans, only reaffirmed his analytical aim to impose certain limits on their movement—to make them more efficient, more machine-like, even if they were free, strictly speaking.[18] While equating humans to animals or to machines was fairly common in nineteenth-century materialist thinking, Marey's model augmented this analogy with a concrete method to contain and control indeterminate action, growing into a program for correcting physiological inefficiencies.

By contrast, vitalist philosophy subscribed to a metaphysical explanation of human experience by claiming that not all aspects of being human can be recorded, analyzed, and explained, especially the most essential ones—spirit and free will. With Marey's mechanistic approach in mind, philosopher Henri Bergson noted: "All that it [mechanics] retains of motion ... is immobility."[19] In effect, biomechanical inscriptions may partially describe the physical effects of invisible processes, but they cannot capture the spontaneous, irreducible forces of the human will. Opposed to the determinism of Marey's research, Bergson and his followers held the contrary belief that indeterminate action—an indicator of spirit and free will—cannot be predicted or recorded, meaning that it would be impossible to study scientifically. Furthermore, he added, immeasurable forces ensure spontaneity, uncertainty, and freedom by resisting mechanical processes.[20] If, on the one hand, Marey thought nothing could escape scientific analysis, Bergson, on the other hand, believed certain aspects of human experience

were impossible to represent. His philosophy sought to preserve expressivity in the face of technological restrictions. Artistic applications of this biomechanical method in the European avant-garde between 1909 and 1913 fell right along this conceptual distinction between spirit and technical means—with Duchamp (and later Picabia) on one side of the split, and with the Bragaglia brothers on the other side, while Balla assumed an intermediate position.

In late 1911, Duchamp explicitly adopted two of Marey's techniques—reduction and parallelism—that provided the basis for his own aesthetic experiments. In 1911–12, the painter progressively shifted from a fairly naturalistic composition, e.g., *Dulcinea* (Oct. 1911) to a more geometric style of figuration, e.g., *King and Queen Traversed by Swift Nudes* (May 1912). Although this period of intense production appears to increase the degree of figural abstraction, the artist rejected the idea that this work involved abstraction at all. Instead, he thought of his process as reduction: "In the *King and Queen* painted shortly after the *Nude* there are no human forms or indications of anatomy. But in it one can see where the forms are placed; and for all this reduction I would never call it an 'abstract' painting…."[21] Elsewhere in the same passage, he repeated the term *reduction* to describe his method: "The reduction of a head in movement to a bare line [in *Nude Descending a Staircase, No. 2*] seemed to me defensible … I felt justified in reducing a figure in movement to a line rather than to a skeleton. Reduce, reduce, reduce was my thought."[22] What is most striking about Duchamp's account is its resemblance to Marey's description of his own solution to the problem registering bodily motion clearly, which reads:

> Knowledge of the positions the body occupies in space presumes that complete and distinct images are possessed; yet to have such images, a relatively long temporal interval must be had between two successive photographs. But if it is the notion of time one desires to bring to perfection, the only way of doing so is to greatly augment the frequency of images, and this forces each of them to be reduced to lines.[23]

Elsewhere, he described how the results of his early motion experiments were imprecise and how the blurring contours of moving objects caused visual confusion: "This confusion from the superimposition of images sets a limit to the application of chronophotography on fixed plates,

yet … this difficulty may be overcome. The most obvious method consists in artificially reducing the surface of the object under observation."[24] Reduction was a key assumption in his chronophotographic method. Marey went to explain how bright stripes and spots were used in conjunction with black outfits and black paint to suppress bodily contours and to highlight specific anatomical points. At the service of illusionism, pictorial depth was counterproductive to his research to the extent that those perspectival codes for indicating three dimensions on a flat surface provided information beyond the scope of his analysis. The image *Jump in place* is an example of chronophotography using this type of visual reduction. A principle for rendering the visual effects of bodies in motion, reduction amounts to the transcription of the natural world into a different system of inscription, what Marey called representing objects "without confusion," and the term *reduction* is the same one Duchamp used to describe his own figural traces.[25]

Another image from Marey's research gives an overview of the experimental conditions informing this reductive solution to counteract confusion, and it serves as an example of the convergence of scientific and aesthetic strategies. A posed image of Marey's research assistant from 1884, *Demenÿ dressed in black* (Fig. 31) is an apparently more naturalistic portrait of the experimental test subject.[26] The image uses traditional techniques of portraiture to document the reductive principle, while temporarily eschewing the chronophotographic technique. Demenÿ stands outdoors—black outfit and black hood clearly visible against the landscape of the Parisian periphery. With his hand on his hip, Demenÿ follows an ingrained convention of full-length portraits, lending his pose an air of comfortable assurance. Just another day at the Physiological Station, his body language suggests.[27] A dark hood of cloth draped over a narrow-brim hat obscures his facial features, though a sliver of face is visible in the narrow opening for ventilation and vision. Marey often masked his subjects in order to present their biomechanical functions "without confusion," yet he was not prepared to entirely give up natural perception in this posed image. It provided a naturalistic

overview of the experimental conditions—showing clearly the white marks on the black costume that later become data points in a visual array denoting motion in space. If reduction served to suppress extraneous information and to clearly transcribe the path of the body, this portrait functions as a statement of givens in a complex mathematical problem—to translate aesthetic naturalism into scientific mechanism. Although the bodily contour is expressed rather than suppressed, the image revealed to the viewer the premises behind reductive chronophotographic technique.

Duchamp's earliest visual responses to Marey's research were both painted in December 1911—*Sad Young Man on a Train* (Fig. 32) and *Nude Descending a Staircase, No. 1* (Fig. 33). Compared with *Dulcinea* (Fig. 34) from October of that same year, these later images have a more limited palette and a more schematic mode of figuration, removing physical traits of individual identity. In addition to employing reduction to compose his figures, Duchamp used what he called *elementary parallelism*, likewise based on Marey's biomechanical method.[28] According to the artist, he first applied this technique in *Sad Young Man*: "It was a formal decomposition; that is, linear elements following each other like parallels and distorting the object."[29] He similarly claimed to use the same technique in Jan. 1912 for *Nude Descending a Staircase No. 2* (Fig. 35). Some critics have interpreted Duchamp to mean that he literally followed a principle of parallelism in his paintings, based on nonintersecting geometrical relations among lines and forms.[30] This view relies on certain key statements made by the artist about *Sad Young Man*, such as when he reiterated: "The lines follow each other in parallels, while changing subtly to form the movement, or the form of the young man in question."[31] When he stated that lines "follow each other in parallels" and, later, that "linear elements following each other like parallels," critics have presumed that linear parallelism informed his method of showing figurative motion, even though few parallel lines are found in this painting. To account for the lack of parallel lines, one might suppose that an underlying geometrical principle has been distorted, which Duchamp seemed to indicate when

he refers to “the lines ... distorting the object” and “the distortion of the young man.” In this revised explanation, the nonparallel forms arise from disruptions to an unseen grid structure.[32] In order to reconcile his actual compositions with the concept of linear parallelism, it is necessary to imagine that the visible trajectories are distortions of an absent geometrical regularity—a type of virtual linear parallelism that generated material forms in their warped appearance.[33] A rather less convoluted explanation is that the curvilinear and elliptical paths in Duchamp’s paintings are neither parallel nor based on a virtual geometry and that his term *elementary parallelism* does not refer to linear parallelism.

In late-nineteenth-century philosophical and scientific debates, the term *parallelism* referred almost exclusively to a specific, contentious issue that generated a wide range of interpretations and solutions. This was the debate on the relation between psychic and physiological forces in humans, also commonly called the mind-body problem.[34] Marey, a materialist *par excellence* who remained faithful to the physical sciences throughout his life, essentially believed that physical, measurable phenomena could elucidate mental processes.[35] For him, this meant not only that mind and body were related and inseparable, but also that mental activities could be rigorously investigated through material inscriptions. His biomechanical method supposed an intrinsic correlation of body and mind, thus putting the idea of psychophysiological parallelism into concrete form—as materiality. As such, the mind was not opaque or hidden from view, but transparent to scientific inquiry. It comes as no surprise that vitalists such as Bergson took issue with this perspective. Since the body is an imperfect mirror of the mind, they said, physicality does not reveal mental processes, and the direct correlation between mind and body is nothing but mechanistic hokum. Summarizing the view with which he disagreed, Bergson stated, “Wherever we succeed in giving a mechanical explanation, we observe a fairly strict parallelism between the physiological and the psychological series.”[36] Based on that premise, he argued, strict parallelism settles the issue of freedom in advance—which is to say, it predetermines the answer to the question of what

constitutes will, thereby contradicting freedom not just in spirit but in fact.[37] Of course, generating indisputable facts was exactly what Marey wanted to do. His biomechanical method demanded a strict correspondence between thoughts and actions, so that the evidence of a mind-body correspondence could be visually represented. According to this materialist logic, in which the mind-body problem is visibly resolved as bodily inscription, parallelism pertains not only to the relation of psychic and physical processes, but to the method of biomechanical inscription as well.

Years later when Duchamp used the term *elementary parallelism* to describe his paintings, he was borrowing the conceptual premise of psychophysical fusion at the same time he appropriated Marey's specifically biomechanical principle. He meant parallelism in the sense of psychophysical inscription and not in the sense of nonintersecting linearity. Although Duchamp employed Marey's techniques of reduction and parallelism, the artist did not follow them unquestioningly, for he clearly understood the act of inscription introduced distortions into the system. When the artist said elementary parallelism was a method of formal decomposition, in which "linear elements following each other like parallels and distorting the object," he apparently meant the visible, painted forms of the figure move in parallel with invisible bodily forces, and the act of transcription necessarily distorted those forces.[38] For Duchamp, this tangible evidence was not the same thing as intangible forces, but rather it was a distortion. This insight, predicated on a kind of necessary distortion, suggested that the artist was not a strict materialist like Marey (Duchamp even mocked Marey's method as "very pretentious"): "In one of Marey's books, I saw an illustration of how he indicated people who fence, or horses galloping, with a system of dots delineating different movements. That's how he [Marey] explained the idea of elementary parallelism. As a formula it seems very pretentious but it's amusing."[39] Surely, Duchamp did not concur with the materialist reasoning behind strict psychophysiological correspondence, but he found it amusing to apply the principles to aesthetic problems. The painter jokingly employed the scientist's ideas and

terminology, fully aware that this process created distortions that make objective truth impossible, but, even so, he also raised serious aesthetic issues by precipitating a crisis for aesthetic subjectivity. *Sad Young Man* provides an exemplary case of Duchamp humorously reworking Marey's principles of reduction and parallelism to respond to unsettling problems in painting.[40]

Systemic Failure

Sad Young Man initially evokes humor based on the disjunction between the emotion in the title and a lack of figural expressivity. One aspect of the joke is that a stiff figural assemblage has been repeated in disjointed spatial perspective. It comes forward and gets larger on the left side, it moves across the center of the visual field, and then it leaves the viewer to the right. A simplified palette together with this formal stiffness connotes a wooden-looking figure—the connotation of acting stiffly rhymes visually with the hues approximating the building material. Another part of the joke is that the work's evocative title plays off this formal reduction by contrasting visual form and verbal content—a bit like saying a tailor's dummy looks despairing. The joke gets richer when one learns the figure depicts Duchamp himself, identifiable by the pipe hanging from its mouth, according to the artist.[41] He also encrypted himself as a visual cipher: the enlarged face from his preparatory sketch, *Encore à cet astre* (*Once More to this Star*, Nov.–Dec. 1911; Fig. 36), shimmers faintly in *Sad Young Man* as a subtle visual deception. Feigning self-representation, the artist transposed the biomechanical principles into the supposedly expressive genre of self-portraiture, now embedded in a failed code of emotional expression. The figural disjunction between stiffness and emotion comes to portray the artist's inability to inhabit the proper codes of expressive emotion—codes that are both pictorial and psychophysiological. With its barbed sense of humor, the artwork functions as an admission of emotional dysfunction, either personal or professional or both. But, Duchamp suggested a brilliant explanation for this dysfunction: it is a

systemic distortion produced by the method of inscription. There are “linear elements ... distorting the object,” he stated, that relate to “the distortion of the young man.”[42] Since the mechanical figuration presented an imprecise transcription of inner feelings into exterior forms, the appearance of emotional dysfunction represented an unavoidable complication of psychophysical and pictorial principles. Endemic to his compositional practice, the young artist’s distortion of himself could not be remedied.

Elsewhere, Duchamp said he had intended the words in the title—*triste* and *train* in French—to be humorous together.[43] In one sense, his alliteration is a form of visual and textual displacement—his sadness and locomotion both constitute a moving experience—but, punning aside, the picture and title can be read through the lens of Jules Laforgue’s poetry. In fact, the artist confessed *Sad Young Man* was inspired by Laforgue’s poem “Encore à cet astre” (“Once More to this Star,” c. 1882), not coincidentally the title of his sketch for the canvas.[44] The painting’s title phonetically mimics words of the poem (*trêve* and *vain*) from the line reading: “Sans trêve, en vain, je leur caresse / L’échine de mes feux, ils vont étiolés!” (“Unremittingly, in vain, I caress them / The spines of my lights, they have faded!”)[45] While these phonetic similarities hardly bespeak an intimate correspondence, the text’s symbolism of fading stars compares thematically to the painting—signifying frozen or lost passion. The poem’s allusion to cosmological attraction and influence suggests the man’s magnetic effect on neighboring bodies has been exhausted. Similarly, the figure in the painting moves colorlessly through a rote sequence, entering from and exiting into darkness, and unable to draw others into his orbit. If the oblique connection between Duchamp’s image and this poem proves a bit tenuous, another Laforgue poem delivers.

Using both *triste* and *train* in the same couplet, “Complaint of Lord Pierrot” (1883–84) supplies an intertext of sorts for both the canvas and the earlier sketch.[46] As indicated by the title, this poem assumes the structure of a complaint, the genre popular in nineteenth-century café culture, referring also to the medieval genre of the “plaint” in the courtly love tradition. The

text records a man's forlorn response to unsuccessfully seducing a woman: he questions his dignity, he bemoans an impossible life, and then—with sad heart—he bids the interlocutor farewell to catch the next train. The poem reads, in part: "J'ai le cœur triste comme un lampion forain... / Bah! J'irai passer la nuit dans le premier train" ("I have the sad heart of a fairground lantern… / Bah! I will spend the night on the first train").[47] Mirroring this line in its title, Duchamp's painting extends the poetic lament into a visualization of the subsequent journey. Also, in its portrayal of routine movement across the picture plane, the image mirrors Laforgue's use of the term *train-train* (which means "humdrum" or "routine").[48] The painting translated a poetic condition of failure and rejection into a visual language derived from Marey's biomechanical method. From poem to sketch to canvas, the self-referential figure of the rejected bachelor moves mechanically, devoid of passion, due to some type of failure with a woman—a failure of nerve, conviction, or persuasiveness perhaps.[49] The Laforgue references confirm that expressive failure is the painting's underlying theme.[50] Writing his emotional lack literally and figuratively, Duchamp's reductive aesthetic demonstrates expressive failure in order to point to an insurmountable disjunction between mind and body. The crisis of subjectivity—here an inability to locate emotional depth—is routed through the formal language of mechanized inscription. So, his emotional dysfunction and its accompanying sense of rejection are explained as an inherent distortion in the system, the result of searching in vain for a convincing mode of expression, and this idea of employing a makeshift language of visual and bodily expressiveness would lay the groundwork for his discovery of the principle of the readymade.

Just as the body was incapable of translating the mind transparently in *Sad Young Man*, Duchamp's painting distorted living processes by betraying the vitality that portraiture purportedly captures. Employing reduction and parallelism to render the self-image impersonally, the artist's biomechanical aesthetic, ironically, negated the conventional techniques used for rendering expressivity. The fact that several of his paintings from this

period—such as *Sad Young Man* and both *Nude Descending a Staircase No. 1* and *No. 2*—are comparable to chronophotography is obvious, and readily admitted by the artist.[51] These biomechanical figures signal not just a sense of personal failure, but also a contradiction at the heart of painterly expression: while aiming to give evidence of life's essences—free will, spirit, or expressive depth—the artist must avoid any visual schema that precludes those essences a priori. If the act of painting measures an impossible task of representing freedom and vitality, the appropriation of Marey's method, for Duchamp, confirmed that expressive language also contains within itself a form of occlusion from the fullness of life. Any figural pose would be dead, even when suggesting movement. Thus, the dotted lines in *Nude Descending No. 2*, for instance, are not just indices of motion, but futile attempts to demonstrate figural vitality; they become precise vectors in an otherwise diffuse assemblage of lumbering parts. The artist states, "My aim was a static representation of movement—a static composition of indications of various positions taken by a form in movement."[52] At the same time that the artist resisted conventional illusionism in portraiture, he did not fully commit to Marey's reductive parallelism that aims to collapse bodily depth into surface data. In this sense, the artist's stilted figures compare to the scientist-as-subject Demenÿ dressed in black, because they circumvent the strict materialist dictum to fully expose the psyche.

Becoming his own object of aesthetic inquiry, Duchamp recorded the results of his experimentation (both pictorial and emotional), transiting between visual codes from subjectivity towards objectivity, just as Marey's scientist-as-subject image equivocates between naturalist portraiture and nonillusionistic data. Going through the motions again in *Nude Descending No. 1* and *No. 2*, his androgynous mannequin bodies step downward to the right, rendered in a visual language stuck between illusory depth and indexical information. As with *Sad Young Man*, these two paintings similarly steer portraiture toward an inexpressive figural anonymity, analogous to Demenÿ's hooded pose: the first version of Duchamp's composition clothes the figure in tattered strips of crudely joined colors, while the second

version even removes hue. Bounded by vertical black edges, *Nude Descending a Staircase No. 1* utilizes a more varied palette than *Sad Young Man*, ranging across orange, sienna, magenta, and steel blue, which have been muddied by inert ochre, drab umber, and *caca d'oie*. Its loose brushwork avoids the precision later used to articulate lurching figural motion in *Nude Descending No. 2.* Reductively transcribed, Duchamp's mechanical self-images pose a riddle of expressivity that reveals a contradiction inherent in his attempts to represent individual, expressive freedom. His choice of a biomechanical method is both humorous in its playful disjunction and serious in its denial of aesthetic pleasure. Like the photographic portrait of Demenÿ, the painted self-portraits function as statements of experimental givens: how the artist depersonalizes visual codes to inscribe an essential distortion. Biomechanical analysis afforded Duchamp a unique way to present an experimental aesthetic subject, but what does this translation from science to visual art tell us about the mechanized conditions of individual subjectivity? We return to Marey for our cues.

Like the naturalistic photograph of the researcher dressed in black clothing, Marey's *Demenÿ in electrical harness* (1888; Fig. 37) shows the scientist-as-subject indoors in a different experimental situation.[53] If the early exterior portrait relates to an outdoor set built to maximize available light during daylight hours, this interior photograph documents an indoor set built for its convenient proximity to other devices and for its availability during non-daylight hours. The electrical harness worn by Demenÿ attaches to a power supply, and small points of white light are visible at his ankle, knee, hip, and at the top of his head, replacing those bright strips and spots from the outdoor set-up. Along with the photographic devices, Marey's motion research used non-photographic instruments to transcribe invisible bodily forces, and, in this particular case, to simulate the effects of a pathological gait. An alternate technique of biomechanical inscription utilized voltage oscillators with needles to monitor the amount of force generated in muscular contraction or gravitational force by marking shifts in voltage onto a strip of paper wrapped around a cylindrical drum (visible on the table to the left of the figure).

In this image, a sensitive pad under foot triggers those shifts in voltage to be inscribed onto paper, and this index of invisible forces provided a way to reduce the bodily action into the language of information. The figure strikes a naturalistic pose with right leg extended, like the earlier figure with black hood, and is seen here from the opposite side and presenting his full profile to the camera. The pose provides a view of the experimental set-up with relatively naturalistic conventions, prior to the body expending its forces and rendering its data. Even so, these figures are symbolically emptied of their expressive depth, since the experiential dimension is partially flattened into data. In the later interior image, the expressivity is flattened into the figural silhouette and his bearded profile against a starkly illuminated wall. Perhaps the closest thing available to scientific self-portraiture, both posed images of the scientist-as-subject adapt one mode of expressive visuality, portraiture, to a mode of scientific objectivity, the biomechanical method. The sitter's conventional submission to the photographic gaze is modified to read as a moment of masochistic reverie. As this imagery reoriented a naturalistic gaze to a scientific milieu, the self-aware subject was exposed to experimental conditions in which its physical energy was converted into data-like pictorial minima without experiential depth.

Although he visually dissected bodily activity through chronophotographic analysis, as with his image of the standing jump, Marey was determined to avoid the invasive surgical techniques employed by others, such as vivisection. His biomechanical method explicitly preserved the living, breathing subject—animal or human—for continued productivity. If the scientist spared the life of the experimental subject, then he also expected it to perform in specific ways—to be corrected, to follow strict commands, to render its data, and then to be redeployed "for speed, or for drawing loads," as he had phrased it. For Marey and Demenÿ, the power of perceptual illusion was disassembled through the scientific gaze, for which custom-built apparatuses, the lighting conditions, the prepared sets, and the subject's attitudes and attire were all calibrated to isolate invisible truths. This gaze was mirrored as

much by its subjects' attitudes as by the technological devices and experimental conditions. At its moment of transcription, the individual subjective experience was made irrelevant by submitting to the experiment. As these techniques of physiological efficiency were extended to military training and workplaces, productive energies could be maximized to the extent that psychic resistance was minimized. As Marey's chronophotography was calibrated to remove their expressive qualities and as the bodily contour was an illusion to suppress, the naked eye was replaced by an analytical instrument, and naturalistic codes were translated into mechanical inscriptions. Yielding the tangible results of intangible processes, the bodily data functioned as ciphers to be scientifically decoded, rather than as transparent vehicles of meaning. Indeed, to reveal invisible bodily forces the scientist devised an all-encompassing environment and methodology for making the experimental subject increasingly truthful in the production of biomechanical inscriptions—without the distortions of individual expressivity. Based on an evidentiary model of image production, the biomechanical images staged psychophysical truths. The biomechanical method overwrote the human subject according to its experimental conjectures, comprising a system of truth production.

Astute contextualization of Marey's research by Suzanne Stewart-Steinberg has located his biomechanical method in a lineage at the end of the nineteenth century that produced the ideological conditions underpinning a new type of subjectivity.[54] No longer oriented towards personal responsibilities and metaphysical ideals, this subject position was constructed according to institutional parameters for psychosocial behavior, imposed onto the mind-body from outside. As a product of ideological imprinting, the renovated subject was given an illusion of freedom while being limited—a condition likened to a puppet without strings, which accounts for her use of the organizing allegory of Pinocchio. Though focused on an institutional project of subject formation in Italy, her work has implications internationally and across the modern era by chronicling a deep suspicion of an earlier model of subjectivity, which could neither guarantee nor compel a subject's belief in governing social ideals. Marey's

research, she has noted, made human physiology "speak for itself in the form of a graphism that both relied on but also dispensed with an apparatus that produced a subject that was bound and yet free."[55] One could say Marey's test subject voluntarily submitted to the scientific gaze and its apparatuses, and this subject reaffirmed its status as a nonindividuated entity by virtue of the generalized biomechanical patterns it elucidated. Under a regime of strict parallelism, the biomechanical method envisioned a form of subjectivity no longer based on mental capacity or rationalist discourse, but on the external coordination of physical forces within an experimental frame—according to a system of truth production, itself underwritten by mechanical inscription.

Historically, the biomechanical method figured prominently in the formation of a de-individuated subjectivity, underlying the anonymity and the automation of labor. For example, Marey saw his research into physical motion as part of historical efforts to reorganize workers' productive activities: he wanted to make the human body more efficient and to decrease the negative effects of physical effort (i.e., fatigue). The scientist was complicit with Frederick Winslow Taylor's management of factories, as well as with Charles Fremont's standardization of industrial machinery—both of which redefined labor practices according to the science of work. In addition to supporting such industrial principles and behavioral correctives, Marey utilized trained athletes in his motion studies so that their "secrets" could be captured photographically, defined analytically, and used to train people more effectively. These examples from industry and athletics indicate that Marey thought his biomechanical analysis provided a corrective to behaviors by creating a template for a more efficient subject.[56] This corrective function extended to the arts with less clear results. Thinking his scientific images of bodily movement would assist visual artists in their efforts to represent figural anatomy, he claimed to reveal, through the full range of bodily motion, what natural perception could only perceive "when the direction of movement is changed."[57] The scientist felt the mechanically inscribed attitudes (i.e., postures, gestures, and facial expressions) would serve an artistic

function as well: artists would blend his scientific results that were inaccessible to an unaided eye with their own notion of aesthetic truth based on perceptual illusionism. The scientific data would bring life to the poses of the visual arts. This formulation might have appeared to put his research at the service of the arts, but it also presumed that artistic practices would imitate his principles. As the avant-garde mocked and contested materialist philosophy, the application of his method did not transpire as he had envisioned. Nonetheless, the underlying idea of corrective action entered the avant-garde intact—as a commitment to experimentation and to anti-illusionism that presumed to recalibrate subjectivity.[58]

Tracking the bourgeois subject in crisis, Duchamp's *Sad Young Man*, and *Nude Descending a Staircase, No. 1* and *No. 2*, as well as other works from those years, made graphically and humorously apparent the abuse implicit in positivist thinking, in general, and the biomechanical method, in particular. The body was no longer treated as a source of vital essences, because certain basic premises of artistic expressivity were collapsed into irreverent accumulations of human parts that never quite added up to a functional whole. By mobilizing reduction and parallelism against pictorial illusionism, Duchamp's aesthetic version of Marey's method generates images of an artist-as-experimental-subject transformed by a scientific gaze. Flattened onto a visual plane, Marey's experimental subject was hollowed out and emptied of its expressive dimension, in order to accommodate productive forces beyond the scope of individual experience. Stewart-Steinberg argues that his experimental subject was inherently masochistic—its masochism a response to the historical situation in which the subject was no longer accorded inalienable rights and responsibilities, but rather it submitted to the mechanics of a modern socioeconomic model. She observes, "The masochistic body belongs in Marey's universe of *expression graphique*, in other words, a self-narrativized but also literalized submission to power."[59] The mechanized subject learned to inhabit experimental conditions and to reproduce psychophysiologically a scientific gaze: "The masochistic gaze, its conscious and freely chosen staging of man's pleasurable investment in

power, becomes the vehicle by which power is both exercised and submitted to. The masochist, in this scenario, always remains the stage director of his own powerlessness."[60] For example, the experimental portrait of Demenÿ in a harness marked the transition from naturalism to scientific abstraction by staging the subject's submission to a model of efficiency. In this case, the normative standard was affirmed through the simulation of ambulatory pathology. Also, imitating the masochistic conditions of the research subject, *Nude Descending a Staircase No. 1* and *No. 2* shared basic conceptual premises with Marey: to counter illusionistic strategies and to find usable data in the naturalistic figure. As a researcher turned subject, Duchamp employed experimental conditions to challenge codes of expressivity—by denying visual pleasure, by translating the nude into images of mechanization, and by performing a kind of masochistic submission. During his research, the artist submitted to a self-imposed aesthetic dysfunction—a conditional bind—that underwrote his ironic affirmation of this subjective absurdity. While Duchamp's paintings consciously subverted figural expression, a problem emerges from this artistic application of the biomechanical method—what exactly becomes of the expressive subject under these experimental conditions?[61]

Indexing

Although Marey's chronophotography created unusual visual effects of movement, the innovation in his method was its radical principle of bodily inscription.[62] As the technical and conceptual foundation of Marey's scientific innovation, the graphical method captured the invisible forces of nature, but it necessarily excluded what could not be encoded. For the human subject, his method sought to show a dependent relation between the mind and the body. The biomechanical method imprinted bodily motion onto light-sensitive plates and other writing surfaces, following the logic of the index—by which something is impressed onto or physically affixed to a medium. For the scientist, the index was a key concept underlying the

processes of signification, in the vein of Charles Sanders Peirce's late-nineteenth-century system for analyzing visual communication. Unlike Peirce, however, Marey discovered that the human body could be a responsive signifying material, a sort of real-time map of mental processes. Since certain types of mental content and emotional experience could be filtered out, those reduced bodily traces effectively replaced the body-mind with the body-sign. By purportedly tracking the mind-body, the bodily index facilitated a stealthy substitution in the conceptual domain. If expressive forces had previously animated the body (thus causing confusion), then, with certain mental processes bracketed out, the body could be affixed with scientific concepts—biomechanically. This method of mechanical inscription effectively transformed bodies into signs, enabling smooth linkage between experimental data and scientific concepts. The body he envisioned was a nonindividualized material, or a generalized bodily sign, to be overwritten by innovative scientific concepts, such as efficiency and productivity, in lieu of expressive meanings. His chronophotographic imagery not only evidenced psychophysiological concepts, but also related to workplace organization and to military and athletic training programs. At a time when philosophers conceptualized language as an autonomous system with generalized principles, Marey's indexicality served to modify physical routines and social behaviors in concrete ways, imprinting biomechanical concepts onto a mind-body medium and enabling a shift from psychophysiological correction to social organization.

The photographic apparatus provided key evidence supporting Marey's indexical approach and underwriting his correctional paradigm. Facilitating a shift from a subject rich with experiences to one governed by scientific imperatives, the camera accomplished ideological work, in effect writing social behaviors onto the mind-body medium.[63] For example, the experimental subject reflected its analytical gaze, performing prescribed routines and dutifully rendering its data.[64] More importantly, the scientific data contained by the images could not be fully utilized without knowing the underlying experimental conditions and the

assumptions behind the experiment. At the same time that the camera lent integrity to Marey's research model (in that the automatic photographic processes were clearly not faked), it constituted one of the main techniques by which scientific value could be found in physical phenomena, such as moving or posed bodies. With efficient action installed in the place of expressive motion, this mechanical process worked as a subtle form of ideological imprinting, through which the body was recalibrated to productive aims. When avant-garde artists, such as Balla, Duchamp, Kupka, and the Bragaglias, appropriated elements of the biomechanical method just before World War I, they were not simply mimicking the visual distortions of moving bodies. That type of semi-abstracted figure had been already widely seen twenty years earlier in the flowing silhouettes of Art Nouveau and in the serpentine dances of Loïe Fuller, for example. Instead, these visual artists adopted his innovative indexical principle. The mechanicity of Marey's method provided an autonomous system of visuality based on movement that could contest and correct conventional modes of visual representation. In contrast to the analytical cubists, such as Picasso, who, through a system of iconographic reduction, abandoned the figure capable of movement, these other artists developed other modes of figuration that were oriented toward movement and temporal processes.[65] As with Marey's method, the camera—with its ideological power to generate evidence—underwrote various nonreferential strategies in the visual arts, whereby mechanicity was used to subvert dominant compositional routines.

Around the same time Duchamp followed Marey's method to vacate figural expressiveness, Balla composed a large number of images that likewise isolated static points in a continuous chronometric trajectory of motion. The futurist began by repeating naturalistic images in order to connote motion, such as the well-known example, *Dynamism of a Dog on a Leash* of 1912 (Fig. 38), showing a tethered Dachshund trotting beside its anonymous handler. The visual repetition of running legs, flapping ears, and swinging chain transcribes a chronophotographic view of physical motion into the language of painting, establishing an

implicit analogy between camera and canvas. With its debt to Marey's indexicality, this painting has been singled out as an example of futurism's uncomplicated, uncritical relation to technology.[66] Yet, it represents only one side of the artist's efforts. Over the course of the next twelve months, Balla gradually shifted from using referential forms to tracking nonreferential indices of motion, produced by successive perceptions within a continuous perceptual frame. Two examples from 1913 demonstrate his development of techniques for indexing nonreferential forces, inspired by the biomechanical method. With a simplified monochromatic palette of sepia tones, *Dynamic Expansion + Velocity* (1913; Fig. 39) traces a complicated progression of overlapping rectilinear and curvilinear elements, signifying the accumulation of different sensorial data, such as light reflections, kinetic forces, sonic disturbances, and air currents. In place of exact repetition, his patterned inscriptions converge, vibrate, and diverge, leaving a degree of play in the visual structure. According to Balla's approach, a spectrum of sensorial experience is rendered in the narrow range of visual properties—line and tonality. A similar grisaille technique charts incremental changes in perception in *Abstract Velocity* (1913; Fig. 29). Reflecting glints of ambient light, flecked with ochre, the rotund pinwheels of rotational energy spin counterclockwise to the left, but they are overtaken by consecutive ripples of stately cadence, themselves intersected by clusters of slicing tangents appearing in the brief span of attention before receding back into the buzzing atmospheric surround. Positioned at the side of the road, Balla became a kind of recording device: through a mode of perceptual automation, the vehicular forces of propulsion embedded multisensory data onto the flat surface of the painting. His gradual aesthetic shift from referentiality to nonreferential patterns derived from a perceptual origin—the machinery of perception (not vehicles) produced repetitions and accumulations on the visual field. Read through these later works, *Dog on a Leash* offers a more literal analysis of motion that brackets out emotional depth, which, by acknowledging daily routine (i.e., walking a dog), intensifies his impulse to escape the strict indexical method and to become unleashed. Despite his references to machines and

mechanized motion, Balla's work from this period was not as uncritical of mechanical processes as his critics would imply.

It is worth mentioning that, despite their shared inspiration, Duchamp repeatedly denied futurism had any influence on his work. Key statements by him to this effect come many years later, in 1946: "Futurism was an impressionism of the mechanical world. It was strictly a continuation of the Impressionist Movement. I was not interested in that. I wanted to get away from the physical aspect of painting … I was interested in ideas—not merely in visual products. I wanted to put painting once again at the service of the mind."[67] While his desire to put painting "at the service of the mind" supports the case for his engagement with psychophysiological parallelism, his understanding of futurism overlooked the dimensions of sensation and perception that, beyond mechanism, played a significant role in both Impressionism and futurism. Another statement by Duchamp is puzzling as well: "My interest in painting the *Nude* [*Descending a Staircase, No. 2*] was closer to the cubists' interest in decomposing forms than to the futurists' interest in suggesting movement … My aim was a static representation of movement—a static composition of indications of various positions taken by a form in movement—with no attempt to give cinema effects through painting."[68] While aligning his work with cubist decomposition, Duchamp offered an explanation futurist painting that was neither sympathetic nor particularly accurate. Although the futurists espoused an aesthetic of motion, they surely understood their images were static. This description of his own method—to give "a static composition of indications of various positions taken by a form in movement"—actually describes well many futurist paintings. Taken together these statements provide a caricatural view of futurist contributions in painting—a view often repeated in accounts of both futurism and Duchamp's work, but never challenged. Finally, when asked directly about any futurist influence on his work during those years, Duchamp gave an amusingly discordant reply, perhaps in an effort to dissemble: "In the first place, they [the futurists] were in Italy ... Italy was a long way away. Moreover, the word 'Futurism' hardly

appealed to me."[69] In truth, not even considering Severini who lived in Paris, the futurists traveled to Paris many times, such as for their exhibit at Gallerie Bernheim-Jeune in February 1912.[70] Whether or not its name seduced him, the futurist visual program was discussed in Paris from 1910 onward, and the French capital was, in many ways, the epicenter for public reception of the Italian movement. Duchamp's dismissal of futurist painting actually bears little on the argument presented here: that the biomechanical method informed their artistic aims during that period. If Duchamp argued for their different aesthetic approaches, the images themselves supply ample material for constructing a historically significant visual conversation between his works and futurism. The principle of indexicality, underwritten by the photographic apparatus, provided their common context and supported several shared assumptions that will become clearer when investigating how photographic processes influenced different forms of avant-garde figuration.[71]

Another artist affected by Marey's chronophotography was František Kupka, probably the first avant-garde artist to compose spatialized sequences of bodily movement based on the biomechanical method.[72] Although he experimented with presenting motion in studies at the end of 1908, he adopted a more systematic approach in 1909, in order to visualize spatially the spiritual aspects of the human figure. For example, his series *Woman Picking Flowers* (1909–10) envisions his wife's subjective experience in motion as a series of silhouettes that measure a single analytical instance by traversing the contiguous vertical slices of the picture plane. Based on a prismatic sequence of colors, his visual strategy correlating chromatic and experiential gradations will be developed more fully in chapter 7, however, the repetitive figural contours, moving parallel with the picture plane, also imitated the multiple exposures in Marey's experimental imagery. In a notebook from 1912–13, the artist confirmed his approach (in terms not unlike Duchamp's later description of his own work): "In order to give the impression of movement through the use of static agents ... one must evoke a sequence of presences."[73] He followed an indexical principle, but clearly

opposed biomechanical reduction. Unlike Duchamp, Kupka supposed the process of visual inscription could express rather than suppress the vital, expressive forces of the body. During those years living in Puteaux, near Paris, the artist was in contact with Duchamp, as well as with his brothers Raymond Duchamp-Villon and Jacques Villon. Although Duchamp and Kupka showed a similar interest in the mechanical indexicality of Marey's research, the works of each pursued different aims. Clear aesthetic differences emerged between those compositional strategies that mimicked automatic processes (parody included) and those that extended certain mechanistic assumptions into vitalist territory. Rooted in reductive parallelism, Duchamp's reductive version of Marey's method maintained a presumption that photographic indexicality displaced or replaced immaterial forces and that the body is necessarily distorted during the inscription process. For Duchamp, this materialist position of biomechanical reduction provided a platform for subverting the conventions of expressivity.

While Duchamp and Balla composed several images indebted to biomechanical principle of indexical reduction, another application of the biomechanical principles used photographic automatism to present spirit as an essential function of figuration, in an attempt to preserve expressive forces. Those images related to the vital forces of the body modify the materialist supposition by aiming to recover the suppressed dimension of experience—expressivity. Given the later aesthetic strategies included, implicitly or explicitly, what scientific method left out, biomechanical indexicality was significantly expanded. The next chapter focuses on the futurist photography of the Bragaglias and how their aesthetic principles modified the original scientific and ideological assumptions. Yet, exploring the dichotomy between reductive and ecessive forms within the confines of the original biomechanical perspective leads to something of an impasse: with mental and emotive dimension minimized, Marey's method cannot readily explain how expressivity might be transcribed. The historiographical problem is to explain how visual and bodily expression emerged from nonreferential figuration, as well as to map how expressivity intersected with indexicality. In

order to better conceptualize and contextualize the expressive dimension of the body, a supplemental framework will be developed based on a gestural model created at the turn of the twentieth century by Wilhelm Wundt. Rooted in expressive flows, Wundt's model constituted a form of corporeal semiotics—comparable to Saussure's linguistic model and Peirce's visual system. Wundt's research on gesture helps me to plot figural strategies in relation to the camera, to better understand the different scientific and aesthetic aims of bodily inscription, and, eventually, to outline a multilayered explanation relating to the aesthetic and emotional convergence of humans and machines before World War I. As will be explored in the following chapter, these reductive and excessive categories revolving around an apparent contradiction formed at the interface of indexicality and expressivity—the paradox of the mechanized soul.

Notes

[1] Étienne-Jules Marey, *Movement*, 1895, 183.

[2] Enrico Crispolti, *Il mito della macchina e altri temi del futurismo*, 1969.

[3] Ibid., 11.

[4] Roberto Tessari, *Il mito della macchina: Letterature e industria nel primo Novecento italiano*, 1973.

[5] F.-T. Marinetti, "The Founding and Manifesto of Futurism," 1909.

[6] Tessari, *Il mito della macchina*, 418.

[7] While the machine appears throughout Chrinstine Poggi's book *Inventing Futurism*, this all-purpose interpretive schema is most prevalent in chapters 1, 5, and 7. In chapter 5, the man-machine conjunction stretches from 1904 to 1921 to include, among others, war images (e.g., Severini's paintings from 1914–15), metaphorical portraits (e.g., Picabia's *Child Carburetor*, 1919), and cycling (e.g., Boccioni's *Dynamism of a Cyclist*, 1913). In chapter 7, the machine metaphor adapts to numerous different connotations—anatomical fusion (Poggi, 236), social revolution (ibid., 249), architecture (ibid., 256), and a cult-like "uncanny return" (ibid., 233 and 248).

[8] Walter Benjamin, *The Arcades Project*, 331.

[9] It is notable that Anton Giulio Bragaglia in 1913 describes Marey's chronophotography as "the photographic mechanicity" ("*la meccanicità fotografica*"); see Anton Giulio Bragaglia, *Fotodinamismo Futurista*, 29. In Bragaglia's text, the word marks the conceptual difference between photodynamism and Marey's research, while the term assumes stronger emphasis in Poggi's work and signals conceptual continuity among works by Balla and Marey.

[10] While the term *biomécanique* in not used by Marey, he does refer to "animal mechanics," which applies the laws of mechanics to biology (Marey, *Animal Mechanism*, 1, 59, and 138). The French term *biomécanique* is used in Paul Carnot's *Les régénerations d'organes* (Paris:

J. B. Bailliere & Fils, 1899), 7; and in Frédéric Adolphe Célestin Arsène Houssay's *La forme et la vie: essai de la méthode mécanique en zoologie*, 1900, 8. One contemporaneous source attributed this term to Yves Delage, professor of zoology at the Sorbonne in the late nineteenth century. An unnamed book reviewer at the time conveniently synopsized the significance of biomechanics, in which "the process of cognition is reduced *in toto* to biological phenomena, being a complete doctrine of the changes and groups of changes of the central nervous organ according to purely logical points of view and wholly apart from the assumption of 'psychical factors' of any sort whatever." (This unsigned review of Friedrich Carstanjen's book *Biomechanische Grundlegung der neunen allgemeinen Erkenntnistheorie*, appeared in *The Monist*, ed. Paul Carus 5, no. 4, July 1895, 627.) In a very different context, Russian actor and theater director Vsevolod Meyerhold invented a system of mechanical acting techniques in the 1920s also called *biomechanics*, which specifically refers to gesture and movement on the stage.

[11] Poggi, *Inventing Futurism*, 141.

[12] The visual and textual references to Marey's chronophotography date from 1909–10 for Kupka and from early 1911 for the Bragaglias, while Duchamp's visual references to that research manifested in late 1911, with no verbal references made until many years later.

[13] Marey, *La méthode graphique dans les sciences expérimentales et principalement en physiologie et en médecine*, 1878, 108; cited in translation in Braun, *Picturing Time*, 40. His general attitude about the nature of the scientific problem is one of impatience, as when he writes: "How is it possible not to anticipate with impatience the day when long and obscure descriptions will give place to satisfactory representations?" Marey, "Lecture on the Graphical Method," *British Medical Journal*, Jan. 15, 1876, 66.

[14] Marey stated, "When the eye ceases to see, the ear to hear, touch to feel, or indeed when our senses give deceptive appearances, these instruments are like new senses of astonishing

precision." Marey, *La méthode graphique dans les sciences expérimentales et principalement en physiologie et en médecine*, 1878, 108; cited in translation in Braun, *Picturing Time*, 40. Marta Braun's work on Marey is exemplary for explaining historical and conceptual development of his biomechanical method of inscription. Regarding the disclosure of unseen actualities, Braun writes, "Marey's desire to transcribe the ephemeral world of invisible movement into a visible and permanent trace" (Braun, *Picturing Time*, 61); also, she says, "To make the camera 'see' what was invisible, he suppressed the field of visibility" (ibid., 81). In *The Pinocchio Effect* (2007), literary historian Suzanne Stewart-Steinberg similarly writes about Marey's obsession with the invisible: "What interested Marey more than anything was the world of the invisible, that is, those forces hidden in the body that moved and determined the body's functioning" (143).

[15] Marey, *La méthode graphique*, 1878, 108.

[16] The characterization of Marey's research as a mode of inscription appears in various sources. Braun uses the idea of inscription descriptively, if also incidentally; for example, "the inscriptors were constructed according to the unifying principle of direct mechanical translation" (Braun, *Picturing Time*, 31). Also, she writes "[Marey] defined the purposes of his inscribing machines and showed how they were able to describe both movement and force as well as to store information as material for comparison and research" (ibid., 40). David Horn is explicit about the scientist's circumvention of human verbal processes: "If the graphical method sought, on the one hand, to overcome the deficiencies and vagaries of the observer's senses, it also promised, in Marey's view, to overcome the inadequacies of spoken language" (David Horn, *The Criminal Body: Lombroso and the Anatomy of Desire*, 2003, 85–86). Stewart-Steinberg emphasizes the conceptual significance of his innovation: "Marey thus invented a new language to describe this body in motion, a language that was conceived as an *inscription*" (Stewart-Steinberg, *The Pinocchio Effect*, 143). Robert M. Brain poses Marey's

methods within a starker light: “Automatic recording instruments would generate a vast heterotopic space of inscription that would push out speech altogether and replace it with mechanized forms of thinking and communication.” Robert M. Brain, “Representation on the Line: Graphic Recording Instruments and Scientific Modernism,” in eds. Bruce Clarke and Linda Dalrymple Henderson, *From Energy to Information*, 2002, 156.

[17] Marey, *La machine animale* (1873; also pub. in English as *Animal Mechanism*), 3; cited in Braun, 39.

[18] Marey, “L’économie de travail,” *La Revue des Idées* 1, no. 4 (1904), 162; cited in Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity*, 1993, 118.

[19] Bergson, *Time and Free Will*, 2001, 119. While Marey is not named directly in Bergson’s work, the philosopher was certainly familiar with the physiologist’s research and views, and it is likely that he is referring directly to Marey’s research in this quotation.

[20] Ibid., 140–44.

[21] Marcel Duchamp, *The Museum of Modern Art Bulletin* (New York: The Museum of Modern Art, 1946), 19–21; reprinted in Marcel Duchamp, *Salt Seller: The Writings of Marcel Duchamp*, 1973, 125.

[22] Ibid., 124–25.

[23] Marey, “Emploi des photographies partielles pour étudier la locomotion de l’homme et des animaux,” *Comptes Rendus des Séances de l’Académie des Sciences* 96 (1883), 1827–31; cited in translation in Braun, 83.

[24] Marey, *Movement*, 60–61.

[25] Of course, the concept of reduction has a wider purchase than Marey’s research. It is used in various discourses to connote a necessary process of deriving meaning from a complex set of data, such as with eidetic reduction. It is used in a contrasting sense, however, when arguing to preserve experiential meanings through phenomenological reduction by stripping

away epistemological categories. Following mechanistic principles closely, Marey's version of reduction provided tangible evidence for his scientific claims.

[26] Braun indexes this image as follows (*Picturing Time*, 1994, 368): "A12 Human locomotion. Demenÿ dressed in black with joints, arms, and legs marked in white for chronophotographic experiments shown in negatives 15 and 16, 1884."

[27] The Physiological Station was the name of the facility that Marey used on the outskirts of Paris.

[28] While Duchamp derived the technique from Marey, the origin of the term is more ambiguous. In one place, the artist suggested that it was Marey's term originally (Pierre Cabanne, *Dialogues with Marcel Duchamp*, 34), but elsewhere Duchamp indicates his own identification with the term: "Then, there is the distortion of the young man [in *Sad Young Man*]—I had called this elementary parallelism" (ibid., 29). Given these two citations, an attribution of the technique to Marey appears warranted under the proviso that Duchamp modified it to his own ends.

[29] Pierre Cabanne, *Dialogues with Marcel Duchamp*, 29.

[30] Marta Braun says that Duchamp, along with Balla, "adapted the rhythmical parallel shapes of Marey's chronophotographs and made them into the dominant twentieth-century pictorial convention for the dynamic sensation of time" (Braun, *Picturing Time*, 1992, 264–65).

[31] Pierre Cabanne, *Dialogues with Marcel Duchamp*, 29.

[32] David Joselit notes, "As in the later painting [*Network of Stoppages*], the term of measurement in the *Nude Descending a Staircase* [*No. 2*]—the field of parallel lines—is distorted or warped by the mass and volume of a body: it attains a new, non–Euclidean and *embodied* geometry" (Joselit, *Infinite Regress*, 53).

[33] David Joselit interprets Duchamp to mean there are two converging systems—one bodily and one geometric—by which the body's fluctuation distorts a field of parallel lines that have

been produced by a geometric system (e.g., in *Nude Descending a Staircase No. 2*). Joselit, *Infinite Regress*, 53.

[34] An explanation of parallelism appears in Wilhelm Wundt, *Outlines of Psychology*, 1897, 186–88.

[35] Marey writes: “There is nothing that can escape the methods of analysis at our disposal.” Marey, *La méthode graphique dans les sciences expérimentales et principalement en physiologie et en médecine*, 1878, 108; cited in translation in Braun, *Picturing Time*, 40. Also, he states elsewhere, “The methods employed by physiologists are generally devised with a view to elucidate what the unaided eye cannot discover for itself” (Marey, *Movement*, 1895, 275).

[36] Bergson, *Time and Free Will*, 146.

[37] Ibid., 147–48.

[38] Pierre Cabanne, *Dialogues with Marcel Duchamp*, 29.

[39] Ibid., 34.

[40] If elementary parallelism follows a fixed or constant relation between a phenomenon and its traces, as with Marey’s research, one could expect to see a more developed form of parallelism that follows changing relations between things and their traces. This alternate form could require different or modifiable algorithms for tracking phenomena in relation to their traces, such as with forms of poetry, encryption techniques, and certain types of digital imaging, for example.

[41] Cabanne, *Dialogues with Marcel Duchamp*, 33.

[42] Ibid., 29.

[43] Duchamp claims (Ibid., 29): “... the humor of the word play: *triste*, train ... ‘Tr’ is very important.”

[44] Ibid., 30.

[45] Jules Laforgue, *Oeuvres Complètes*, Vol. 1, *1860–1883*, 1986, 442.

[46] Jules Laforgue, *Les Complaintes*, ed. Michael Collie, 1977, 82–83.

[47] The parts of the poem that relate to the painting follow (Laforgue, *Les Complaintes*, 82–83):

Je serais, savez-vous, la plus noble conquête
Que femme, au plus ravi du Rêve, eût jamais faite!
D'ici là, qu'il me soit permis
De vivre de vieux compromis!
Où commence, où finit l'humaine
Ou la divine dignité?
Jonglons avec les entités,
Pierrot s'agite et Tout le mène!
Laissez faire, laissez passer;
Laissez passer, et laisser faire:
Le semblable, c'est le contraire,
Et l'univers, c'est pas assez!
Et je me sens, ayant pour cible
Adopté la vie impossible,
De moins en moins localisé!
...
—Oh ! de moins en moins drôle;
Pierrot sait mal son rôle?
—J'ai le coeur triste comme un lampion forain...
Bah ! J'irai passer la nuit dans le premier train;
Sûr d'aller, ma vie entière,
Malheureux comme les pierres. (*Bis*).

My translation:

I would be, you know, the noblest conquest
What woman, more ravishing than a Dream, has ever been had!
Until then, let me
Live with old compromises!
Where begins, where ends human
Or divine dignity?
We play with the entities,
Pierrot is agitated and leads All!
Laissez faire, laissez passer;
Leave it be and let it go:
The similar is the opposite,
And the universe is not enough!
And I feel, having been on target
Adopted the impossible life,
Less and less located!
...
—Oh! Less and less amusing;
Pierrot knows poorly his role?
—I have the sad heart of a fairground lantern…

Bah! I will spend the night on the first train;
Certain to go, my whole life,
Unfortunate as the stones. (*Kiss*).

[48] Laforgue uses the term *train-train* repeatedly in poems and prose, including "Préludes autobiographiques" (e.g., "Quel calme chez les astres ! Ce train-train sur terre !") and "Complainte des pianos qu'on entend dans les quartiers aisés" (e.g., "Et les suffisants coeurs cossus, n'ayant d'autre hôte / Qu'un train-train pavoisé d'estime et de chiffons.").

[49] Arturo Schwarz cites failure as a theme in Duchamp's *Portrait of Chess Players* (December 1911), based on homophonic French words *échecs* (chess) and *échec* (failure). Schwarz, *The Complete Works of Marcel Duchamp, Vol. 1*, 1997, 107.

[50] It is notable that these same words *triste* and *train* also appear in a line from Laforgue's "Grande Complainte de la Ville de Paris" (1883–84) ("Grand Complaint of the City of Paris"): "Que tristes, sous la pluie, les trains de merchandise!" ("How sad in the rain the goods trains look!"); appearing in *Poems of Jules Laforgue*, trans. Peter Dale (London: Anvil Press, 2001), 160–61. Duchamp's dysfunction may well extend to the poet's sense of the emotive economy of his urban setting.

[51] Cabanne, 34.

[52] Marcel Duchamp, *Salt Seller: the Writings of Marcel Duchamp*, 1973, 124.

[53] Braun captions this image "Demenÿ in electrical harness, 1888," but it is labeled in the appendix as: "Instruments and apparatus. Pathology. Demenÿ demonstrating electrical apparatus for chronophotographic study of pathological locomotion, 1888." Marta Braun, *Picturing Time*, 368.

[54] Suzanne Stewart-Steinberg, *The Pinocchio Effect*, 2007, 142–51.

[55] Ibid., 142.

[56] Because Marey's project of scientific analysis had a built-in moralistic component by intending to isolate exemplary movements in order to mold social behavior, it is a historically

significant example of what Foucault calls a shift from the anatomo-politics of the individual to the biopolitics of the population. Michel Foucault, *"Society must be defended": Lectures at the Collège de France, 1975–76*, trans. David Macey (New York: Picador, 2003), 243.

[57] Marey, *Movement*, 177.

[58] Stewart-Steinberg suggests a linkage between Marey's work and the visual arts, but she does not discuss any specific artworks (Stewart-Steinberg, *The Pinocchio Effect*, 142): "Those advances made in the mechanics of knowing the body" provide "an important paradigm shift occurring largely in the sciences but that would prove to have a profound impact on the arts and their attempt to represent the modern subject."

[59] Stewart-Steinberg, 178.

[60] Ibid., 180.

[61] Deleuze suggests that the masochistic subject is subsumed by the pleasure of aestheticized power, while the sadist is not: "Sadism is speculative-demonstrative, masochism dialectical-imaginative … There is an aestheticism in masochism, while sadism is hostile to the aesthetic attitude … Sadism is institutional, masochism is contractual" (Deleuze, *Masochism*, 1971, 115). As the scientist-subject as artist, Duchamp complicated the terms of masochistic submission. It remains difficult to fully reconcile his aesthetic attitude with its feigned renunciation in his work, pushing his absurdist approach outside the logic of masochistic subject.

[62] Braun and others have pointed out to this conceptual origin of his scientific innovation, as when she writes (*Picturing Time*, 1994, 22): "With his graphical method, Marey had effectively found a way to make the phenomena he was studying trace themselves." Also, Mary Ann Doane describes Marey's "obsession with indexicality" in *The Emergence of Cinematic Time: Modernity, Contingency, the Archive* (Cambridge, MA: Harvard Univ. Press, 2002), 48.

Stewart-Steinberg reiterates that the bodily index was an essential aspect of his invention (2007, 143–44).

[63] Jean-Louis Baudry makes a general claim about the ideological effects of the camera in scientific research, before focusing on the film apparatus in "Ideological Effects of the Basic Cinematographic Apparatus," in *Narrative, Apparatus, Ideology*, ed. Philip Rosen, 1986, 286–98.

[64] Friedrich Kittler refers to late-nineteenth-century scientists who served as subjects for their own experiments and who were conditioned by their research as much as they directed it. Also for him, the camera supervised an experimental situation in which power relations between researcher and subjects were blurred. Kittler, *Gramphone, Film, Typewriter*, 1999, 136 and 146–47.

[65] Yve-Alain Bois discusses Picasso's iconographic reduction in the context his sculptural response of African forms; Bois, "Kahnweiler's Lesson," *Representations*, no. 18 (Spring 1997), 55. Also, Adorno supplies an unusual framework for Picasso's analytical cubist style when he compares it to a musical style from the same period. After calling Stravinsky's music "the reflection of shattered depletion," Adorno writes of that composer's music: "Its calculated errors are related to the open contours of legitimate contemporary painting—such as that of Picasso; such painting dismantles every hermetic aspect of the depicted figure" (Adorno, *The Philosophy of Modern Music*, 2003, 184). Following Adorno's logic, the cubist body was, in effect, shattered by a technique of visual reduction that comprised a series of feints and dislocations, which depleted figural expressiveness.

[66] One contemporary example is Alfredo Petrucci's 1913 article in the journal *Emporium*; cited in Giovanni Lista, *Balla*, 1982, 34–38.

[67] Duchamp, *Salt Seller: the Writings of Marcel Duchamp*, 1973, 125.

[68] Ibid., 124.

[69] Cabanne, 28–29.

[70] In addition, Juan Antonio Ramírez mentions that Duchamp made several trips to see this exhibition. Juan Antonio Ramírez, *Duchamp: Love and Death, Even*, trans. Alexander Tulloch, 1998, 21.

[71] This is not to suggest that Duchamp imitated futurist works or even that his work can only be viewed in light of futurism, just that these works responded to similar representational questions.

[72] See note 12.

[73] Cited in Margit Rowell, “František Kupka: A Metaphysics of Abstraction,” published in *František Kupka, 1871–1957: A Retrospective*, 1975, 60.

3. Biomechanism to Blur, Part 2

> A different nature opens itself up to the camera than opens to the naked eye.
>
> —Walter Benjamin[1]

After the turn of the twentieth century, several European artists who were associated with avant-garde practices turned to a set of aesthetic questions centering on what constituted a human body and what visually connoted its movement. These questions had been prompted by scientific experiments using human subjects, for which Étienne-Jules Marey's chronophotographic research was perhaps the most widely known. Marey created a method for automatically imprinting the indexical traces of bodily motion, while simultaneously suppressing the visual traces more typically associated with naturalism and figural expressiveness. The previous chapter investigated the manner in which Marcel Duchamp applied Marey's method and its basic principles of reduction and parallelism amid his investigation of the aesthetic relationship between the body and the mind and the kinds of distortions inherent in any given system of expressive representation. Although this artist recognized an incompatibility between Marey's positivist approach and artistic practices in general, the biomechanical method proved useful to him for another reason—it challenged traditional modes of artistic expression. In such works as *Sad Young Man on a Train* (1911; Fig. 32) and *Nude Descending a Staircase No. 1* and *No. 2* (Figs. 33 and 35), Duchamp made formal experiments that were based on the chronophotographic results that translated bodily actions into repetitive series of nonreferential signs. Humorously capturing the artist's sense of failed expressivity, this artistic version of reductive parallelism also remained true to certain underlying premises of a biomechanical method that represented a shift away from natural correspondences and that triggered the redefinition of individual subjectivity. This chapter focuses on another approach to biomechanical imagery— found in works from the same

period by futurists Anton Giulio and Arturo Bragaglia. Unlike Duchamp, the brothers made an effort to depict the expressive forces that Marey had purposefully disregarded. Their photographic system of figuration recalibrated the visual language of the body, and it still stands as a valuable historical response to aesthetic and spiritual crisis, in which the concept of what it was to be human was being challenged by technology.

In mid-1911—at around the time Giacomo Balla and František Kupka were experimenting with chronometric sequences, but just before Duchamp briefly moved in this same direction—the Bragaglias began developing a photographic system for indexing communicative gestures they called *photodynamism*. It was based on the technique of manipulating exposure lengths to record brief bursts of bodily activity. Inspired by a lecture they attended in Rome in May 1911—given by Umberto Boccioni on the topic of his pictorial dynamism—the Bragaglias sought to reimagine photographic representation in a similar vein. At the same time that they initiated a visual system to document forms of human expressivity, Anton Giulio penned articles, gave lectures, and published a book entitled *Futurist Photodynamism*—all of which provided an intellectual context and statement of purpose for their ongoing experimentation.[2] Demonstrating familiarity with Marey's ideas, photodynamism represented an effort to reconcile competing scientific and aesthetic claims about the immaterial forces of the mind and the body. Their efforts were animated by a nonreductive principle of psychophysiological parallelism. Their very first photodynamic image, from 1911, was *Greeting* (Fig. 40), depicting a male figure making a welcoming gesture.[3] All at once, he smiles broadly, lifts his hat, bows his head, and waves his arm—in a flourish of congenial activity. Other images of salutation, such as *The Bow* (1911; Fig. 41) and *The Nod of Greeting* (1913), present similar moments of interpersonal acknowledgement, and this specific type of imagery carries additional metaphorical value, in that it worked as a sort of formal introduction to their photographic system and their aesthetic ideas. Lasting for relatively a short period—from the middle of 1911 to the end of 1913—their research countered the reductive principle of

the conditioned body-sign with their own indexical form that indicated invisible forces moving through the body. Rather than denying bodily expressiveness like Marey or subverting it like Duchamp, the Bragaglias used the biomechanical method to try to capture the forces spilling out of the body, like a kind of psychophysical excess fulfilling an expressive design.[4]

Expressivity

In *Futurist Photodynamism*, Anton Giulio gave an extended explanation of the concepts informing the Bragaglias' photographic practice.[5] One premise underlying the brothers' images, termed variously *arte* (art) and *ricerche* (researches) by Anton Giulio, was that realism provided an unacceptable framework for representing life, because it conveyed "the sheer ugliness of copying the real."[6] He explicitly tied their visual system to a defiance of the "precise reproduction of reality."[7] Instead, they wanted to represent the dynamism of life and to communicate a deeper sense of reality: "We consider life pure movement. We love and observe reality in its fatal and vital movement."[8] The challenge to realism by another reality operated on an implicit distinction between the two, captured by the marvelously ambiguous assertion: "We want, in short, to record reality unrealistically."[9] Anton Giulio reasoned that unreality ensured aesthetic value in their images: "precisely by being unrealistic [they] are Art, which begins, said Oscar Wilde, where reality ends."[10] From the idea that groundbreaking art did not reproduce reality, the futurist came to the conclusion that nonnaturalistic photographic experimentation was a source of artistic merit and manifested a desire for their researches to be considered aesthetically. The concept of anti-realistic forms was just one part of their aesthetic program, according to Anton Giulio: "We want to register the living sensation of a particular reality's deep expression, and we are seeking its sensation of movement because that is rich with magnificent, hidden depths and multiple emotive sources that render it unspeakable and ungraspable."[11] Gearing their visual system to showing bodily expressivity, the Bragaglias followed the vitalist motto: "*We are seeking the interior essence of things.*"[12]

Accessing interior reality motivated their work and entailed distorting the objects of their analysis: “For Photodynamism, it is desirable and correct to record images in a distorted state, since images themselves are inevitably transformed in movement.”[13] Whereas, for Duchamp, a failure embedded within the system of representation led to distortion, the Bragaglias believed expressive energies distorted naturalistic representations. Their desire to capture life’s essence in its essential movement led to a type of visual destruction, by which the vitalist truth of movement would overrun static form.[14] The brothers wanted to inscribe fleeting phenomenal traces, such as sensations and emotions—those things bracketed out by Marey.

In spite of different aims, there were many similarities between photodynamism and Marey’s biomechanical method: they both indexed invisible bodily forces, they both correlated mental activity to bodily movement, and, in both cases, the photographic apparatus was used to automatically capture psychophysical forms under experimental conditions. Fundamentally, the brothers’ research assumed there was a direct correspondence between body and mind, but they interpreted the invisible forces differently than Marey. Where Marey found a source of inefficiencies to be isolated and corrected, the futurists saw profuse bodily activities to be preserved. One could say theirs was a nonmaterialist, or immaterialist, version of psychophysiological parallelism. The similarities to Marey’s work notwithstanding, Anton Giulio decried the physiologist’s method, because it presented the dynamic trajectory of the body only as a series of discontinuous elements: “Chronophotography certainly does not reconstruct movement, or give the sensation of it.”[15] The scientist’s analysis divided movement into static positions, completely missing an experiential dimension of activity, according to Anton Giulio. By contrast, the Bragaglias attempted to depict the continuity of the gesture, concluding that expressive gesture was the basic unit of expressivity: “We would like to render, graphically, *perpetual motion* in the perpetuity of a *given* gesture.”[16] As an interior essence of the living body, gesture marked a trajectory of unfolding possibility.[17] By tracing the trajectories of this inner reality, their images defied visible reality in order to pursue essential

distortions: “We study the monstrous beauty of a gesture.”[18] Hideous deformations of the figure were not due to a failed system of indexing emotion, as in the work of Duchamp, but rather they composed an unreal truth. The Bragaglias’ search for “monstrous beauty” mirrored, perhaps inadvertently, the scientist’s observation made decades earlier that “the ugly is only the unknown, and truth seen for the first time offends the eye.”[19] The deformed gesture of photodynamism adhered to Marey’s ugly truth, even though the brothers’ research was far removed from the scientist’s idea to supply the visual arts with anatomical representations “without transgressing the laws of aesthetics.”[20] At the same time that they applied Marey’s principles in the context of futurist visual arts, their focus on gesture aligned their project with Wilhelm Wundt’s work on gestural expressivity.

A pioneer in psychophysiological research and a contemporary of Marey, Wundt published a work on expressive gestures in 1900, comprising the first volume of a massive work on folk psychology.[21] Unlike Marey, Wundt focused on tracking expressive forms within the psychophysiological field, and his text offered a model of semiotic production distinct from other models of this era, such as those developed by Charles Sanders Peirce and Ferdinand de Saussure. Rooted in physiology, Wundt’s model used gesture as the basic semiotic unit. The three main gestural categories he outlined—demonstrative, imitative, and symbolic—comprised a continuum of nonverbal communication that structured the developmental and hierarchical properties of language. In brief, demonstrative gestures are transitory but direct forms based on one’s physical context, such as pointing at objects; imitative gestures are based on sketching out the actions or conditions involving absent objects; and symbolic gestures use arbitrary forms, akin to words, in order to indicate abstract concepts with fixed, often multiple meanings.[22] These categories describe the stages of expressive development within a given language—moving from basic indicative nonverbal forms (i.e., demonstrative forms) to more complex speech-like patterns (i.e., symbolic forms). For Wundt, expressive forms were not simply like tokens to be redeemed for fixed conceptual values, but they were

actively produced, comparatively imprecise, and constantly open to change or deformation. Using fewer classifications and less rigid rules than other semiotic models, Wundt's model of gestural expression ventured to account for processes within a communicative system that other semiotic analyses were poorly equipped to explain, processes such as invention, ambiguity, and mobility. As one example, he mentioned the imitative symbol of the bull—made by extending forefinger and pinky, while retracting middle and index fingers—that came to signify (in Naples anyway) strength, danger, and then protection from danger over the course of its historical development.[23] With inherent flexibility, his model of gestural communication envisioned a system of energetic flows, generating an abundance of meanings that could be modified continually. Instead of defining bodily expenditures in terms of productive ideals, like Marey, Wundt evidenced the communicative and aesthetic value of invisible bodily forces, so his corporeal semiotics functions within my research as a counterpoint to Marey's more reductive biomechanical method.

As with the symbol of the bull, Wundt's concept of expressive form was that they overflow strict semiological delineations. Gestures can inhabit multiple domains and move among categories. They also involve irrepressible flows that move irrespective of psychic or social control: "It is not the degree of education but rather the degree of emotion or the constant affective tendency, the temperament, that is important for the formation of gesture."[24] Supported by an innate quality of temperament, expressive energies could elude and even disrupt inflexible forms of social behaviors, thereby challenging certain sociocultural limits associated with behavioral restraint. Putting expressivity in an historical context, Wundt added, "an esthetic joy in meaningful gestures naturally arises. The ancients were more familiar with the pleasure of gestures in casual communication than we are today."[25] A Wundtian semiotics of the body encompassed so-called "primitive" and ancient cultures, and, like Darwin's earlier work on expression, it established an evolutionary continuum from animals to humans. This all-encompassing continuum of psychic, historical, and evolutionary expressivity suffers from

explanatory overgeneralization, but the key point with respect to avant-garde visual art is that Wundt's model extended the range of emotive forces beyond the spectrum of engrained social behaviors and productive routines. He framed gestural expressiveness as a subtle form of meaning production and as a potential source of social and cultural transformation. The Bragaglias' efforts showed a similar approach to gesture, which evaded precise analysis, and their works from 1911 to 1913 likewise conjugated varied types of physical activity and their corresponding expressive values. Offering a useful structure for interpreting their photodynamic research, Wundt's categories of demonstrative, imitative, and symbolic gestures represent an inclusive, flexible framework, in which invention and ambiguity can emerge directly from effusive flows.

This model of corporeal semiotics supposed that affect was the origin of expressivity. As Wundt stated, "Gestures are first and foremost affective expressions."[26] Notoriously difficult to study, the affective dimension of experience poses a major descriptive challenge—it may represent an immeasurable field of bodily experience, for instance, or it may indicate another type of psychophysiological parallelism, affording a view of psychic interiority, however distorted. Essential and perhaps indescribable, the affective source in Wundt's research later corresponded to photodynamism's attempt to register "the living sensation of a particular reality's deep expression."[27] From this intangible source comes an endless flow of expressive movements, whether voluntary or involuntary. Lacking a clear system of rules and definitions, gesture turns vagueness into a strength, by easily adapting to different contexts and formal permutations. It fosters new forms as well, according to Wundt: "Neologisms occur extraordinarily frequently within a spatially limited area: they are encouraged by the very nature of gestural communication."[28] Wundt explained how this continuous flow of gestures enables greater novelty than can be produced by speech:

> Gestural communication gives a much more lively picture of the constant flow of life's events in smaller, as in larger, communities than speech is capable of doing. Speech is bound to a greater degree to a certain set of signs; hence it tends to assimilate the

> new to the familiar quite readily ... With gestural communication, the question is not one of conservatism guarding against new intrusions into the vocabulary, admitting them into use only occasionally, such as in the case with speech. Rather, it must embrace all neologisms in an attempt to enrich the constant paucity of [its] vocabulary.[29]

Due to a lack of differentiation and relative instability, gesture accommodates invention more readily than speech; it is adaptable and fluid, ceasing upon novelty, while making due with fewer stable forms and with less of a hierarchy with which to fix meaning.[30] This quality of invention is apparent even in the category that covers the most rudimentary demonstrative forms.

Demonstrative gestures are transitory but direct forms based in the physical situations, such as referring to physically present objects, or pertaining to a body's physical orientation in space. They derive from affective experience, based on clear, uncomplicated meanings, and their directness is a quality of instinctual communication, a so-called natural language, accessible to all, according to Wundt.[31] A person motions at what is desirable or distasteful, or one shows another how to do something. Most of the Bragaglias' images fall into this demonstrative category, but some are more physical and uncomplicated than others. For example, several present bodily adjustments in physical space, such as *The Walking Man* (1911; Fig. 42) and *Making a Turn* (1912; Fig. 43). These movements appear to be involuntary, and the images trace these physical paths in order to depict their general psychophysical qualities. In both works, a figure proceeds from right to left in the frame—a tactic used to invert the engrained convention of constructing an image to be read from left to right. Each figure is distributed into approximately six different instants, threaded together along an undulating horizontal flow. This horizontal extension was part of their aesthetic approach to movement, which Anton Giulio describes as "the passion for motion that magnificently multiplies transforms and deforms things, expressing the essential character of modern life, in such a way that the sensation of it affirms itself as the synthesis of modern life."[32] Specifically, the technique of photographic blur captured modern sensation, "which is

the only one that can move men who are truly modern."[33] Yet, Anton Giulio was wary of this term: they are not simply blurred photographs, he said, "because anyone can see the fact that they contain a lot more and are not only *blurred* but also **in motion**."[34] Their blurred images seemed to him to be "a lot more" than a technical trick, so he had difficulty accepting this term. Along with describing the technical artifacts of motion, the term *blur* can also be interpretaed as connoting the broader effect of vital essences, as well as manifesting a type of conceptual surplus, such as by revealing the overflowing excess of figural forms. In fact, the Bragaglias would harness blur to subvert the more reductive principles associated with indexing bodily motion through chronophotographic sequencing.

Deviating from the horizontal flow of ambulatory imagery, an arcing motion governs the physical orientation of bodies in other images. For instance, another image from 1911, *Changing Position* (Fig. 44) traces the curved path of a male figure, again moving right to left, who shifts from a relaxed sitting posture to a forward-leaning position with his head resting in his hands. A clear profile terminates the arc in the lower left corner of the frame, accentuating the tangible, physical boundary that frames their purportedly intangible pictorial system. *The Smoker—the Match—the Cigarette* (1911) likewise traces an arched path, now burned into the image by a cigarette that moves from the mouth to the lap of a stationary figure. Measured out as discrete units of gesture, these trajectories of photographic blur convey a demonstrative quality of expressivity, rather than tracking the analytical units of biomechanical efficiency. While Duchamp produced curiously wooden forms in chaotic figural assemblages, the Bragaglias sought out the demonstrative forms of specific gestures. Another physical display is found in an image of uncontrollable anger in *The Slap* (1912; Fig. 45), in which a blurred figure moves from the right side of the frame to hit a seated figure who then falls to the floor. As a moment of emotional agitation, whether provoked or not, this violent act may depict an interrogation or another abusive situation, or it may show exuberant playacting, perhaps a sign of brotherly affection. Feigned or not, the aggressiveness of the action denotes a

demonstrative, affective form that presents a direct, physical situation, verging on the sensational.

Imitative gestures, in Wundt's model, are those expressive movements that refer to objects, people, or events that are absent from view or not in close physical proximity.[35] This category indicates a missing object of communication that is recreated anew through gesture, such as sketching forms in the air. Consisting of indicative movements that have more stable meanings than *in situ* demonstrations, this category occupies the transitional stage between demonstrative "natural" forms and more developed symbolic, or "artificial," forms.[36] Typically simulating physical situations for the camera, the Bragaglias' research staged demonstrative action: a central part of their visual experimentation involved making believe, performing, or, to follow Wundt's thinking, imitating absent experiential objects. In *Searching* from 1912 (Fig. 46), a figure is literally looking for something, and his arcing trajectory fused several different positions. The close-up view of the figure's head extends the descriptive profile, by tracking the head from frontal to profile views. This formal technique of plotting the motion of the sitter also marks the transition from seeing to being seen. A similar shift occurs in *Greeting* (1911; Fig. 40), which presents a smiling face viewed head-on that turns into a profile view, in the process transiting the conceptual distance between visual recognition and positive identification. This photodynamic trajectory—from participatory affirmation to spectatorial objectification—mirrors a duplicity enacted by the photographic apparatus, which doubles as accomplice and as witness to bodily actions. Indexing both tangible and missing objects, the brothers' pictorial language of bodily expression shuttled between direct and indirect forms and between direct address and pantomime, along an axis of referentiality that had been intentionally filtered out of Marey's results.

The most advanced category of gesture in Wundt's model—the symbolic—includes forms that operate in the manner of words, denoting relatively well-defined meanings and, at times, yielding abstract concepts, as with the Neapolitan bull gesture meaning danger or

protection. For symbolic gestures, the affective dimension of demonstration and the performative dimension of imitation are subsumed within a stable system of communication—by symbols with boundaries that remain relatively clear. Among his categories, Wundt identified a developmental tendency in which more literal, demonstrative forms tend to develop more conceptual, symbolic meanings. When a gesture makes this transition, he claimed, it retains its previous concrete forms amid the more abstract ones, and the author was emphatic on this point: there are no formal traits that confine a gesture into one specific category.[37] For this researcher, the categorical mobility of gestural forms served both as an explanation of the evolution of expressive forms over millennia and as a principle of cultural and individual psychic development. Aside from these overly ambitious conclusions, Wundt's conceptualization of semiotic mobility holds two intriguing implications for the formal and material processes derived from expressive flows. First, the categorical shift indicates that the demonstrative gesture is not inherently distinct from the symbolic dimension—so, even if it does not have an established symbolic meaning, a virtual path to symbolization opens. Second, if the symbolic gesture retains its demonstrative meanings, this tends to blur the categorical distinctions, or, as Wundt puts it, "The border between natural origin and arbitrary invention is obliterated."[38] With this type of categorical confusion, the mobility of signs among categories creates a much greater chance for communicatory ambiguity and invention.[39] But, this same mobility makes his system less capable of specifying which concepts adhere to which material forms, thus multiplying and blurring meanings together and causing a general systemic confusion.

An example of categorical blurring in photodynamism is the Bragaglias' *Searching*, demonstrating physically maneuvering the body to locate something or someone; implying a missing object, both in the sense of a literal absence (i.e., a thing or body) and in the figurative sense of absent authenticity (i.e., a simulation); and symbolizing the artists' search for a suitable method to disclose the figure's expressive excess. The shifting among these semiotic

categories creates a condition of conceptual mobility, because the referential mechanisms become unclear—visual signs appear at once concrete and abstract, material and immaterial. Logically, these ambiguous signs might entail demonstrative, indicative, and symbolic values that blur material boundaries and disrupt referential clarity. The Bragaglias courted this same sense of semiotic ambiguity with their technique of blurring that subverted photographic conventions and thayt signaled new formal relations to "truly modern" viewers.[40] The mobility and ambiguity inherent to both Wundt's corporeal semiotics and the Bragaglias' photodynamism permitted inventive forms to emerge, but they would have to contend with dual challenges: to define what was ostensibly indefinable and to still what was in motion.

Mobilizing Blur

Blur is the effect associated with unclear bounding and gradual transitions among the traces of objects, phenomena, or other data. Although it is not always associated with motion, blur has among its attributes a capacity to generate the effect of motion in a still medium, such as photography. The Bragaglias used this photographic effect to render the impressions of bodily motion. At a time when photography was gaining aesthetic status in Italy and abroad by virtue of its power to mimic the generic conventions of painting, the efforts of the brothers were an anomaly. They broke with aesthetic conventions with a visual system that contradicted technical tendencies in their field of photography oriented toward increased visual clarity and enhanced precision—manifested in the camera's ability to capture the frozen instant.[41] Beyond the field of photography, the technique of photographic blurring fits into a long lineage of presenting phenomenal and perceptual diffusion in the visual arts, such as J. M. W. Turner's images of atmospheric conditions, Eugène Carrière's evanescent portraits, and Medardo Rosso's figural distortions in wax. Unlike these earlier effects of diffused light and indistinct edges, the brothers' photodynamism incorporated the technical means for presenting a sense of the gestural and bodily motion by which figures appear to mutate into different

forms. Along with semiotic mobility, photodynamism created a sense of contextual confusion, given that their visual concerns overlapped the areas of photography, traditional artistic mediums, and scientific investigation. If the brothers saw photography as integral to the visual arts, their visual ideas were also scientifically rooted, so they straddled the separate worlds of art and science. Instead of avoiding ambiguity, the brothers indulged it, and the formal effects of gestural signs and photographic blur extended to the shifting contexts of interpretation.

This literal and conceptual blurring signaled a key difference between photodynamism and cubist visual decompositions. The analytical phase of cubism generated a distinct language of bodies that employed rigidly linear forms. Picasso's brittle figures from this period, such as *Girl with a Mandolin (Fanny Tellier)* (1910; Fig. 47), avoided extraneous psychophysiological flows, opting instead for arbitrary, nonmimetic forms. Unconcerned with depicting emotive directness, such figural decomposition turned the analytical reduction of the referenced body into an arbitrary visual code, abstracted from physicality, not unlike Wundt's symbolic forms. Drained of directly mimetic traits, his figures appeared lifeless even to his outspoken supporters: "Picasso studies an object like a surgeon dissecting a corpse," wrote Apollinaire.[42] Without parsing out the details of the visual subtleties of Picasso's approach, it is suffices to say that analytical cubism rendered the figure as a series of static signs—an effusive field of contiguous planes, frozen and devoid of movement. In *Portrait of William Udhe* (1910), Picasso diffused the expressiveness typically associated with the figure, and inscribing in its place an empty emblem of the sitter's persona. The schematic facial arrangement signifying Mr. Udhe acted as an ornament, floating on an architectonic armature of rectilinear marks. Picasso's dispersal of traditional figural codes was akin to Marey's biomechanical method, in that it also reduced the expressive depth of the body. The shattered surface of the cubist figure broke the prism of mimetic flow, and its bodily traces became arbitrary in relation to the figure's state of mind. Similarly adverse to emotive expressiveness, Duchamp used reductive figures that are not so much embodied forms as they are occluded from an emotive

source—as if performing their own insufficiency. The emotional failure embedded in both Picasso's and Duchamp's painting from this period amounted to their migration toward more conceptually developed forms of visuality. For photodynamism, by contrast, the overlap among demonstrative, indicative, and symbolic categories led to a version of figuration rooted in a surplus of expressive force.

Favoring multiple meanings and transitional forms, Wundt's semiotic model contained a source of disruption that he did not consider in his text on gesture. If symbolic forms can retain their earlier meanings, they can become effectively demonstrative, indicative, and symbolic all at once. We have already seen this flexibility with the bull gesture and with the Bragaglias' image *Searching*. What this means, in essence, is that simpler forms can be easily confused with more developed forms. For instance, demonstrative gestures may have symbolic meanings, but can still be taken literally, as when they constitute gestures with disguised meanings or when they are misinterpreted. In addition, demonstrative forms can purposefully avoid conceptual paths open to them, or else they might search for virtual paths not yet discovered. In effect, all signs become mobile, whether or not they explicitly change meaning along the axis of referentiality. What had been an advantage for Wundt's model—flexibility and mobility—creates a condition of multiplicity and movement that confuses the categories and that destabilizes the analytical focus of his semiotic research. One consequence of this complication is that a given image, such as the Bragaglias' *Changing Position*, can assume greater conceptual reach by employing a specific physical action to illustrate a more general case of activity. This movement from specific to general is one type of semiotic mobility based on the unclear anchorage between signifiers and concepts. Suggesting a similar conceptual complication, Anton Giulio described a sense of the pictorial specificity that photodynamism overtly resisted: "For photography, it has never been possible to render even the *concept*, the *general idea* of motion."[43] Their experiments aimed to show generalized behaviors shorn from particular contexts and bodies, and their descriptive titling

often highlighted a generalized nature of the activity—walking, searching, turning, and striking, for example. According to Anton Giulio, the movement from particular to general worked in tandem with photographic blur to support their aesthetic ideal: "As an image grows more distorted, it becomes less real, and hence more ideal and lyrical, still further abstracted from its own particularities and closer to a *type*."[44] Assimilated into a typology of motion, a photodynamic figure gained aesthetic cachet by "being itself a signifier of real life of every single life."[45] Through this generalizing ambition, they began to map a visual language of expressive movements in modern life across communicative and aesthetic systems, producing a style of bodily expression that was similar to the types of portrayals found in popular entertainment of the era, such as exaggerated reactions (e.g., *Greeting*), commonplace activities (e.g., *The Walking Man*), and emotional outbursts (e.g., *The Slap*).

Besides this general typology, another aspect of photodynamic images traverses the axis of gestural referentiality from demonstrative to symbolic: what the brothers' called their "polyphysiognomic" portraits, in which the head of a figure is seen in multiple from different perspectives that are superimposed within one frame. Take for example the generically titled *Polyphysiognomic Portrait* (1913; Fig. 48). The shift from a straight on view to lateral perspective is comparable to the extension of the figural profile in *The Walking Man*. Instead of fusing different phases into an undulating linear trajectory, however, this class of imagery pivots the sitter's head so that the multiple views appear to blossom from the vertical axis. Instead of the generalized action, such as salutation, the composite portrait was intended to be specific to the individual sitter. Anton Giulio directly addressed the topic of the individualized expressive image: "A gesture of an individual often summarizes their entire personality ... they [the rapid irregularities of the silhouette of a gesture] are essential and indispensable, on a par with a *tic*, any grimace, a way of writing, of walking, laughing, talking, acting, looking, etc."[46] The multifaceted portrait, like the gesture that signaled an "entire personality," gave an "essential and indispensable" view of a person, indicative of his or her

unique personality as with "a *tic*, any grimace, a way of writing." Pursuing the indelibly specific trait, the superimposed photographic portrait was thought to convey the psychic condition of a sitter, an idea that was consistent with the contemporary psychological discourse associated with multiplication. In Freud's writings, the photographic multiple provided an analogy for the psychic operation of condensation, specifically as it manifested in dreams. Writing in 1916–17, the psychologist stated: "The outcome of this superimposing of the separate [psychic] elements that have been condensed together is as a rule a blurred and vague image, like what happens if you take several photographs on the same plate."[47] The psychologist saw the blurred portion of the image as constituting superfluous or divergent elements, while the areas of stillness indicated to him continuity among discontinuous phenomena, which he analogized to common psychic associations. If the multiple portrait signified, for Freud, a method for finding commonality among different ideas, formal multiplication was, for the Bragaglias, a way to demonstrate significant individual deviations on an unchanging ground, as with a unique pattern of expressivity—the body's gestural signature, so to speak.

Expressive multiplicity also emerges in polyphysiognomic portraiture in terms of the psychic condition of creative thought and aesthetic emotion. In his book on photodynamism, Anton Giulio alluded to multiples identities within a gifted individual: "Because of that wonderful intuition that pervades our ultra-sensitive being, of men who live rapidly and feverishly, we have one hundred voices in us and one hundred *optical cerebral* and *sentimental* visions that mix, interpenetrate and unite with the reality of that present moment."[48] These "one hundred voices" and "one hundred visions" pertain to the imaginative forms produced within the people sitting for photodynamic portraits, who were generally artists, writers, and musicians. Believing that the creative person translates an inner multiplicity into visual, textual, dramatic, or sonic forms, their polymorphic mode of physiognomy resembles an idea expressed a decade earlier by Scipio Sighele (mentioned in chapter 1) that artistic genius is "the fruit of hereditary and unconscious labor of thousands and thousands of men."[49] By way of analogy, the teeming

crowd inhabits the mind and is expressed by the person's body—a multitude mediated by one. This analogy between the crowd and the multiplied figure of photodynamism makes more sense in the context of what Anton Giulio termed variously "revolutionary lyricism" and "magnificent chaos."[50] Describing the explosive, anarchic energies coursing through modern social body, this phrasing mimicked the assertive language used in the manifesto of futurist painters, which expressed a "cry of rebellion" and a desire to "rebel against" cultural traditions.[51] Embracing the disruptive potential of the Italian movement, Anton Giulio elsewhere wrote, "Futurism must signify anarchism wide, deep, comprehensive."[52] Within their methodical system for inscribing anarchic forces by mechanical means, the brothers hoped to trigger demonstrative action through their depictions of expressive flow. Like the futurist paintings that situate the viewer amid the crowd, as with Carlo Carrà's *The Funeral of the Anarchist Galli* (1911), photodynamic imagery intended to spark a correspondingly effusive response in the viewer: "The picture therefore can be invaded and pervaded by its subject's essence, can be obsessed by the subject to the extent that it energetically invades and obsesses the viewer with its own values."[53] A photographic subject's expressive force "invades" the image, and, subsequently, that image "energetically invades" the viewer with new values.[54] Denying rigid conventions of portraiture, their polyphysiognomic photographs alluded to social and historical disruption—composing a sort of demonstration of revolutionary social forces rooted in the visual structure of futurist photography.

Along with its psychic and social connotations, the Bragaglias' portraiture flirted with the metaphysical qualities of psychophysical multiplication. Evidencing rich inner experiences, the multifaceted portraits equated the light sensitive properties of photography with the sensitivity of the mind-body to register fleeting impressions. When Anton Giulio mentioned the "ultra-sensitive being" of those who hear a hundred voices, the sitter's sensitivity to a nonvisible realm was akin to a spiritualist medium.[55] The analogy of photographic medium and the sensitive body of the artist was not uncommon for avant-garde artists, even among

painters who were unconvinced of the aesthetic potential of photography.[56] Even the futurist Boccioni, who resisted the Bragaglias artistic efforts, metaphorically described the general personality of artists as having the sensitivity of a photographic plate: an artist, he wrote, must become a photographic plate to "effect and render plastic that which until now was considered incorporeal, unmouldable, invisible."[57] Similar to those premises informing spirit photography, the techniques of photodynamism were calibrated to show bodily and mental multiplicity. The impressions made on the artist-sitter by an invisible multitude, whether crowd or spirit world, hinged on bodily sensitivity (i.e., intuition), and the chemical and technical processes of the photographic medium underwrote that superimposed image of artistic-spiritual sensitivity. Likewise, the darkened room in which the images were made functioned as a stage set for revealing the occult qualities of creative and spiritual imaging.

A few portraits featuring Anton Giulio as the subject give a sense of immaterial persona occupying a murky visual field. *Figure under the Stairs* (1911; Fig. 49) poses him as an apparition under a staircase. Wrapped in a black garment and engulfed in darkness, the figure with its vampiric hand is repeated in series diagonally across the frame. Abruptly dropping into view like a funhouse scare, these discontinuous fragments are disconnected from a bodily orientation in physical space. This work aims less for gestural analysis and more for phantasmagoric effect, showing an almost cinematic ambition. An image from 1913 that also employed Anton Giulio as a model, *A Gesture of the Head* (Fig. 50) again shows the artist-as-subject against black—his visage floats atop a dark background, while dark clothes mask any extraneous figural impressions. In contrast to the polyphysiognomic portraits, this image does not superimpose distinct images in the same frame, but rather it gives a glimpse of corporeal agitation; its short, but continuous blurring indicates excited movement and the effect of continuation beyond the frame. This image's truncated trajectory of motion, unique in their works, constitutes a brightly illuminated form that rapidly trails off into a faint wisp, suggesting an ethereal presence akin to vaporous emanations in spirit photography. A

luminous cloud envelops the mouth, blowing like a comet's tail across its subject and gradually rising to engulf nose and brow. This icy deposit of the model's psychic interior obscures the terra firma of individual identity, but those submerged features bob back to the surface as mere hints of the unseen mass below. The receding angle of the sitter's face establishes a backdrop of identifiable traits against which vitalist motion is staged—moving abruptly forward and to the left. Anchoring the blurred shape conceptually, the work's title is somewhat more ambiguous and less explanatory than many of their other titles. An aesthetic enigma, the figure has an uncertain referential quality, oscillating between a uniquely individuated gesture and a conspicuous lack of specificity. It is the specific case that aspires to signify "every single life."[58] In contrast with the diagrammatic legibility of Duchamp's biomechanical formula, their blurred gesture visualizes excessive forces emanating from a body.

Photodynamism posed the polyphysiognomic portrait as a sort of shifting landscape of expressive possibilities, depicting aspects of inner experience. Anton Giulio explained it this way: "Every man and every landscape possesses their own **dynamic style**, in such a way that a representation without significance of the latter, is deprived of an absolutely indispensable thing."[59] Identifiable topographical features of a person were recorded by the brothers' method of photographic transcription. In *Polyphysiognomic Portrait of Boccioni* (1913; Fig. 51), an aggregate of the artist's personality derives from replicated features. As in their other dynamic portraits, the head's turning animates the image: Boccioni's unsmiling visage is quadrupled, including a faint rendering on the left side and one high-contrast profile on the right. Certain facial lines or traces are clearly inscribed, while others are obscured by illumination or darkness. Even as different cranial positions can be distinguished, the composite effect pushes the figural image toward the limit of recognizibility. Between two indistinct profiles, an undulating ellipsoidal surface maps an assemblage of features and intensifications—a mandibular depression anchors migrating bands of ears and noses, over which appears an ocular node with indelible brow. The superimposition of images creates a

complex interference pattern of indexical traces—a visual paradox exhibiting both opaque and transparent qualities. This ambiguity operates within different registers of Wundt's corporeal semiotics at once—demonstrative, imitative, and symbolic. The physicality of turning plays against a shifting object of attention, while symbolizing a discombobulating accumulation and diffusion of social and spiritual forces. The photograph documents a historical confrontation between the photographic apparatus and an individual who was deeply suspicious of the camera's invasion into the visual arts.

Until the middle of 1913, Boccioni approached futurism in the field of photography cautiously, tolerating the Bragaglias' efforts, as long as their work remained distinct from painting, sculpture, and the other established arts.[60] While Boccioni painted modern technologies and their psychological effects, such as in his series of paintings *States of Mind* (1911), he seemed uncomfortable affording new technology a role in the artistic process.[61] He probably considered the polyphysiognomic portrait of himself to be a technical trick, intended for promotional rather than aesthetic purposes. In fact, Boccioni mailed this polyphysiognomic image to editor Giannetto Bisi to illustrate an article on himself in the magazine *Emporium*, but the artist later requested that it be excluded from that publication.[62] With the increased attention paid to the Bragaglias' research and with the wider circulation of Anton Giulio's writings, Boccioni grew adversarial towards photodynamism in the second half of 1913. In both private letters and published writings, the artist opposed photography's inclusion in the avant-garde movement in general, and he singled out the views expressed by Anton Giulio as poor reflections of futurist ideas.[63] He would also organize an effort to denounce photodynamism, and an announcement rejecting the Bragaglias in no uncertain terms and excluding them from the movement appeared in *Lacerba* on October 1, 1913.[64] Yet, Boccioni's criticism of the medium appears to contradict his earlier involvement with photography and photodynamism.[65] This complicated reaction appears to have reflected a conditional acceptance of photography, hinging on an ingrained notion of hierarchy among visual

mediums—in which photography held an inferior status. The artist did not welcome the camera into the realm of futurist artistic practices, and his skepticism about the medium was likely exacerbated by a recurring criticism that employed the analogy of mechanical reproduction to describe the motion depicted in some futurist paintings.[66]

However, the main evidence to explain Boccioni's increasing hostility to photodynamism, and photography in general, comes from Anton Giulio's book, which made several bold claims that would have been difficult for Boccioni to accept. In the opening section of that text, Anton Giulio described the dependent relationship between photography and other artistic mediums: "We want to give the painting and sculpture of movement the firm foundations which are absolutely necessary today, foundations that we will demonstrate scientifically in what follows."[67] Saying photodynamism added to the foundation for other visual arts may have been unwise, but would not have been especially troubling to Boccioni. A similar statement appeared later when Anton Giulio asserted: "Photodynamism is declared to be exhaustive and indispensable, given that no precise means of analyzing the gesture exists."[68] The irreconcilable difficulty more likely arose from those passages that constructed more exclusionary claims. For instance, he stated: "It is only through our researches that it is possible to obtain visions that are, in the force of the images, proportionate to the very tempo of their existence and, moreover, proportionate to the speed with which they have lived in space and in us."[69] If photodynamism was the sole means to this modernizing vision, it implied that painting could not achieve this vision on its own. More explicit still was a remark aimed squarely at futurist painting: "A knowledge of the paths traced by bodies in action and of their transformation in motion will be indispensable for the painter of movement."[70] Although the text did not mention any painters by name, Boccioni was certainly considered at that time to be a "painter of movement." Perhaps the most problematic sentence on the subservience of painting to photography used that same exclusionary adverb: "Given the transcendental nature of the phenomenon of movement, it is only by means of Photodynamism that the

painter will be able to know what happens in the inter-movemental states that have been generated, and will become acquainted with *the* **volumes** *of individual motions*."[71] If Boccioni had been tolerant toward photodynamism for a time, Anton Giulio's belief in the preeminence of photodynamism in the development of modern painting would have been a strong reason why he rejected photodynamism and why he felt the Bragaglias should be dismissed from the movement.

Clearly, the Bragaglias positioned the camera at the center of the creative process, and, according to Anton Giulio, the photographic apparatus could capture the inner essences of people—it could make immaterial forces visible, following the biomechanical method. Although Anton Giulio insisted their research was distinct from Marey's, both projects assumed a direct correlation between psychic and physiological forces that the camera indexed.[72] Since the biomechanical method had been employed to depict the unseen, nonnaturalistic forces of the human body, they figured the technical apparatus might inscribe excessive energies as much as it could bracket them out—thus revealing a strange landscape populated with invisible essences. For Duchamp, the idea of strict psychophysiological parallelism was a logical fallacy—one that was well suited to undermining and obscuring traditional aesthetic codes—while, for the Bragaglias, the camera presented gestural multiplicity was a necessarily distorted truth. Another premise that resembled Marey's thinking was how Anton Giulio thought this photographic method would be "indispensable" for avant-garde invention. Alongside this sense of inflated relevance to the visual arts, photodynamism framed key visual and conceptual issues concerning representations of movement in futurism. For instance, to resolve an apparent contradiction between static representation and vital processes, the brothers fashioned a formal compromise at the intersection of gesture and technology: as figural elements are launched into motion, immaterial forces are purportedly anchored to tangible forms. The brothers explored a new domain of aesthetic possibility in the

interaction of the camera and bodily expressivity, and the photographic apparatus secured passage of corporeal signs among semiotic categories and among varied cultural contexts.

Mechanized Soul

After being expelled from futurism, the Bragaglias continued to pursue photography for a few months in an adjacent field of visual experimentation. In what may initially seem like a radical turn, they began to stage their own spirit photography. In addition, Anton Giulio published a few articles that analyzed spirit photographs, suggesting improvements for making them, and one text was illustrated by the brothers' photographs, which the author labelled "trick photographs."[73] The curiosity and seeming contradiction of openly faking spirit images has prompted some scholarly disagreement over whether the brothers were being ironic or sincere.[74] Before returning to this question of forgery, it is worth noting the prevalent popular and philosophical interest in occult phenomena, such as in the work of Henri Bergson and William James. Making the case for investigating spiritual truths, for example, Bergson prescribed "the science of mind-energy" to measure telepathy among minds and with the dead.[75] Similarly, the prominent Italian researchers as Cesare Lombroso and Angelo Mosso moved easily between scientific and occult claims, believing that unseen psychic and physiological phenomena could be documented using specialized technologies.[76] When the Bragaglias left futurism in the fall of 1913, they simply continued their research into immaterial emanations in a more explicitly occult context.[77] Their images of evanescent substances and otherworldly beings comprised a spiritualist turn that was not inconsistent with the ethereal assumptions of photodynamism, however. For instance, Anton Giulio's concept of multiplication—"one hundred [inner] voices" and the "multiplication of entities"—would later return in his writing as a phantasmal multiplicity: "In us there are a number of different psychic principles and different bodies that interpenetrate, and the visible body, considered from the psychic viewpoint, is merely the instrument of the invisible body."[78] This occult perspective

reflected their ongoing desire to reveal an invisible reality.[79] The spiritual phantasm resonated with the vitalist dimension of their aesthetic research—in pursuit of interior essences.[80] The expressive gestures depicted in photodynamism were not so different from the contortions of spiritual mediums, and the darkened interiors in which they staged their photodynamic images were similar to the dark rooms in which spiritualist séances were hosted. Likewise, their idea of simulating spiritual forces revolved around the system of technological inscription used to fuse physical and metaphysical forces.

Anton Giulio's forthright description of their "trick photographs" is not simply the case of coming clean about their process, but rather it amounts to his acknowledgement of a common technical premise for physiological research of the period. Nineteenth-century positivists, such as Lombroso and Mosso, wanted to inscribe the invisible forces of the body, thereby overcoming the apparent incongruity between interior truth and potentially deceptive appearances, more typically associated with a subject's capacity for fakery or forgery.[81] Technical devices and processes produced tangible images of intangible phenomena (even the deceased), suggesting a degree of objectivity afforded by faithful, automatic inscriptions.[82] Such implied truthfulness of the camera apparently fed a temptation on the part of researchers to create evidence of psychophysical correspondence. As mentioned in the previous chapter, Marey's biomechanical method generated experimental data rooted in a priori concepts of efficiency, so the issue of whether the data were literally used to refine physical activities cannot be separated from the set of assumptions informing the broader social project of increased productivity. This duplicity at the heart of Marey's indexical innovation can be attributed, at least in part, to a tension between the expressive capacities of the physical body and the automatism of the photographic medium. Given that the Bragaglias' work straddled between the contexts of science and fine art, it was in a position to uncover an expressive dimension embedded within Marey's biomechanical method, as well as to make explicit competing claims about photographic truth. In 1912, Anton Giulio compared photography's

expressive capacity to that of painting: “But I too can express the soul with the artificiality of my machine just as they can with the artifice of their brush.”[83] In the Bragaglias’ spirit photography, the camera aimed to artificially preserve immaterial traces in the face of pervasive physiological rationalization and mechanization. Their images from 1911–13 (futurist and non-futurist alike) recreate those psychophysical energies extracted from the productive body and banished from the modern workplace. Anton Giulio’s comment on trickery, and their research in general, occupy the historical context of various researchers constructing systems for rendering bodily truth—in their case, in its expressive dimension.[84] Whether their spirit photographs were intended to be ironic or sincere matters little, since the imagery functioned to counteract a fear—perhaps even a suspicion—that the modern body might be rendered devoid of expressivity. Staging activities that expressed the psychic interior, if only as a technical trick, was preferable to accepting the unsettling alternative: that the mechanized body would be deemed soulless. It is this paradox of mechanically faking vitalist essences—what I term the paradox of the mechanized soul—only makes explicit the technical manufacture of psychophysiological truths, and the brothers’ images of expressive gestures provided a corrective to the ideological framing of Marey’s method, by redefining the concept of invisible bodily forces that exceed understanding.

Balla’s visual fusion of technology and expressivity generates a paradoxical effect of mechanical expressiveness as well. Inspired by Marey’s chronophotography, his vehicular trajectories beginning in 1912 traverse the visual field as series of repeated elements, as mentioned in chapter 2. Rather than just transcribing the effects of the combustion engine, the artist’s approach to *mechanicity* registered a historical shift in perception prompted by the photographic apparatus. Originating from his investigations of physical objects and bodies in motion, his work shifted away from directly referential content in 1913. His compositions increasingly took on an abstract, expressive dimension, tracing such nonspecific trajectories as *Line of Velocity + Forms and Noises* (1913–14; Fig. 52) and *Abstract Velocity* (1914; Fig.

53). Although he continued to map motion, gone were references to cars or motorcycles or with landscapes, and gone was the anchorage afforded by more descriptive titles. *Line of Velocity + Forms and Noises* depicts the intertwining of motifs and shapes associated with the primary colors: blue emanates from the lower left corner in curvilinear waves that give a steady progression to the background; red lines sweep through the azure waves in the syncopated rhythm of the French curve; and yellow serrations reciprocate the generalized motion in rowdy fashion, drawing those other hues into its perforated boundary. Rather than literally depicting velocity, these conjoined formal qualities compose a pattern of coextensive sensorial intensities. In *Everything Moves* (1913–14; Fig. 54), this lyrical method of indexing simultaneous sensations on a flat plane has been transformed into a type of metaphysical principle, delineating the contours of ongoing change. The artist's title echoes a passage written by Marey, unknowingly perhaps: "From the invisible atom to the celestial body lost in space, everything is subject to motion."[85] Even as it preserved a connection to the scientist's ideas, Balla's *mechanicity* opened to a rich assortment of visual trajectories within an expanded interpretation of immaterial forces.

Originally proposed as a way to filter out unwanted distractions, Marey's radical approach to indexicality was tightly intertwined with the body's expressive capacity. It is not altogether surprising to learn that, after his decades-long effort to make visible the invisible, the physiologist's devices were used following his death to document spiritualist séances.[86] One counterintuitive idea informing his research would become apparent only after artists of the early twentieth century began to apply his method: his technological innovations centered on directing the forces of the human spirit. Stranger still, the concept—that the soul is bound up with mechanized routines—haunted a vitalist worldview that thought living essences existed beyond any mechanized system of inscription. For a moment, try to suppose a vitalist position relating to psychophysiological parallelism, in which the fully liberated mind remains at least partially obscure to analysis, since the essence of experience can never be fully

represented. Bergson presumes as much in his writings.[87] Taking this a bit further, now imagine how visual art could be made in accordance with this position. The works could still presumably comprise a materially productive system, since vitalism does not disavow physicality, and these objects may conceivably employ recognizable forms in order to index intangible emotions or psychic flows. But, because living essences cannot be fully contained, material production could only allude to them without presuming to reveal them fully. Under a vitalist regime, artistic practice could show expressivity only by composing forms that indicate a surplus beyond the system of representation (like a series of missing objects). The work would preserve bodily essences in absentia by failing to show them adequately, either by choice or by necessity. Following this line of vitalist thinking, visual artists would endeavor to compose purposefully failed simulations, since only failure or forgery can ensure the conceptual space for the emergence of living essences beyond materiality. A vitalist visual system could gesture toward an immaterial actuality that could not be presented (or even represented), or else the visual system could try to demonstrate this condition of representational absurdity, similar to masochism's "demonstration of the law's absurdity," as Deleuze put it.[88] Because expressive essences cannot ever be fully reproduced, visual representations might resolve this paradox through an absurdist or downright fraudulent revelation. In the paradox of the mechanized soul, the human spirit is doubly exposed within technological processes—through reductive and excessive modes of inscription.

While the Bragaglias' spirit photography clearly fits into this paradox, their futurist imagery likewise falls into it, by generating a machinic system for composing visual forms that signal the immaterial essences lurking just beyond reaches of the static image. Making use of gestural content, technical blur, and contextual slippage, their complicated system of semiotic mobility staged biomechanical performances of an elusive expressivity. In a similar vein, Duchamp submitted his creative process to the mechanized gaze, but his reductive application of the biomechanical method was a strategy to secure what it denied. He engaged in a form of

expressive occlusion that tried to guarantee aesthetic pleasure through its renunciation.[89] By adopting a rigid language of gestural expression (i.e., reduction and parallelism), Duchamp derived a system of formal and conceptual occlusion that, paradoxically, preserved the idea of the living essence by failing to represent it. By contrast, the Bragaglias, who were among the first avant-garde artists to appropriate the spiritualist séance into creative practice, attempted to directly document expressive behaviors, moving from generalized behaviors, such as greeting, walking, or slapping, to more specific, individualized gestures. Avant-garde photographers of the interwar period would adopt the séance as a symbol of collectivity: the surrealist Man Ray made *Waking Dream Séance* (1924), an image that included many prominent surrealists, and the futurist Mario Castagneri made a photographic composite in which the participants' hands at a table-turning séance have been fused with a turning roulette wheel in *The Turning Basin Overflows with Desires* (c. 1934). Unlike these later connotations of group identity, the Bragaglias isolated expressive flows at the level of the isolated figure though gestural activity, visual multiplication, and blurring. In its general structure, photodynamism outlines the historical convergence of technological innovation, bodily expressivity, and spiritual content—found in moving pictures and other popular entertainments of the period.[90]

In early 1913, while still a member of the futurist movement, Anton Giulio published a short text that imagined the technological presentation of spirits, yielding an alternate version of the paradox of the mechanized soul. "In the Year 2000" began with a reference to Éduoard Belin's telephotographic machine, which transmitted still images over a telephone line when it was unveiled in 1907.[91] The author wondered about a future invention (surely, by 2000) that would convey moving images of a speaker's gestural movements over a great distance. Tellingly, he considered not the practical benefits of such a transmission, but the emotional consequences of interacting with phantoms that would be visible from a distance. What if an angry viewer should see a phantom, he asked, "Won't there be the desire to slap him

immediately?"[92] Their photograph *The Slap* (Fig. 45) would appear to illustrate exactly this type of visceral reaction. The author then pondered love in a hundred years: "think of the kisses that the phantasms will give; of the agitations that will come if they do not find the shade!"[93] The prospect for pleasure would quickly dissipate, he contended, with a realization that these would not be actual persons but merely projections from afar. Reminiscent of their photodynamic portraits, these illuminated, transported bodies he imagined would enact psychophysical bursts of activity, before receding into darkness ("the shade").[94] Permitting corporeal and emotional interaction among distant entities, this fantastical medium of moving images resembled the occultist séance. He concluded that such long-distance telegraphic communication would not be enjoyable: "Oh! The torment of the nearby distance similar to the tortures of ... the most wicked futuristic Tantalus!"[95] This notion of tortuous experience continued into the text's final line, which supplied an unusual twist on the idea of phantasmal forces spawned by technology: "I think that within 100 years there will be a nocturnal, telephonic, anti-cinematographical love, in which minds abandon themselves to the madness of a deceptive hour, winding up as their own shadows, one inside of other, in the longing for a love that is just too phantasmagoric: so very spasmodically phantasmagoric..."[96]
Eventually, viewers would succumb to phantom love and, by inhabiting such deception, they would themselves become phantoms. Indistinguishable from unsatisfied longing, the prospect of telematic love was simply too fantastical, too spasmodic for him to consider further.

His imagined medium can be equated with our recent technical innovations, such as videoconferencing, or it can appear to have anticipated the arrival mid-century of the mass séance of televisual entertainment, however, his description of phantasmal screenings also paralleled contemporaneous developments in early silent cinema, describing what might be taken to be a vitalist interpretation of the film experience, "in which minds abandon themselves to the madness of a deceptive hour." This maddening deception engendered a shadowy realm where longing merges with their photodynamic desire to render inner essences. This article on

telematic forms supports the contention that their research was a type of para-cinema, a precursor to avant-garde film, and Anton Giulio elsewhere describes their futurist works as occupying a lineage of technical invention that was tied to “spiritual” innovations: “With Photodynamism, which registers what occurred between one stage and another, a work is presented that transcends the human condition, becoming a *transcendental photograph of movement*. For this end we can also envisage a camera which will render actions visible, more effectively than is now possible.”[97] According to him, their figural distortions mechanically reproduce a haunting vision of vitality, though a future apparatus would come to render expressive motion even “more effectively.” Apart from its transcendental supposition, photodynamism instilled a measure of ambiguity by oscillating between semiotic disclosure and spiritual occlusion. Their pursuit of gestural forms was a method for encrypting intangible forces as much as it served to disclose corporeal truths. Akin to the paradox of inaccessible essences, the Bragaglias’ system of gestural expressivity opened a virtual plane of movement that could be insinuated but never fully actualized. At the intersection of avant-garde aesthetics, technological mediation, and expressive emotion, their visual research counteracted reductive parallelism with a visual system based on the expressive excess.

Corporeal Writing

By removing an expressive dimension of psychophysiological processes, the biomechanical method pioneered by Marey showed a positivist commitment to the rationalization of bodily action. Despite espousing anti-illusionism, Marey’s method presumed to uncover a deeper correspondence between phenomena and their conceptual significance, and the mechanical means guaranteed the faithful rendering of the body’s forms: he claimed to be tracing “the handwriting of nature.”[98] The mechanical apparatus, along with its chemical processes, produced unfamiliar, nonnaturalistic images that supposedly revealed invisible actualities, and these automatic transcriptions were used to train the bodies and minds of

workers, athletes, and soldiers, as discussed in chapter 2. Extending this model of corporeal inscription, Luigi Pagliani's research on social hygiene (c. 1913) marked another advance in disciplinary biopolitics.[99] During this same period, the Bragaglias' anti-positivist approach visualized psychophysical outcomes capable of resisting productivist and hygienist models—outcomes allied with free will, unpredictability, and gestural expression.[100] Although the Bragaglias did not aspire, like Pagliani, to create a cohesive biopolitical program, they nonetheless composed an alternative vision of bodily productivity in which excessive forms generate and reallocate corporeal forces.

Photodynamism was a system of corporeal writing, in which the apparatuses of body and machine together produced a visual language of emotion, analogous to the automatism of the dancer's body.[101] If Marey transcribed bodily activities in terms of productive behaviors, the brothers imagined bodily inscription in a more literal sense. They made two images in 1911 of a figure at a typewriter (Figs. 55 and 56), including a vertical image showing a woman typing in profile and a horizontal close-up of hands operating the machine. Framed against a familiar black backdrop, the vertical version presents a woman seated at a table, and her hands shift in unison through successive phases: working the keys, hovering above the keys, and retracted until nearly touching her chin. This exaggerated, spatially extended gesture of typing yields an arc of movement akin to a ceremonial laying on of hands. Her pious gaze and downward looking face turns the activity of transcription into a seemingly devotional act, conceivably taking dictation from Anton Giulio, whose original book manuscript of 1911 had been typed.[102] Depicting secretarial work that was historically done by women, the image captures an emerging representation of woman in her capacity to assuage male fears about mechanical routines.[103] In the horizontal version, a pair of closely cropped, visually distorted hands are poised near the machine perpendicular to the table, another seemingly unnatural position for this human-machine configuration. Hovering in the air briefly before plunging into frenzied activity, the peculiar reptilian shapes of the hands lack human grace or individual

expressivity, implying a subtle form of debasement derived from the mechanized process. This curious human-animal-machine fusion captures a charged moment of automatic functioning, during which the unseen forces of language materialize. Certain prints of this photograph show the brand name Sun clearly visible on the side of the machine, further underscoring the power of words to guide the processes of mechanization; other prints have the name mysteriously blacked out, eclipsed, unconsciously reaffirming the nonverbal, communicatory dimension of gestural form. In both vertical and horizontal versions of their typist images, the camera mirrors the mechanical production of text, during which the figures assume unfamiliar positions and appear to be part animal and part machine. This strange alignment of the various levels of automatism (i.e., photographic, bodily, and linguistic) creates a sense of the psychic disruption, perhaps even the sense of lost mastery, emerging at the psychophysiological interface with automated writing systems.[104]

The issue of technical mastery also intersects with perceived gender roles in the Bragaglias' images of male musicians. For example, a seated guitar player, framed in close-up, handles his instrument with adeptness in *The Two Masterful Notes* (1911). Avoiding clear positions or noticeable lines of motion, soft traces of his hands billow forth in a blur of motion associated with expertise. In place of the functional task of typing, the image repositions bodily and visual automatism as the basis for sonorous production. An image from 1913, *The Cellist* (Fig. 57) is similarly premised on an expressive flow that moves from invisible mental processes, through the body and the musical instrument, and back into an immaterial form as music. As one of the musician's hands shifts vertically along the neck of the instrument, the other hand holding the bow draws long, smooth lines of a supernaturally elongated arm. Endowed with expressive form, the photograph becomes like a visual score tracing the extended lines of sustained attention. While the instrumentation in both images is a nod to cultural tradition (contrasting greatly with Russolo's idea for noisemakers), the Bragaglias' new graphical language of body activity was designed to automatically absorb the musicians'

actions into their adaptable system of biomechanical visuality. In a letter to Giuseppe Sprovieri on September 4, 1913, Boccioni mentioned photodynamism's graphic obsession, which was too closely allied with positivist methods, in his opinion: "It is absolutely right that distinction you made in the letter to Marinetti—it [photodynamism] imagines that we [futurists] have need for the graphomania of a positivist photographer of dynamism."[105] The term *graphomania* suggests an out-of-control mechanism of figural inscription and an overzealous, or even pathological, approach to corporeal writing. Plus, according to Boccioni, Balla had already made an initial attempt to escape schematic reproduction, superior to anything the brothers might make photographically.[106] The charge of mania notwithstanding, Boccioni's comment draws attention to a useful set of juxtapositions: Balla's images of corporeal inscription, both linguistic and musical, offer several points of comparison with imagery made by the Bragaglias.

The year after the brothers launched their photographic system, Balla visualized a chronophotographic musical sequence in the painting *The Hands of the Violinist* (1912), connoting a harmonious human-technology merger. His image creates the effect of increasingly abstracted impressions of bodily motion as it tracks the successive positions of a hand on the violin's neck from left to right—representing a concrete example of the more general shift in the artist's work toward formal abstraction. In both Balla's and the Bragaglias' images of musicians, the idea of manual dexterity softens the potentially jarring effect of mechanized perception. A few years later, Balla took the theme of bodily inscription in a very different direction with works on paper illustrating a theatrical performance, *Printing Press* (1914). Depicting stage performers mimicking the operation of a printing press, the figures in his sketches wear ink black outfits and they swing their arms, change postures, and enact mechanized movements. A separate sheet of notations lists the guttural, onomatopoeic sounds to be intoned by the actors while performing their respective mechanical parts. The unhinged rhythmic gestures imitate the relentless production of words, while repetitious

vocalizations approximate the continuous, chaotic sounds of the machine. Comparable to the Bragaglias' typists, the mechanized behaviors playfully dramatize the effects of mechanized production. Positioning language at the conceptual center of these works, Balla similarly equated the body with the machine—the automatism of one correlated with linguistic production of the other. For Balla and the Bragaglias, semiotic production involved physical routines as much as psychic ones, and the expressive excess of the modern body-machine was a source of corporeal writing to be systematically transcribed.

Futurist photodynamism presented a visual language of bodily movement that absorbed and redirected productive energies, while opening to an indefinite, immaterial realm of fantasy within and beyond futurism. According to Anton Giulio, all of the brothers' efforts would culminate in an immense captivating spectacle that bears striking resemblance to early cinema: "The day in which the different values existing in all our experiments can be fused into one single work of art, this will be a great work of art ... Then we will be able to portray the magnificent, immense palpitation of a rampant crowd: or an airplane competition or a battle."[107] Their system for representing figural motion would ideally produce an immersive effect resembling the genre of historical epic film that developed in Italy during the same years (discussed in chapter 5). Their photographic system imagined a "multiplication of entities," while the camera served as a phantasmal technology for indexing the production of gestures. For the Bragaglias, the spasmodic phantasmagoria took the shape of blurred figures, gesturing toward a vitalist dimension of modern experience that carried a greater potential for bodily expression.[108]

As the photodynamic figures traced the outlines of an emerging system of bodily vitality and impersonation, Anton Giulio provided an appealing argument for their interest in the invisible reality that floats free from materiality: "Where is the full evanescence of the figure that in dreams could fly and, through its movement, was taken away from its material, in order to become more diaphanous, more imprecise, and, I would say, more spiritual?"[109] By trying to

imagine that dream of taking flight from the physical body, their photographic works aimed to counteract skepticism concerning the spirit and to assuage what Bergson characterized as the positivist "anxiety of proof."[110] Following the bodily truths staged by Marey and his assistant Georges Demenÿ, the Bragaglias' lyrical language of human and machine cooperation shifted the key concepts behind biomechanical visuality—indexicality and automatism—towards those expressive forces overflowing the bodily container.[111] Especially as social and political volatility increased in Italy before World War I, futurist photodynamism managed to reconcile visual aesthetics and mass production by envisioning bodies released from the increasingly mechanized routines of work. This metaphysical turn, nonetheless rooted in modern technology and corresponding historically with large-scale cinematic production, became emblematic of a paradox associated with expressivity in an age of intense technological innovation, a paradox that prompted the forgery of the body's expressive essences.[112] Reworking Marey's concept of making the invisible visible, the Bragaglias' biomechanical results—whether performed or faked, whether demonstrative or indicative—provided tangible evidence of expressivity in the face of the more problematic alternatives, such as not adequately representing the human spirit or, worse, proving that it did not exist.

Notes

[1] Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in *Illuminations*, 1968, 236. This wording is somewhat different from the translation appearing in Benjamin, *Selected Writings, Volume 4; 1938–1940*, 2003, which reads (266): “It is another nature which speaks to the camera as compared to the eye.”

[2] Anton Giulio Bragaglia’s book *Fotodinamismo futurista* was published in three versions prior to World War I (December 1911, June 1913, and August 1913), and it was reprinted by Giulio Einaudi Ed., Turin, in both 1970 and 1980. The 1980 version is cited throughout this chapter; translation assistance was provided by Martina Caruso, and I also referred to a partial translation of the same text by Lawrence Rainey appearing in *Modernism/Modernity* 15, no. 2 (2008), 363–79.

[3] Datable to July 8, 1911 as listed on the back of the image. See Giovanni Lista, *Cinema e fotografia futurista*, 2001, 151.

[4] The term *excess* is also used in the context of biomechanical research by Suzanne Stewart-Steinberg, who refers to “his [Marey’s] drive to control excess” (2007, 145).

[5] The artistic works have recently been attributed to Anton Giulio and Arturo together, while the texts were authored by Anton Giulio alone. See Giovanni Lista, *Cinema e fotografia futurista*, 2001, 148. Different plural and singular forms for describing the attribution of their works and his texts have been used throughout this and other chapters.

[6] The quotation comes from Anton Giulio Bragaglia, *Fotodinamismo futurista*, 18. The terms appear in Ibid., 17, 18, and 38 (*arte*) and Ibid., 29, 32, and 35 (*le ricerche* or *ricerchiamo*).

[7] Anton Giulo stated (ibid., 35): “We are attempting to raise photography to the heights to which it is unsuccessfully striving to attain because it lacks the elements essential for such an elevation, constricted by the hierarchical criteria that make it conform to a precise reproduction of reality.”

[8] Ibid., 15.

[9] Ibid., 16.

[10] Anton Giulio Bragaglia, “L’Arte nella fotografia,” *La Fotografia artistica* (April 1912), 57.

[11] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 16–17.

[12] Ibid., 35 (original emphasis).

[13] Ibid., 34. He then reiterated their antirealist leanings (ibid.): “Further, our aim is to make a decisive move away from reality.” Returing to the idea of interiority, he later claimed: “it is on our current researches into the *interior* of an action that all the emotive artistic values existing in Photodynamism are based” (ibid., 36; original emphasis).

[14] Anton Giulio stated: “We have been able to observe that movement, destroying the external shape of bodies, exists only as a singular and pure trajectory, comprising only the *inner essence* of the object itself.” Ibid., 48 (original emphasis).

[15] Ibid., 27–29. For additional references in this text to chronophotography, see ibid., 26–27 and 33–34.

[16] Ibid., 15.

[17] He wrote (ibid., 25): “A gesture for us is a pure dynamic sensation which, in turn, is nothing other than the effect produced on our sensibility by its trajectory.”

[18] Ibid., 42.

[19] Marey, *Movement*, 1895, 183.

[20] Ibid., 172.

[21] The first of his ten-volume *Völkerpsychologie* was published in 1900, and it was first published in English as *The Language of Gestures*, 1973.

[22] A fourth category, called connotative gesture, is closely related to imitative gesture; Wundt, 1973, 84–86 and 129–30.

[23] Ibid., 90.

[24] Ibid., 66.

[25] Ibid.

[26] Ibid., 146.

[27] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 16–17.

[28] Wundt, 58.

[29] Ibid., 59.

[30] As cited in note 7, they had wanted to avoid "hierarchical criteria" (*i criteri ordinativi*). Anton Giulio Bragaglia, *Fotodinamismo futurista*, 35.

[31] Wundt, 57.

[32] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 15.

[33] Ibid.

[34] Ibid., 14 (original emphasis).

[35] Wundt, 74–75.

[36] Ibid., 130–32.

[37] On the lack of identifying traits, see Wundt, 101. For discussion of multiple meanings, such as the relation between signaling an action or its result, like the gesture referring to powder or the sprinkling of powder, see ibid., 103.

[38] Ibid., 130.

[39] Ibid., 110.

[40] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 15.

[41] Historian Tom Gunning investigates instantaneous photography at the end of the nineteenth century and early twentieth centuries in "New Thresholds of Vision: Instantaneous Photography and the Early Cinema of Lumière," in *Impossible Presence*, ed. Terry Smith, 2001, 71–98.

[42] Guillaume Apollinaire, *The Cubist Painters*, 1913, trans. Peter Read, 2004, 13.

[43] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 17.

[44] Ibid., 29.

[45] Ibid., 41.

[46] Ibid. (original emphasis).

[47] Freud, *Introductory Lecture on Psychoanalysis*, 1977, 211. Freud refers to the technique of photographic superimposition used by Francis Galton to reveal family resemblances among different persons. Similar references to Galton's composite portraits appears in Freud, *Interpretation of Dreams*, 1913, 117, 274, and 395.

[48] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 18.

[49] Sighele, *L'intelligenza della folla*, 39.

[50] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 37.

[51] "Manifesto of the Futurist Painters," 1910, in Apollonio, ed., *Futurist Manifestos*, 24–25.

[52] Anton Giulio Bragaglia's letter to E. Biondi, July 4, 1913; reprinted in appendix of Anton Giulio Bragaglia, *Fotodinamismo futurista*, 1970, 220–21.

[53] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 35 (original emphasis removed).

[54] Anton Giulio also linked figural multiplication with an accruing sense of value associated with a person or a body (ibid., 35; with original emphasis): "It is beyond doubt that such *multiplication of entities* will enable us to attain a *multiplication of values*, capable of enriching any fact with a more *impressive personality*." In this curiously straightforward equation, the value of "any fact"—in this case a person—increases by multiplying it visually. Citing the example of a dancer (ibid.), he appears to suggest that bodily acceleration yields a qualitative shift in the perception of that body. Photographic processes preserve these traces of expressive motion, so a thing or a person increases in value, appearing more impressive. Such a formula of aesthetic inflation speaks of biopower that relies on mechanical processes to be disseminated. It remains to be seen later in this chapter how this type of expressive

excess infuses images of technical proficiency, though his reference to “impressive personality” offers a clue: psychic mobility is a function of technological multiplication and dissemination, reminiscent of the emerging film industry.

[55] Ibid., 18.

[56] For example, in a notebook from 1910–11, František Kupka described the mind of the artist as “an ultrasensitive film, capable of seeing even the unknown worlds whose rhythms would seem incomprehensible to us.” Cited in Braun, “Anton Giulio Bragaglia: Photodynamism and Photospiritism,” 2003, 87.

[57] Boccioni, *Pittura e scultura futuriste*, 218.

[58] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 41.

[59] Ibid. (original emphasis).

[60] Boccioni’s attitude matched those of various avant-garde artists who expressed skepticism about mechanical forms, such as cubists Henri Le Fauconnier and Albert Gleizes, both of whom adopted stridently antitechnological views. For instance, see Henri Le Fauconnier, “La sensibilité moderne et le tableau,” in *Moderne Kunstkring*, Oct.–Nov. 1912, 17–27; republished in translation in Mark Antliff and Patricia Leighten, eds., *Cubism Reader*, 384–88. Also see, Albert Gleizes worked on an unpublished text called *La Machine-modernolatrie*, (cited in Peter Brooke, *Albert Gleizes: for and against the twentieth century*, 2001, 119).

[61] For Boccioni, the expressive codes of painting and sculpture should not make use of mechanical processes; his principles for visualizing psychic and physiological forces are discussed in depth in chapters 6 and 7.

[62] Lista, *Cinema e fotografia futurista*, 2001, 156. Giannetto Bisi’s article appeared in *Emporium* 39 (January 1914).

[63] Boccioni’s personal rebuke of photodynamism appeared in his letters to Ardengo Soffici, dated to July 1–17, 1913 (Boccioni, *Lettere futuriste*, 74–76 and 258–60) and Giuseppe

Sprovieri, dated September 4, 1913 (ibid., 87 and 268–72). Boccioni also rejected photography in general in his article "Futurist Dynamism and French Painting," *Lacerba* (Aug. 1, 1913): "Una benchè lontana parentela con la fotografia l'abbiamo sempre respinta con disgusto e con disprezzo perchè fuori dell'arte. La fotografia in questo ha valore: in quanto riproduce e imita oggettivamente ed è giunta con la sua perfezione a liberare l'artista dalla catena della riproduzione esatta del vero." ["We have always rejected with disgust and contempt even the remotest connection with photography, because it is outside art. Photography is valuable in one respect: it reproduces and imitates objectively, and, having perfected this, it has freed the artist from the obligation of reproducing reality exactly" (reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 110)]

[64] The announcement was dated September 27, 1913, and it was signed by Umberto Boccioni, Carlo Carrà, Giacomo Balla, Gino Severini, Luigi Russolo, and Ardengo Soffici.

[65] Along with sitting for the Bragaglias' photograph, Boccioni experimented with the medium years earlier, composing one of the earliest examples by an avant-garde artist of the multiple photographic self-portrait, *I–We–Boccioni* (1906).

[66] In an article about Boccioni's work, critic Henri des Pruraux decried the photographic medium that presented a type of mechanical deception: "its ugly lie ends by taking the place of reality." Pruraux, "Il sogetto nella pittura," *La Voce* 4, no. 44 (October 31, 1912), 13. He continued, "L'istantanea, e la sua aggravante: il cinematografo, che dirompe la vita, sballottata in un ritmo precipitoso e monotono, sarebbero per caso i due nuovi classici in favor dei quali i futuristi proscrivono i maestri dei musei?" (ibid.). Also, Roger Allard dismisively of futurist painting in 1911: "Vous tous qui avez un cinématographe dans le ventre qu'il n'est pire folie que de vouloir fixer le mouvement, raconter l'analyse des gestes, que la matière plastique est composée de lignes et de volumes d'équations et d'équilibres et que toutes le jongleries sont

inefficaces à donner l'illusion du rythme!" Roger Allard, "Les Beaux Arts," *Revue indépendente*, no. 3, Aug. 1911, 134.

[67] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 13.

[68] Ibid., 29.

[69] Ibid., 28.

[70] Ibid., 30.

[71] Ibid., 32 (original emphasis).

[72] On the assurances of differences between photodynamism and chronophotography, see Anton Giulio Bragaglia, *Fotodinamismo futurista*, 27–29. He also admits their technical commonality (ibid., 26): "If it [photodynamism] can be seen as the link between photography, cinematography and chronophotography, it is only because, like these, it [photodynamism] is part of the larger field of photographic sciences, given that this acts as the common denominator in terms of technical means, because they are all based on the general physical properties of the camera."

[73] Anton Giulio Bragaglia, "La fotografia dell'invisibile," *Humanitas*, no. 51 (December 21, 1913); reprinted in the Appendix of Anton Giulio Bragaglia, *Fotodinamismo futurista*, 1980, 247–51.

[74] Giovanni Lista frames the admission of faking the spirit photographs as a consciously tongue-in-cheek approach: "Anton Giulio then ironically fabricated 'trick photographs' of apparitions, also organized séances and spiritistic meetings, which he defined as 'a joke'" (Lista, *Futurism and Photography*, 2001, 28). Braun does not subscribe to this idea of complete ironic detachment when she writes: Although he uses a tone that is often incredulous and sarcastic … nevertheless it is clear that he has made serious study of the literature and this scepticism comes from an informed belief … that it is possible to record a transcendental reality with a camera (Braun, 2003, 91). Tom Gunning has noted: "Bragaglia

did not claim his 'spirit photographs' to be medium-induced impressions of the spirit world. He confessed they were staged. However, he also claimed that they gave a more reliable image of the spirit world than the supposed products of the spirit themselves" (Gunning, "Haunting Images: Ghosts, Photography and the Modern Body," in *The Disembodied Spirit*, ed. Allison Ferris, 2003, 16).

[75] Elected President of the Society for Psychical Research in London, Bergson addressed the society in May 1913; the lecture is reprinted in Bergson, *Mind-Energy*, 1921, 60–83.

[76] At end of his life, Lombroso researched paranormal phenomena, publishing *After Death—What?* (1909). Suzanne Stewart-Steinberg gives an overview and revisionist account of Lombroso's turn to spiritualism; see Stewart-Steinberg, *The Pinocchio Effect*, 268–71. Physiologist Angelo Mosso conducted laboratory research on measuring vasomotor reactions, and his plethysmograph was a device he invented to measure the "movement of the soul," according to Mosso; see David G. Horn, *The Criminal Body: Lombroso and the Anatomy of Desire*, 2003, 117–22.

[77] Art historians sometimes refer to their work as dematerialization, yet no materiality was lost when the phenomenal or phantasmal traces of objects or events were depicted. Subverting a natural appearance of the body was not the same as defying its materiality.

[78] Anton Giulio Bragaglia, "I fantasmi dei vivi e dei morti," *La Cultura moderna, Natura e arte* (November 1913), 756; cited in translation in Lista, *Futurism and Photography,* 2001, 28.

[79] As cited above, Anton Giulio Bragaglia links unreality with an artistic aim (see notes 8 and 9).

[80] A contemporary of the Bragaglias, critic Giovanni Di Jorio associated their aesthetic with spiritual elevation: it was "based upon a special knowledge of art and based on high essence of soul." ["basato sur una speciale conoscenza dell'arte e fondato in un'elevata essenza

d'anima." Giovanni Di Jorio, "L'Arte fotografica dei fratelli Bragaglia," *La fotografica artistica*, July 1912, 109.

[81] An exceptional historical study of scientific methods and apparatuses is David Horn, *The Criminal Body*, 2003. Among other related topics, Horn discusses how devices, such as Lombroso's pleythysmograph, were invented to determine who was faking illness, and this type of "truth-telling" technology occupies a place in the genealogy of the lie detector test (ibid., 129).

[82] Tom Gunning observes that modern recording mediums are premised on the idea of presenting the past, including those deceased: "We are constantly in communication with the dead through their moving images and voices captured and preserved by the modern media. Presenting us with a simulacrum of the living, our technological images might also speak to us of our own death. But whether they also carry the consoling message of survival remains dubious" (Gunning, 2003, 17).

[83] Anton Giulio Bragaglia, "L'Arte della fotografia," (February 1912), reprinted in Appendix of *Fotodinamismo futurista* (1980), 223.

[84] As Giovanni Lista observes of futurist photodynamism, "The photographic lie becomes a projection that suggests a tangible truth" (Lista, *Futurism and Photography*, 2001, 28).

[85] Marey, *Animal Mechanism*, 1883, 9.

[86] This research was conducted by Jules Courtier in 1907–1908. See *The Perfect Medium: Photography and the Occult*, 2005, 253.

[87] In *Time and Free Will*, for example, Bergson claims that, when the study of mechanics tries to capture motion, it retains only the measurement of motion, which is immobility (ibid., 119), but "we cannot make movement out of immobilities" (ibid., 115). In a more abstract vein, he extends the general idea: "Consciousness, goaded by an insatiable desire to separate,

substitutes the symbol for the reality, or perceives the reality only through the symbol" (ibid., 128).

[88] Deleuze, *Masochism*, 1971, 77.

[89] Duchamp's deadpan humor assumed the forms that correspond with a masochistic logic, which, as Deleuze pointed out, demanded punishment up front in order to find satisfaction later. Deleuze writes, "The masochist regards the law as a punitive process and therefore begins by having the punishment inflicted upon himself; once he has undergone the punishment, he feels that he is allowed or indeed commanded to experience the pleasure that the law was supposed to forbid" (Deleuze, *Masochism*, 77).

[90] Jeffrey Sconce documents the strong historical correlation between technological development and spiritualism in the nineteenth and twentieth centuries, and he investigates the close relations between technological development, occultism, and popular entertainment. Sconce, *Haunted Media: Electronic Presence from Telegraphy to Television*, Duke University Press, 2000.; see Sconce, *Haunted Media* (2000).

[91] Anton Giulio Bragaglia, "Nell'anno 2000," *Patria*, January 26, 1913; reprinted in the Appendix of Anton Giulio Bragaglia, *Fotodinamismo futurista*, 1980, 240–41.

[92] "Ma se il fantasma interlocutore sarà vicino, in caso d'ira, non verrà voglia di schiaffeggiarlo subito?" (ibid., 240).

[93] "O, al contrario, pensate voi ad un amore fra cent'anni: pensate voi ai baci che i fantasmi di daranno: alle smanie che loro verranno per non trovare che l'ombra!" (ibid.)

[94] The emanation of the lover appears from and disappears into darkness capturing certain seductive qualities of astral bodies, as in Laforgue's poem "Encore à cet astre" ("Once More to this Star," c. 1882) or, later, Balla's images of cosmic traversals. In 1914, Balla made a series of works called *Mercury Passing in front of the Sun*. Also, the intersection of technical and sexual trajectories resembles Duchamp's "headlight child," cutting a hopeful swathe into

darkness; the phrase “headlight child” appears in his 1912 note (sometimes called “Jura-Paris Road”), appearing in his project “The Green Box,” 1934, and reprinted in translation in Marcel Duchamp, *Salt Seller: The Writings of Marcel Duchamp (Marchand du sel)*, 1973, 26–27.

[95] Anton Giulio Bragaglia, “Nell’anno 2000,” in *Fotodinamismo futurista*, 1980, 240. Tantalus was one of Zeus’s sons who was caught deceiving the gods, and he was punished by having to stand under an apple tree in a lake. If he reached for the fruit, the branch would move out of reach and if he stooped to drink, the water would recede. [“Oh! Le torture della vicina lontananza simili a supplizi di ... futuristici sciaguratissimi Tantali!”] While the original Italian word appears in the plural form, the singular form in English is preferable to the less clear translation *Tantaluses* or *Tantali*.

[96] “Io penso fra cent’anni un amore notturno, telefonico, anticinematografico, in cui le menti si abbandonino alla follia di un’ora ingannatrice, cosí da avvoltolare le proprie ombre, l’una dentro l’altra, nella bramosia di un amore troppo solamente fantasmagorico: tanto spasmodicamente fantasmagorico...” (ibid., 240–41). Bragaglia is suggesting a dynamic, personal medium of interaction, which, somewhat confusingly to contemporary readers, seems cinematic. However, implying vitalist movement, the word *anti-cinematographical* of course derives from the negation of cinematographical form, which Bergson thought was a type of static representation, such as when he wrote, “The mechanism of our ordinary knowledge is of a cinematographical kind” (Bergson, *Creative Evolution*, 1907).

[97] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 34.

[98] Marey, *La machine animale*, 1886, 5.

[99] Foremost Italian social hygienist Luigi Pagliani published his major two-volume work in 1913 advocating more open designs for physical spaces to promote fitness and to enable a more efficient disciplinary gaze: *Trattato di igiene e di sanità pubblica: colle applicazioni alla ingegneria e alla vigilanza sanitaria.* 1913. Also, in 1913 French social physician Edouard

Vaillant opened a research lab to study fatigue in labor routines and to analyze the supposed connection between physiology and radical political views. In “Cleansing the Nation: Italian Art, Consumerism, and World War I” (1998), Oliver Shell discusses Italian cultural forms of social and public hygiene, such as in advertising, and their relation to the work of futurist Carlo Carrà’s work.

[100] Anton Giulo insisted on the difference between photodynamism and Marey’s method: “The difference is revealed that runs between the photographic mechanicity of chronophotography—as nascent and rudimentary cinematography—and the tendency that Photodynamic possesses to abandon such mechanicity, following its own ideal, completely opposed to the preceding aims” (ibid., 29).

[101] Stephane Mallarmé describes the dancer La Cornalba as creating “a corporeal writing” (*une écriture corporelle*) that was a nonsymbolic form of immediate emotional expression; Stephane Mallarmé, “Ballets,” *Oeuvres completes* (Paris: Gallimard, 1965), 304. For Anton Giulio, the dancer also exemplifies “that wonderful intuition that pervades our ultra-sensitive being” (Anton Giulio Bragaglia, *Fotodinamismo futurista*, 35). Among other notable performative systems invented to correspond with the modernized body were those developed by Vsevolod Meyerhold, Oskar Schlemmer, and Rudolph Laban.

[102] An illustration showing a page from the original typed version (corrected by hand) appears in Anton Giulio Bragaglia, *Fotodinamismo futurista*, 1980, 149.

[103] Andreas Huyssen examines the mediating role played by women in *Metropolis* (1927; dir. Fritz Lang): for instance, Maria provides the libidinal force necessary to construct the female android and, then, to help the workers to adjust to a new technological regime. “The Vamp and the Machine: Fritz Lang’s *Metropolis*,” in Huyssen, *After the Great Divide*, 1986, 65–81.

[104] The typewriter is among the spectral technologies from the nineteenth century that historically revealed, and antagonized, dominant modes of subjectivity in Friedrich Kittler's *Gramophone, Film, Typewriter*, 1999.

[105] Boccioni, *Lettere futuriste*, 88 and 268–72. ["È giustissima la suddivisione che tu fai nella lettura a Marinetti—immagina dunque se abbiamo bisogno della grafomania di un fotografo positivista del dinamismo."]

[106] Ibid. The letter reads: "It is vain futility that damages our aspirations for liberation from the *schematic* or *successive* reproduction of stasis and motion. / The primary initiation of which Balla HAS DONE. That will certainly be superior." ["È una presuntuosa inutilità che danneggia le nostre aspirazioni di liberazione dalla riproduzione *schematica* o *successiva* della statica e del moto. / Per l'iniziazione elementare quello che Balla HA FATTO. Quello che farà sarà certamente superiore."

[107] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 42.

[108] Of course, almost fifty years earlier, Marx attributed a mysterious, phantasmagorical quality to the commodity form. Karl Marx, section "The Fetishism of the Commodity and its Secret," in *Capital*, Vol. 1, 1976, 165.

[109] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 25.

[110] Bergson, lecture to the Society for Psychical Research, London, May 1913; republished in Bergson, *Mind-Energy*, 1921, 82.

[111] In the lecture to the Society for Psychical Research in 1913, Bergson remarked: "The more we become accustomed to this idea of a consciousness overflowing the organism, the more natural we find it to suppose that the soul survives the body" (ibid., 78).

[112] This is a counterargument to Tom Gunning's portrayal of spirit photography as an indication of the de-corporealized modern body (Gunning, "Haunting Images," 2003, 14–15): "There is more than the dialectical drama of desire and disillusionment being rehearsed in the

uncanny [spiritualist] photographs. Their evocation of a state of disembodiment and their challenge to photography to represent such a state, seemingly beyond the grasp of visuality, provides a powerful emblem of the fate of the body in the modern age. To grasp this new modern range of imagery devised to portray (and in a sense create) a new concept of the body and its energies, one might compare a chronophotography by Étienne-Jules Marey, a conventional spirit photograph with superimposed 'extras,' and the avant-garde photodynamism of Futurist Anton Giulio Bragaglia."

4. The Mechanomorphs

> Long live the Machine that mechanizes life!
>
> —Luigi Pirandello, *Shoot!*[1]

From the last decade of the nineteenth century until World War I, artistic representations of unrestrained scientific and technical invention increased in the visual arts and in literature both in their frequency and in the intensity with which they depicted the effects of mechanization. The two previous chapters analyzed different artistic applications of Étienne-Jules Marey's biomechanical method, which reconceptualize the human body in order to support and extend its productive capacities. More specifically, I looked at how Marey's principles for indexing bodily motion were redirected by the Italian futurists Giacomo Balla and the Bragaglia brothers, as well as by Marcel Duchamp and František Kupka, toward diverse interpretations of those invisible bodily forces that Marey had identified. For these artists, the body often constituted a source of vital energies that contrasted with and even resisted the techniques founded on scientific rationality. Even though the automatic processes of photography were integral to these assorted visual systems, I have argued that concept of expressivity—the body's inherent capacity for expressive activity—constituted a central premise for representing the modern figure, both aesthetically and scientifically. While the artistic strategies based on Marey's method were rooted in the forms, devices, and conditions of mechanical inscription, their biomechanical images largely avoided framing technology as content. If the aim of those chapters was to redirect the art historical discussion of early futurism away from the analogy of the machine, this chapter approaches technology in a more direct way, by investigating those avant-garde images—in literature and the visual arts—that depict the human body through concrete references to machinery, industrial processes, and other technological content. To underscore the differences between biomechanical principles

and machine iconography, particular emphasis is given to those technological figures in which the purportedly natural body, or its anatomical parts, have been displaced by artificial components. Instead of mechanically tracing the movements of the human body, as in biomechanical imagery, the machine becomes fused with the body, both in terms of influencing its behaviors and in terms of infiltrating its essential structure, as many artists manifested an interest in technological themes and motifs by depicting human-machine fusion.

Imagery depicting an intersection of human and machine elements in a unified anatomical structure—or *mechanomorphic* figures—moved to the fore with Auguste Villiers de l'Isle-Adam's tale of the perfected female *android* (1886), and this type of imagery continued across artistic mediums and genres well into the interwar period, such as in Karel Capek's play about unruly *robots* (1923).[2] Amid this broad chronology, in the years just before the First World War, the artistic imagination reflected a sense of more profound disruption concerning the integration of humans and technology—both in the sense of the internalization of machinic forms and in the sense of the externalization of the human will. At this time, futurism intersected with this mechanistic lineage at various points, including the works of F.-T. Marinetti, who was a leading voice agitating for a radical renovation of humanity through technological means. After recounting the images of mechanized bodies in Marinetti's texts before World War I, I turn to those visual examples that came closest to imagining an anatomical integration of the machine, such as in works by Wyndham Lewis, Jacob Epstein, Marcel Duchamp, and Francis Picabia. Following this overview of mechanomorphic figuration, I analyze a special class of machinic figure that responded to innovations made possible by new methods of mechanical reproduction—the camera-man. Mediating a complicated set of relations between bodies and machines, this particular body-machine fusion invented a type of mechanomorphic body that stands alongside the human-motor configuration as a significant motif of modernization. While the fusion of the camera and the human body was implied in the biomechanical strategies adopted by the Bragaglia brothers and others, this thematic structure

was taken up explicitly in Luigi Pirandello's novel *Shoot!* (1915), a text that explores some of the psychological effects of the mechanized body. After beginning with a clear dichotomy between biomechanical and mechanomorphic figuration, I complicate this division by analyzing the human-camera composite, which not only exhibits another type of human-machine fusion, but which also mediates between indexical processes and symbolic referentiality. Images of figural fusion were symptomatic of a period in which the processes of industrial modernization were experienced to be intensifying, and they represent a key site for artists who were affiliated with avant-garde practices to stage responses to the broader sociohistorical shift, such as by highlighting psychophysical routinization and, in some cases, by presenting the complete transformation of the human body.

Figural Fusion

In the founding manifesto of futurism in 1909, Marinetti adopted the theme of the speeding automobile to support his vision of intoxicating velocity and voracious industrial development. The launch of this cultural movement coincided with an account of his deciding to speed into the night with his friends loaded into a car. Exemplifying the rejuvenating effects of technical innovation, the automobile was a recurrent symbol across his literary works, symbolizing the subjective experience of being transported into a new awareness.[3] In this sense, his automobile motif did not involve logistical matters, since he did not plan to arrive anywhere specific, physically or geographically. It was, instead, the generalized perceptual condition of speed that mattered to him. Wyndham Lewis recounted a conversation with Marinetti in London during which Lewis wondered why he always talked about machines, pointing out that the British had had them for decades. Marinetti replied, "You [British] have never understood your machines! ... Have you ever traveled at a kilometer a minute?"[4] He argued that the world looked different at that speed: "You see a thousand things instead of one thing," according to Marinetti.[5] The perceptual effects of this rapid movement inspired, for

Marinetti, a completely altered worldview. The perceptual disruption prompted by automotive speed would have probably also entailed being physically jostled within the vehicle as it traveled along unpaved roads, as illustrated many years later in the opening sequence of the avant-garde film *Les Mystères du Château de Dé* (dir. May Ray, 1929). This correlation between the automobile and the medium of film was, in fact, not far from Marinetti's thinking: the automobile and cinema were both technologies he used to metaphorically describe his conceptual technology of words-in-freedom, a compositional principle for dislocating linguistic meanings through the force of analogy.[6] One of the major considerations, for him, concerning of vehicular speed was that it composed a constantly changing perspective on the world, producing a structure of relentless imagery that functioned like an alternate mode of cinematic perception. Returning to his 1909 manifesto, vehicular velocity was among the literary devices he used to convey the experience of achieving a transformed awareness, but it did not presuppose a mechanized world per se. Not simply an inanimate object that proceeded automatically, the automobile assumed living, breathing forms, first as "three snorting beasts" and later (when disabled in a ditch) as "a big beached shark."[7] In fact, his mechanized imagery shows a pronounced tendency to contradict a mechanistic understanding of physical forces, in that he often depicted a panvitalist panorama of modern life, in which all things, technology included were animated by the principle of organic life. This fusion of machinery and biology manifested in other texts by him as more explicitly mechanomorphic forms.

In Marinetti's novel *Mafarka the Futurist* (1909), the eponymous main character circumvents biological reproduction by designing a giant mechanical son to be produced by a large number of workers with varying specializations. Presented over the course of the text as a form of creative self-insemination by Mafarka, the young Gazourmah comes alive as a perfected, supernatural being, a motif that fits comfortably alongside other literary instantiations of the emergence of nonnatural entities, such as those produced by scientific or alchemical experiments, for example. The giant-sized newborn is ceremonially welcomed by

his father's futurist motto: "Love yourself above everything else in the world ... Act in such a way that today's reality is more beautiful than tomorrow's achievable dream."[8] With large artificial wings, the mechanical-child soars into the sky, like a modern Icarus that has become indomitable and immortal and that no longer suffers human foibles. This type of invented humanoid being derives from technological innovation and embodies a new perception of the world, but it also comprises a distinct species. As such, Marinetti's image of mechanization gravitates toward a parallel discourse of evolutionary biology, and the physical and psychic forms sparked by machines engender distinct biological taxonomies. Likewise, in "Extended Man and the Kingdom of the Machine" (c. 1910–15), he describes a love of machinery that announces a reproductive aim: "we aspire to the creation of a nonhuman species."[9] Rhyming this procreative desire with the more typical idea that artistic and scientific innovations require an increased sense of autonomy, the author coupled, in the same text, biological and technological processes by describing "the formation of the nonhuman, mechanical species of extended man, through the externalization of his will."[10] The extended power of the human will is equated to becoming nonhuman. Shifting to an evolutionary paradigm, he portrays the ongoing human encounter with technology as enabling physical changes to human anatomy: "we declare that in human flesh wings lie dormant."[11] A dimension of virtual anatomies opens to the human through such technological extension, and these human and machine hybrids that imagined through phylogenetic and ontogenetic modes of differentiation—becoming machinic both by birth and through ongoing metamorphosis. Because of this promiscuity of forms, manifesting an unremitting drive toward anatomical revision, Marinetti's vision of living machines is rooted in a mode of biological pluralism, in which the human being comprises an indefinite category that eludes definition, while seizing opportunistically on new inventions and integrating them into its essential structure.

Analyzing the machine imagery in Marinetti's works, Hal Foster identifies a double logic of prosthesis that both extends and constricts the human body.[12] According to Foster, the

machinic structure produced exaggerated forms of figuration once the natural body had become problematic for those modernists who were intent on revising the languages available for presenting the human form, sometime after the turn of the twentieth century.[13] Within "the machinic imaginary of high modernism," Foster says, this prosthetic logic entailed a form of psychic trauma experienced by the individual ego, which produced the mental forms of aggression and armoring respectively.[14] Bound psychically ever more tightly and increasingly haunted by the potential for explosive disruptions, the generic (male) subject turned to more extreme displays in order to subdue others and to protect itself. Circumscribing a repressive structure in the individual ego, the machine created an image of the modern world that served to obscure an awareness of the socioeconomic conditions underlying material production.[15] This crisis manifested in Marinetti's works according to a machinic–mental configuration that underwrote both its aggressive instinct and a paranoiac fear—that together would later come to characterize the rigid hierarchy and violent outbursts of an authoritarian society. The poet wrote of an affiliation with the engine in 1914 that not only organized individual bodies, but also substituted a machinic structure for chaotic social systems: "Great human masses, a sea of protesting arms and faces, can sometimes give us a frisson. But we prefer, by far, that great feeling of solidarity within an obliging motor that is utterly reliable and well regulated."[16] This human-machine alliance of futurism delineated "the cultural politics of the machine," Foster notes.[17] The prosthetic dichotomy prefigured fascist subjectivity and produced a model of psychic and social machinery, such that Marinetti's images of mechanomorphic fusion (while effacing biological origins) reinforced behaviors and ideas that marked an important step in the genealogy of an authoritarian way of thinking. According to this extended logic of prosthesis, the conceptual structure of the human-machine hybrid was analogous in some respects to historical developments in Italy that led to the rise to power of the fascist party and that was complicit with such developments as military aggression and intervention in World War I, as well as the postwar activism of war veterans, workers, and youth. If a caricatural dimension of

Marinetti's texts lends itself to this generalized historical analogy, his mechanistic structure of psychic repression and violence also represents an extreme version of the mechanomorphic body.

Pictorial engagement with human-machine figures was most pronounced in avant-garde works made outside Italy by artists unaffiliated with futurism. Notably, British artist Wyndham Lewis, who picked up on Marinetti's affirmations of technological inventions, espoused a version of this machinic theme, even though he would remain a vocal critic of the Italian movement. For instance, in 1914, he decried the futurists as being overly dramatic and sentimental, at one point singling out Marinetti who "hammers away in the blatant mechanism of his Manifestos, at his idée fixe of Modernity."[18] Yet, Lewis also stated: "Machinery is the greatest Earth-medium: incidentally it sweeps away the doctrines of a narrow and pedantic Realism at one stroke."[19] Although he celebrated modern machinery in various guises and purposes, he asked frankly: "Cannot Marinetti ... be induced to throw over this sentimental rubbish about Automobiles and Aeroplanes...?"[20] Lewis's concept of mechanistic forces involved an unsentimental reduction of human and formal qualities into rigid, essential forms. The imploding composition of *The Vorticist* (1912; Fig. 60), for example, frames a claustrophobic arrangement of elements that press an entomological figure into an increasingly confined area of the otherwise blank page. Divided into progressively smaller cellular units, this body with its disjointed posture and its divergent limbs inhabits an exoskeletal enclosure that both protects and constrains. Such spatial restriction creates a sense of isolation: cut off from its surrounding environment, the figure enacts a type of psychosocial differentiation. In Lewis's *Two Mechanics* (c. 1912; Fig. 61), two figures standing in front of an airplane glance over their shoulders in the direction of the viewer. The similarity of their stilted, masculine poses suggests that they form comparable, perhaps interchangeable units, etched by the physical and technical demands of work. A double protrusion of propeller equipment above their heads reiterates the idea of bodily doubling, further reinforcing the

visual logic of their functional anatomy. For this artist, the mechanical figures' well-delineated anatomical segments provide an analog for utility and technical proficiency, in which the human body adapts itself to needs of a machine that both symbolizes "in a greater or less degree, a living thing" and constitutes an idealized version of an energetic human.[21]

Diverging from this technically proficient body, Lewis also repeatedly equated the crowd with machinery. In the second issue of the journal *Blast!*, he wrote: "The People are in the same position as the Automobile. They would smile sometimes, if they could!"[22] In the same text, he stated: "Men were the first machines, just as insects were the first artists," and machines "are no better and no worse than men."[23] Mechanization, thus, assumes a dialectical form that involves both technical excellence and an unredeemable quality of automatism apparent in the general population. Criticism leveled by Lewis at the futurists included what he called their hypocritical support for the crowd, which meant that they had misunderstood the individualistic and undemocratic qualities of fine art.[24] Their affiliation with the general population appeared to him to be impractical and imprudent. Visually formulating his distaste for an unrefined populace, Lewis's image *The Crowd* (1915; Fig. 28) extends his earlier idea of figural interchangeability into an urban field populated by insectile people, spilling into and out of hive-like urban structures. In this patriotic crowd, the anonymous bodily ciphers generate a matrix of unlimited repetition and growth, circulating through and around buildings, pulsating with effusive emotions. In contrast with his individuated technicians, the crowd-machine represents a basic psychophysical type that is active, mobile, and passionate and that acts impulsively, like thoe futurists who endeavored to merge with and represent it. According to Lewis, "the effervescent, Active-Man, of the Futurist imagination would never be a first-rate artist."[25] In his novel *Tarr* (1916–17), he reaffirmed the view: "Anything living, quick and changing is bad art, always."[26] The individual artist might be a purveyor of machines, living or dead—becoming technically proficient in the machinery of the crowd and even wading into its currents—but the artist can never surrender an inherent self-awareness. In Lewis's

visual and literary system, individual rationality permanently held mass sentiment at bay, remaining committed to static images that did not presume to be an effusively modern. While the futurists had aimed to put the viewer at the center of the crowd, Lewis wanted to occupy (metaphorically) the stillness at center of the vortex, an idea that served to counteract both the activism of futurism and the mobility of the crowd.[27] His mechanomorphic works from 1912 illustrate a commitment to technology that constituted a nonsentimental, critical response to modernization that avoided Marinetti's exaggerated optimism, as well as the mechanics of mass hysteria. Similar to the futurist leader, however, his prewar figuration was committed to reaching past human failings and to exploiting the transformative power of technological processes for the individual.

Perhaps the most extreme images of figural mechanization during the prewar years were composed by American-born British artist Jacob Epstein. Industrial processes emerged in his works as a nightmarish, monstrous possibility, rather than as a positive evolutionary adaptation. If Marinetti endorsed the transformative effects of technology, Epstein exaggerated the negative consequences inflicted on the body by inhuman routinization. In *Study for The Rock Drill* (c. 1913; Fig. 62), a full-length figure is melded with a drilling apparatus, so that their intermingled extremities resemble the legs of a single mechanized quadruped. On the realization of his large mixed-media sculpture of this same figure, he later noted: "My ardour for machinery (short-lived) expended itself upon the purchase of an actual drill, second-hand, and upon this I made and mounted a machine-like robot, visored, menacing, and carrying within itself its progeny, protectively ensconced. Here is the armed, sinister figure of to-day and to-morrow. No humanity, only the terrible Frankenstein's monster we have made ourselves into."[28] His monster of mechanized labor is rendered without human qualities, excepting perhaps its mammalian form of reproduction. Reminiscent of Marinetti's mechanical-child motif in *Mafarka the Futurist*, Epstein's mechanomorph carries its own offspring within itself; it is self-sufficient in this respect, implying a type of autoeroticism. The combination of

actual machine and abstract figure produced what, for one critic at the time, was an "irreconcilable contradiction" that gave an "unutterably loathsome" effect.[29] If the inhuman presence of the machine-body was readily apparent to viewers, this was part of the aesthetic challenge posed by Epstein's work, according to T. E. Hulme, which depicted "emotions which are, as a matter of fact, entirely alien and unnatural to the critic."[30] Hulme proceeded to remark specifically on *The Rock Drill* (1913–15; Fig. 63): "People will admire the *Rock Drill*, because they have no preconceived notion as to how the thing expressed by it should be expressed."[31] The condition of mechanization could not have been part of the critic's (or anyone's) experience, so the bizarre fusion would have provided a new form onto which viewers could project their responses to the unsettling effects experienced in the process of industrialization.

Epstein brought machinic precision and material permanence to this same machine-body motif in *Torso in Metal from the Rock Drill* (1913–14; Fig. 64). Cast in bronze, the form contains smooth, hardened features that include telescopic neck, chiseled rostrum, and shell-like plating. As with the other versions of this composition, the planar flatness of the head occupies the position typically reserved for the face, thereby vacating the area typically associated with expressing emotion. Also, a utilitarian wedge attached at the left elbow of the metallic figure replaces the anatomical sequence of forearm, wrist, and hand. By eclipsing human qualities, the severity of the sculpted image continues to ring a note of dissent toward industry. Also, his titles refer neither to the figure nor to its vocation, as with Lewis's titles, but rather to the machine itself, a defining element for his version of the "menacing" and "sinister" industrial worker. While Marinetti's images signal a desire for physical invulnerability, Epstein's bodies search for the prototypical mode of human debasement by technological routines. With its literal depiction of pulverization, his machine-man also stands for the diminishment, or even loss, of the human spirit that has been gradually turned to dust by modernization. If the severity of the works was intended to be critical of technology, his works held an apparently conflicted fascination with the machinic, since, although this body appears to be inhuman, it is

nonetheless imagined to have physical and material qualities that make it more capable of withstanding modern forces. In this sense, both Marinetti and the sculptor visualize figural exaggerations in order to chart a basic dichotomy between human vulnerability and mechanical strength. Despite its negative connotations, the anatomical fusion apparent in Epstein's group of works provided the artist with a vocabulary of geometric forms that he extended to many of his other sculptural works, such as *Venus, second version* (c. 1914–16; Fig. 66). The machine-human fusion operated within an ensemble of formal qualities (such as simplified volumes and minimal surface treatments) by which the sculptor reinvented the human figure and redirected its visual potentials into geometric ensembles.

As I explored in chapter 2, Duchamp rerouted the processes of automatic perception (i.e., the camera) into the medium of painting when he employed indexical principles to map an occlusion from passionate emotional engagement. This period of exploration was inspired conceptually by the idea that it was undesirable, even impossible, to preserve expressive qualities of the human body. The artist would also treat mechanization in a more referential manner, and the symbol of the automobile, for instance, became a recurrent motif in his drawings, paintings, and written notes. His drawing *Two Personages and an Auto* (1912; Fig. 67) depicts male and female figures separated by a semi-abstract vehicle, and this small work formed the basic visual schema for his painting *King and Queen Traversed by Swift Nudes* (May 1912; Fig. 68), as well as for his studies for that work. In *King and Queen*, the trajectories of vehicular motion create a visual analogy paralleling the psychic and physiological conditions related to the sexual drive, by which erotic mechanisms are loosely diagrammed. Elsewhere, the automobile excursion provides the theme of a series of notes from 1912 (written in his characteristically elliptical style), centering on a long distance trip along the Jura to Paris road. Inspired by an actual road trip along that route with his friends Francis Picabia and Guillaume Apollinaire to visit Picabia's fiancée Gabrielle Buffet, these notes diagram the passion of reuniting lovers, and they contain clear sexual connotations. For

instance, they read at one point: “the graphic means / to obtain this machine child, / will find their expression in the use / of an endless screw.”[32] Similar to Marinetti’s idea of biotechnological creation, Duchamp imagined a divine machine-child born from the mechanics of erotic desire. The humor found in his earlier biomechanical trajectories continued in the context of vehicular velocities, thereby extending the earlier issues of emotional lack into the conceptual field of sexually driving and coupling. For Duchamp, automotive and mechanomorphic forms entered the psychosexual terrain of incessant sexual flows to generate the effects of dislocation and potential misfirings. They also prefigured his later more metaphorical machines that likewise allude to erotic desires and constantly defer union. For instance, akin to Villiers de l’Isle-Adam’s female android, Duchamp’s *Bride* (August 1912; Fig. 69) visually manifests an anxiety associated with human-human contact (i.e., on a wedding night) by employing a strategy that diagrams the mechanomorphic female figure through a variety of fragmentary and encrypted forms. By repeatedly displacing the desired object, Duchamp initiated a set of compositional strategies that eventually led to his *Large Glass* project (1915–23).

Beginning in 1915 with a series of mechanical images presented as portraits, Picabia was another artist to envision the substitution for the human body by the machine. These works subvert the visual strategies often associated with expressive portraiture, such as pose, likeness, and physiognomy, with mechanical modes of inscription—tracing found images of machines and using graphical elements more common to typesetting. In multiple senses, he assimilated the mechanical to the human—by filling the space of figural expressiveness with machinic parts and by mechanically transcribing pre-existent forms. Associated with the photographer Alfred Stieglitz, for instance, *Here is Stieglitz here* (1915; Fig. 70) humorously replaces naturalistic likeness with the mechanical drawing of technological elements. Reinforcing this playful conjunction is a pairing of the automobile control—the brake—with a camera stretched beyond its capacity—the broken. The mixing of photographic and vehicular

technologies generates a sense of logical incompatibility, implying inoperability or stoppage. The supine camera, symbolizing Stieglitz's ambitious efforts, extends toward the word *Ideal* printed in Gothic script at the top of the page, but its distended bellows become disengaged after encountering the break/brake. The image's subheading spells out "faith and love," presumably in reference to the American, but these abstract ideals are at once evidenced and defiled by the mechanical depiction. In *Portrait of a Young American Girl in a State of Nudity* (1915; Fig. 71) and *The Saint of Saints* (1915; Fig. 72), the artist again uses automated forms of transcription, but here they insinuate sexual desire in a manner similar to the aesthetic of his close friend Duchamp.[33] For these artists, mechanical diagrams channel and redistribute those invisible forces that compose the automatic functions within the human body, most notably sexual desire.

Across Picabia's mechanomorphic portraits, the humorous displacement of individual identity gives visual expression to a prevailing fear of, and a resistance to, machinic processes. Using incompatible elements—portraiture and machinic diagrams—the artist renders a series of sophisticated jokes in a language of social representation. The divergent types of human and machine components is structurally homologous to a traditionally hierarchical visual system, by which the portraits of bourgeoisie and working class are calibrated to distinguish individuals from general social types.[34] In this series of images by Picabia, the productivity of the machine disrupts one of the privileged sites for exhibiting social status (i.e., the portrait), while symbolically threatening an assortment of psychosexual dysfunctions, as with Stieglitz's "stoppage," which connotes impotence.[35] Also, the machine imagery plays the effects of mass reproducibility off of the broader context of mass biological reproduction (i.e., mass society), whereby the familiar codes of the body are irrevocably transformed. As Picabia rhymed aspects of portraiture with the symbols and the processes of machinic production, he addressed the textual and visual registers of his imagery with a

similar sense of (Duchampian) deadpan that manifested those visual strategies that composed absurd possibilities according to a series of figural and textual substitutions.

Futurist visual artists working prior to World War I did not make images that explicitly depict human-machine fusion in the vein of Marinetti's extreme forms, though these artists did transcribe numerous symbols of vehicular forms and other modern technologies. For instance, Luigi Russolo composed *Dynamism of an Auto* (1912), Balla created a series of works related to the velocities of automobiles and motorcycles (1912–14), and Boccioni documented trams in *Forces of the Street* (1911), as well as a series of bicyclists (1913). Implicating the psychological effects of modern travel, Carrà's *What the Tram Told Me* (1910–11) and Boccioni's series *States of Mind* (1911) imagine the visual space within which the effects of technology are linked with the decidedly human processes of perception and memory. Avoiding exaggerated human-machine fusions, the futurist visual artists did not, however, express suspicion for mechanistic imagery (excepting Boccioni). Given the common association between futurism and technology, it is striking the extent to which the other futurists resisted the most radical, mechanomorphic visions that appeared in Marinetti's writings. His prosthetic logic barely informed the visual works of early futurism. Indicative of this lack of convincing evidence by futurists, Hal Foster tellingly uses British artist Wyndham Lewis as the visual counterpart to Marinetti's literary works. Instead of exhibiting the same tendencies toward psychic aggression and armoring, the most prominent visual forms of the futurist body hinged primarily on its reconfiguration through the automatic processes of the camera. The Bragaglias' photographic images of overflowing energies, for instance, composed an evanescent blurring that counteracted rigidly mechanomorphic structures. Notably, Foster's psychoanalytical model of prosthesis signals a volatile configuration in the prewar avant-garde, but it also precludes other strategies of machine-human integration. For instance, Marinetti's hyperbolic version of anatomical substitution remained distinct from the aesthetic applications of the biomechanical method. In lieu of a prosthetic model, the dominant

forms of futurist visual practice operated through a model of energetic discharge.[36] Although futurist visual works and those works based on more extreme technological imagery can be loosely separated into the categories of biomechanical and mechanomorphic figuration, these categories are not completely separable, and, to some extent, these different image types remained in dialogue.

To begin to articulate the formal principles linking biomechanical and mechanomorphic forms of figuration, I refer back to the futurist productive crowd, which articulated a sense of group identity based in the context and routines of work. The physical and psychological effects of labor on the human body offered one lens to understand different approaches to figuration and technology. Boccioni's *The City Rises* (1910–11; Fig. 7) envisioned how specific jobs were imprinted onto the human and animal bodies that generate a surplus of productive energies to inspire urban construction. In contrast to the outpouring energetic forces in futurism, the visual logic of mechanomorphic figure established a different visual analogy between bodies and machines. Unlike Boccioni's preference for the traditional building trades, for example, the worker-machine configurations of Lewis and Epstein implied an intimate relationship between the body and modern industrial practices, resulting in technical specialization and even suggesting a culmination in the creation of new species. If futurist productive figures tended to radiate into their surroundings, the more contained man-machine forms direct bodily forces into symbolic and geometric forms. Often resolving around anatomical segmentation and the containment of bodily flows, mechanomorphic imagery generally remained distinct from the indexical processes of photography, as demonstrated by the Bragaglias' ambitious investigation of gestural expressivity. Starting in 1911, Anton Giulio and Arturo Bragaglia developed strategies for picturing the human figure, but, while Anton Giulio announced that the camera was inherent to visual innovation (infuriating futurist painters in the process), the idea of mechanomorphic substitution is missing from their indexical imagery. Only their images of typists imagine the mechanically proficient dimension of bodily

activity (Figs. 55 and 56), in which a direct interface between bodies and tools can be charted.[37] While the photographic apparatus underwrote a conceptual shift toward indexical processes for these artists who adapted Marey's scientific method, the camera would likewise mediate a shift in representations of human and machine interaction from biomechanical processes to mechanomorphic substitutions.

Becoming Machine

The psychological problems associated with new, alienating ways of life and different types of social interactions comprise one of the prominent themes for Luigi Pirandello throughout his career, and his short novel *Shoot!* frames this theme in the context of the young film industry. This text assumed different published and unpublished forms over many years, though its main structural and thematic maturation occurred in 1914–15, contemporary to the early phase of futurism.[38] Set in early twentieth-century Rome, the text takes the form of journal-style notebooks kept by camera operator Serafino Gubbio, nicknamed Shoot![39] The story captures a creeping sense of uncertainty, even angst, associated with widespread industrial development, and the first-person narration assumes a detached, reflective tone of self-reportage that reinforces the underlying tone of estrangement, while foregrounding the film camera's mechanical perception. A statement by Serafino about passing near a caged tiger neatly summarizes his general anxiety about modernity: "The man who does not feel calm must feel afraid." This anxiety is relieved, albeit temporarily, by a desire for greater emotional detachment and increased mental control. Mimicking the impassivity of the camera, Serafino gets drawn ever further into the process of psychophysical mechanization. His provisional resolution to his inner conflict (i.e., becoming detached from the world) arrives early in the text, but assorted difficulties with this solution arise, such as the sentimental and dysfunctional attitudes of other characters, his own irrepressible desires, and the tragic and comical situations in which he finds himself. His emotional coldness manifests as increasing

psychic and social dysfunction, culminating in tragic events that he might have prevented from happening and to which he responds by withdrawing completely from the world—into a catatonic state. Set in a milieu of technological innovation, Serafino's vocation as cameraman triggers and reinforces his experience of estrangement, leading the character to take the form of a mechanomorphic figure. Although the descriptions and the narrative trajectory rely on machine imagery, film cameras are also depicted as being akin to wild animals: they are, he says, ruthless beasts that instinctively devour human souls.[40] The cameraman plays an ambivalent accomplice to this voracious creature by remaining emotionless as he cranks its handle and feeds it more film stock. By running mechanicity through the concept of animal instinct, Pirandello opens the mechanomorphic cameraman up to a network of automatic processes and mechanistic forms that mediate between diverse versions of what it meant to be human.

In the opening pages of *Shoot!*, mechanization forms a kind of obsession for the main character. In response to a question about the special talents required by his vocation, the cameraman says the most advantageous quality is impassivity, continuing ironically: "they will succeed in eliminating me. The machine—this machine too, like all the other machines—will go by itself. But what mankind will do then, after all the machines have been taught to go by themselves, that, my dear Sir, still remains to be seen."[41] Fully expecting to be eventually replaced in an automated workplace, Serafino maintains emotional distance from his colleagues and his filmic subjects, in turn, making him appear more detached and machine-like. Immediately after that conversation, there is a diaristic passage on automation, outside of narrative time, that represents one of the most vivid artistic images of mechanization from that period. Although poets had deified their feelings in the past, today's deities are made of metal, he calculates. This dichotomy between poetry and machinery, between vitalist and mechanistic philosophies, is punctuated by his disembodied voice proclaiming, "Long live the Machine that mechanizes life!"[42] This cheer of feigned support is immediately contradicted by

his strongly cautioning against the pernicious effects of technology: these “monsters” enslave humans, devouring their hearts and minds and giving them “exquisite stupidities” in return.[43] He warns of an undefined looming catastrophe, before launching into his retelling of the story that begins the year prior with his taking the film job. Over these first few pages, Pirandello creates a montage effect of distinct voices in multiple times—shifting from conversation to a voice outside of narrative time and, then, to the chronological start of his tale. Proceeding as an analogy of industrial modernization, the story recounts Serafino’s entry into the film world, and his determination to do his job well, in spite of its strange effects on him. The camera is both alien and familiar to him, and he gradually comes to fully identify with it, achieving a machine-like condition of complete emotional detachment by the end. Attempting to be a model citizen in the modern world, he affects a lack of emotion in the face of human affairs, becoming a machine that devours any remnant of his own humanity. While the camera coincides with this viscous cycle of unfeeling, mechanical behavior, it would be incorrect to claim, as some critics have, that this is an explicitly antitechnological novel or an overt negation of futurist ideas.[44] An monstrous mechanomorphic conversion does indeed transpire, but this fusion of human and machinic processes occurs in a psychologically complex manner that reveals different tensions and resolutions along the way.

If the novel at times negatively portrays the film industry and its mechanical forms, there is more going on with the camera-man configuration than the simple substitution of parts. There is evidence within and beyond the text that contradicts the interpretation that Pirandello’s work rejects technological innovations. First, the author does not assume a moral stance with respect to technology. The narrative chronicles Serafino’s struggle to come to terms with conditions that produce anxiety, but it avoids presenting his actions in terms of a clear moral decision (excepting perhaps the tragic denouement).[45] This character would not necessarily be better off if he had decided to not enter the film industry or else if he had acted more responsibly in certain situations, for example. Quite simply, there are no attractive

alternatives for the character to resist this pervasive modernization and to counteract his own mental deterioration. As a story of estrangement, it moves gradually, and seemingly mechanically, toward its apparently unavoidable conclusion. Pirandello allows the narrative machinery of body-machine fusion to run its course. If the cameraman symbolizes a figure whose internal conflict is symptomatic of deep uncertainty, his increasing sense of estrangement can even be interpreted as an understandable response to the forces of modernization. Rather than criticizing technology directly, Pirandello frames tough questions about the social disruption and the emotional adjustment entailed by the processes of modernization, and these questions are related to machines, but not confined to addressing their effects. Second, even if Serafino identifies the camera as the main culprit in his transformation, it is not at all clear that machines are truly responsible for his psychological break. Throughout this story of filmic estrangement, the reader occupies a position from which to distinguish between his exaggerated rhetorical claims and the evidence of his emotional dysfunction. Instead of taking an ethical position against technology, thereby surreptitiously asserting beneficial human qualities, Pirandello plainly offers the various phases of figural deformation as though they are part of a gradual process of machine-human integration, a sort of slow-motion sequence of inevitable bodily and psychic transformation.

Exemplifying the generalized theme of estrangement across Pirandello's novels and plays, *Shoot!* uses the film camera as the narrative device that serves to make a pervasive condition more acute for the actors, for the film production personnel, and for the viewers alike. The automatic perception of the machine becomes a potent symbol of, and an extended allegory for, a character's dissolving individuality. Citing Pirandello in his famous artwork essay, Walter Benjamin describes the estrangement of an actor in front of the film camera as being analogous to the loss of aura inherent in mechanical reproduction.[46] In his short novel, Pirandello similarly described the experience of actors in front of the film camera with a sense of detachment that Benjamin later associated with loss of aura:

> Here they feel as though they were in exile. In exile, not only from the stage, but also in a sense from themselves … They are confusedly aware, with a maddening, indefinable sense of emptiness, that their bodies are so to speak subtracted, suppressed, deprived of their reality, of breath, of voice, of the sound that they make in moving about, to become only a dumb image which quivers for a moment on the screen and disappears, in silence, in an instant, like an unsubstantial phantom, the play of illusion upon a dingy sheet of cloth.[47]

The people in front of the camera submit to being transformed into fleeting projections on a screen, but such figural artifice renders a vacuous subject, signaled by "a maddening, indefinable sense of emptiness." The strange exile imposed by film leads to uncanny misrecognition, such as when an actress is "speechless and almost terror-stricken at her own image on the screen, so altered and disordered. She sees there someone who is herself but whom she does not know."[48] Elsewhere, Serafino muses that, even if the camera could record the authentic actions of people unbeknownst to them, "Who knows how ridiculous they would appear to us! Most of all, ourselves. We should not recognise ourselves, at first ... To see how one lived would indeed be a ridiculous spectacle!"[49] It is the filmic medium that makes phantoms of the living. Just as the camera removes an expressive depth from acting and from living reality, the cameraman himself internalizes this perceptual automatism that flattens the world into miniature reproductions of vivid impressions. Serafino begins to experience unfolding events in the world as simulacra, thus circumventing his habitual emotional responses. This mechanized figure records events—authentic and staged—without becoming entangled in the psychosocial and emotional effects of the unfolding human drama.

Pirandello's narrative provides several points of reference for the history of early Italian futurism, and this text gradually moves through a series of aesthetic solutions that are analogous to certain futurist images and texts. The idea of historical rupture, prevalent in many futurist manifestos, is expressed in an early passage of the novel: "I ask myself whether really all this clamorous and dizzy machinery of life ... has not reduced the human race to such a condition of insanity that presently we must break out in fury and overthrow and destroy everything. It would, perhaps, all things considered, be so much to the good. In one respect

only, though: to make a clean sweep and start afresh."[50] As with the futurists, Serafino prefers to embrace disorienting change than to deny it. At one extreme, his desire for authentic experience expresses a vitalist philosophy that appears to be antitechnological. For example, he decries rational analysis, creating an implied linkage to film: "You have killed it. The most you can do now is to dissect it. / Life is not explained; it is lived."[51] This vitalist belief resembles Boccioni's criticisms of cinematic and cubist analysis: "The analysis of an object is always made at the expense of the object: that is, by *killing* it ... It is scientific analysis that studies life in a cadaver."[52] Of course, as discussed previously, Boccioni was also opposed to the encroachment by the photographic apparatus into the domain of artistic practice, such as with the Bragaglias' photodynamic research. In addition, when Serafino describes the exposed film reels as containing "the products of our soul," his sentiment echoes, albeit with cautionary intent, Anton Giulio Bragaglia's idea of spiritual inscription: "The picture therefore can be invaded and pervaded by its subject's essence."[53] In their optimistic approach on body-machine interaction, the Bragaglias purportedly presented the human soul in *A Gesture of the Head* (1911; Fig. 50) and in their other polyphysiognomic portraits (Figs. 48 and 51). In *Shoot!*, the film camera captures emotional processes, but that represents an unsettling outcome for a maladjusted camera-man, who combines Boccioni's vitalist suspicion of machines with the Bragaglias' first-hand experience of the mechanized soul. Coming closer to Duchamp's images of biomechanical reduction than to the Bragaglias' effusive energies, the novel explores the psychosocial consequences of film with an ironic detachment that purposefully minimizes human expressivity. For Pirandello, the film camera cannot reproduce naturalistic perception, and it distorts reality, presenting the physical body in unfamiliar ways and leading to inescapable psychic disruption. His camera-man hybrid blends reductive and excessive modes of biomechanical figuration, while combining both the artistic strategies that used the indexical processes of the biomechanical method and those that signify the symbolic and anatomical displacements of mechanomorphism.

Alongside Serafino's polemical visions of becoming machine are more equivocal positions concerning the mediation of the human body and mind by mechanistic processes. For example, his friend Pau points out to him that the body can be imprinted with automatic behaviors and engrained attitudes: "We may easily fail to recognise ourselves in what we do, but what we do, my dear fellow, remains done: an action which circumscribes you, my dear fellow, gives you a form of sorts, and imprisons you in it."[54] An accurate, if also unintentional, encapsulation of Serafino's transformation into a man-machine, Pau's observation affirms an imprisoning correlation between body and work: an ideological mechanism imprints vocational forms onto the sensitive corporeal medium. Like biomechanical reduction, the camera manifests a type of emotional and sociohistorical estrangement, and the worker-machine figure represses the outpouring of expressive forces. As a composite of automated routines, the cameraman becomes confused about his own identity, and he begins to blur the distinction between material actualities and phantasmal projections: "Was there an I there then that now no longer existed? … I, no, I was not there; albeit, not being there, I should have found it hard to say where I really was and what I was, being thus without time or space."[55] Sparked by the cinematic mechanism, his dysfunction causes him to misapprehend his position in the world, leading to the disintegration of his understanding of unified identity: "We have all of us a false conception of an individual whole. Every whole consists in the mutual relations of its constituent elements; which means that, by altering those relations however slightly, we are bound to alter the whole."[56] In a 1913 article, Anton Giulio Bragaglia conjectured a similar idea of blurred boundaries and multiple identities, yet, for Anton Giulio, bodily multiplicity manifested a spiritual reality of interconnectivity, while it is a symptom of psychic disruption and social withdrawal manifested in the character of Serafino.[57]

Amid his recurring mental disorientation, Serafino develops images of himself with different anatomical features that throw into question his physical make-up, and even his awareness of his own existence. At one point, while readying the camera to film, he thinks: "I

prepare my machine for its meal ... I cease to exist. It walks, now, upon my legs. From head to foot, I belong to it: I form part of its equipment."[58] Through a catena of mechanomorphic substitutions, the mechanical parts of the apparatus colonize his body. Finally, dispossessed of his mental faculties, the camera even displaces his head: "My head is here, inside the machine, and I carry it in my hand."[59] His emotional detachment has intensified through stages of suspicion, delusion, and disassociation to the point that he imagines that he is lugging around his own mechanized head, like a piece of film equipment. It is image of anatomical displacement that symbolically decapitates, rendering him nightmarishly inhuman—simultaneously mechanized and undead. With a vocational proficiency that is similar to Lewis's mechanics, Serafino is transformed into a figure no longer recognizably human, much like Epstein's drilling figures. In another powerful image of human-machine integration, Serafino describes a sort of mechanomorphic incubation in the darkroom during the chemical processing of exposed filmstrips: "We are as it were in a womb, in which a monstrous mechanical birth has been developing and taking shape."[60] This bio-industrial process spawns "tapeworms" that constitute a form of "life, which has ceased to be life."[61] The encounter between the camera and the actor's body produces small, parasitic organisms (i.e., images) that gradually suck the vital forces from the living. While this version of mechanical birth differs significantly from Marinetti's motor-body fusion, there is a similar aspect of ontic displacement: what had been human becomes mechanical. Although analogous to the mechanized body in *Mafarka* in certain respects, the character in *Shoot!* alternates among a broad spectrum of biomechanical and mechanomorphic imagery, shifting between the indexical imprint and symbolic substitution and culminating in the main character's break with society and species alike.

In his book *On Humor* (1908), Pirandello offers a lengthy discourse on melancholic estrangement in literature, constituting another lens through which to view the themes and imagery in *Shoot!* For instance, the author makes a few claims that suggest he would not have

been inclined to make a moral argument concerning technology or the lack of social progress: "Humor does not require an ethical basis; it may or may not have one."[62] Elsewhere, he says of humor: "What need is there for the ethical value?"[63] Instead of criticizing technological forces in his novel, he manifests his unique form of humor, which "sees in everything an illusory or feigned or fictitious construction of our emotions."[64] In the novel, the film industry provides a general context for staging a type of humorous narrative, and the film camera becomes one of the key narrative devices driving the action. A sense of perversity (i.e., humor) originates in this novel from a particular psychic condition that internalizes the apparatus to an extreme. While describing the emotional conditions of analysis and confusion that he associated with humor, Pirandello reverted to using a mechanical metaphor: "Reflection becomes something resembling a diabolical imp that takes apart the mechanism of each image, of each phantasm produced by the emotions; it takes it apart in order to see how it is made; it releases the mainspring, and the whole mechanism squeaks convulsively."[65] While this view resembles Bergson's idea that comedy derives from a mechanical principle applied to the human, Pirandello more fully extends the implications of emotional difficulty involving the confrontation with machinic forces and their phantasmal content.[66] Perhaps laying the conceptual groundwork for Serafino's mechanomorphic transformation years later, Pirandello describes humor as a process by which mental reflection "places itself squarely before the feeling … and, detaching itself from it, analyzes it and disassembles its imagery."[67] Humor, for him, requires emotional detachment, during which nonconscious machinery is revealed and disassembled. In his novel, the main figure comes to a similar conclusion: "I have learned to draw back with an instinctive shudder from reality ... I look now at everything, myself included, as from a distance."[68] And elsewhere, his glimpse of his own unconscious internal mechanisms creates an effect of subjective doubling that mimics a sense of the alienation generated by filmic representation.[69] Emotional detachment in *Shoot!* accomplishes a type of emotional analysis and disassembly that is characteristic of his concept of humor,

defined as “a feeling of the opposite” that prevents or troubles laughter.[70] His camera-man represents a figure whose experience of increasing estrangement has been inspired by photographic processes.

In certain respects, the emotional detachment—demanded by both humor and cinematic reflection—mirrored Pirandello’s description of his own life experiences, as when he wrote in 1908 about a difficult family situation: “There is someone living my life and I don’t know who he is.”[71] Like actors who see their own phantoms on screen, the author described himself as living in exile. Irrespective of the novel’s potential biographical significance, this similar description of intense emotional detachment helps to confirm that his images of mechanization in *Shoot!* function within the generalized theme of alienation and figural doubling. Instead of being played for laughs or marking a menacing human-machine substitution, the filmic apparatus for Pirandello reveals a condition of absurdity that displaces individual autonomous identity and that leaves an emotional vacuum in its place. This machine of perceptual distancing triggers a sense of psychological shift that makes Serafino unrecognizable to himself, and this newly traumatized subject views his life from afar, appearing to have a body inhabited by someone or something else. While his novel positions mechanization into the context of emotional failure, the author did not dislike cinema himself (a third reason why his text does not appear to be antitechnological). For instance, he said in a 1924 interview in Paris: “I believe film more easily, more completely than any other means of artistic expression can give us the vision of thought.”[72] Pirandello’s appreciation of film was evident in his involvement with several film projects and screen adaptations of his works.[73] In 1918 he began negotiations (that were ultimately unsuccessful) with Anton Giulio Bragaglia for the film rights to *Shoot!*[74] It is not altogether surprising that the former futurist Bragaglia would want to make this story of mechanical dispossession, in light of the strong connection he made in his own research between spiritual and photographic processes. While Pirandello was sympathetic to film—both as a technical means of expression and as a cultural industry—

he exaggerated some of the psychological effects associated with technical automation, in order to create a darkly amusing tale of emotional dysfunction. Beyond any authorial antipathy for technology, the mechanized soul in *Shoot!* operates as an extended literary device for presenting the theme of estrangement.

Without prescribing a particular moral position vis-à-vis technology, Pirandello's novel dramatized the challenges posed to artistic practices by photographic and cinematic techniques and technologies. His narrative engaged with an ongoing aesthetic discourse of body-machine integration, while posing difficult questions relating to interaction among psychic processes and automated processes. His mechanomorphic images suggest a need for significant emotional and psychological adjustment to accommodate shifting principles of visual perception amid mechanical reproduction, and this internal adaptation is experienced as a sort of inevitable transition into becoming a distinct, more mechanized entity. In the course of Serafino's transformation, the biopolitics implicit in Marey's anti-naturalistic approach to the human body has been imprinted onto and even reconfigured the mind-body: through mechanization, the figure is hollowed out and divested of its expressive depth. An ironic tale of technological immersion, *Shoot!* navigates among biomechanical and mechanomorphic strategies to trace a trajectory of emotional disruption prompted by the industrial progress. Following a similar logic in which the camera indexed life irrespective of its emotional content, the camera-man substitution symbolized an increased capacity to maintain this distance from emotive flows. Unlike this negative portrayal of the mechanized entity, the cameraman figure during the interwar period came to represent more optimistic ideals associated with modern awareness, and it would even develop a heroic connotation in Dziga Vertov's *The Man with a Movie Camera* (1929). The participatory and enthusiastic attitude of the Russian filmmaker's "photo-eye" starkly contrasted with Pirandello's impassive and catatonic main character.[75] Instead of Pirandello's sarcastic "Long live the Machine that mechanizes life!" can be found Vertov's entirely earnest "Hurrah for the poetry of machines, propelled and driving."[76] As with

Marinetti and certain avant-garde visual artists before World War I, Vertov saw mechanization of human perception as an aesthetic platform on which to construct both a new image of society and a new people to see it.[77] Resisting this sort of breathless optimism, Pirandello expressed a more cautious approach to the camera and technology. His version of technical and biological adaptation chronicled various intermediate positions that demonstrate some of the correspondences and tensions among biomechanical and mechanomorphic images, and he mapped a complicated set of responses to modernization across a spectrum of physiological, psychic, and social contexts. His efforts to investigate the interaction between bodies and machines hinged not on the principle of their volatile duplicity but on the dissolution and reconstruction of the individual subject—a developmental model of psychic adaptability amid technological transformation. Alongside other visual and literary imagery from this period that outlined forms of machine-body fusion, Pirandello went perhaps furthest in addressing an implicitly emotional challenges within the theme of technological modernization.

Notes

[1] Luigi Pirandello, *Shoot!: The Notebooks of Serafino Gubbio, Cinematograph Operator*, 2005, 7

[2] A story about a mechanical wife, Auguste Villiers de l'Isle-Adam's *L'Ève future* (1886) introduced the term *android*, while Karel Capek's *R.U.R. (Rossum's Universal Robots)* (1923) marked the first to use the term *robot*. These instances provide useful markers in the historical lineage of mechanical imagery, bracketing an initial phase of modernist engagement with technology.

[3] Roberto Tessari describes the automobile as part of Marinetti's "spiritual itinerary." Tessari, *Il mito della macchina*, 1973, 245.

[4] Lewis, *Blasting and Bombardiering*, 1967, 34.

[5] Ibid.

[6] F.-T. Marinetti, "Destruction of Syntax—Untrammeled Imagination—Words-in-Freedom" (1913); reprinted in translation in Marinetti, *Critical Writings*, ed. Berghaus, 2006, 120–131.

[7] F.-T. Marinetti, "Le Futurisme," *Le Figaro*, year 55, vol. 3, no. 51 (February 20, 1909); reprinted in translation as "The Founding and Manifesto of Futurism" in Apollonio, ed., *Futurist Manifestos*, 20–21.

[8] F.-T. Marinetti, *Mafarka the Futurist: An African novel*, 1998, 195.

[9] Marinetti, "Extended Man and the Kingdom of the Machine" (c. 1910–15); published in translation in Marinetti, *Critical Writings*, 2006, 86. The dating of this text is ambiguous because it was first published in 1915, but the author said it was drafted in 1910.

[10] Ibid., 87.

[11] Ibid., 86.

[12] Hal Foster, "Prosthetic Gods," *Modernism/Modernity* 4, no. 2 (1997), 5–48.

[13] Foster notes (ibid., 7): “For the most part, modernists of this time could only hope to resist new technologies in the name of some given natural body, or to accelerate them in the search for some imagined postnatural body.”

[14] He states (Ibid., 8): “The machine as a castrative trauma and as a phallic shield against such trauma.”

[15] Ibid., 7.

[16] Marinetti, “Geometrical and Mechanical Splendor and Sensitivity Toward Numbers,” 1914, 136.

[17] Foster, “Prosthetic Gods,” 1997, 6.

[18] Lewis, “The Melodrama of Modernity,” *Blast* 1, 143.

[19] Lewis, “Manifesto,” *Blast*, no. 1, 39.

[20] Lewis, “The Melodrama of Modernity,” *Blast* 1, 144.

[21] Lewis, *Blast* 2, 43–44.

[22] Ibid., 42. With irony he added later (ibid.): “We go on calling them [the People] God.”

[23] Ibid., 46.

[24] Ibid., 42.

[25] Ibid., 42.

[26] Lewis, *Tarr*, 264.

[27] Among the places Lewis indicated his desire for stillness was when he refuted Marinetti’s appeal to vehicular velocity in *Blasting and Bombardiering*, 1967, 34–35.

[28] Jacob Epstein, *An Autobiography*, 1963, 56.

[29] Paul G. Konody, *Observer* (March 8, 1914); cited in Stephen Gardiner, *Epstein: Artist Against the Establishment*, 1993, 139.

[30] T. E. Hulme, *The New Age* (Dec. 25, 1913); reprinted in Jacob Epstien, *An Autobiography*, 1963, 64.

[31] Ibid., 65.

[32] Note 109 in Marcel Duchamp, *Notes*, ed. Paul Matisse, 1983, unpaginated: “The machine of 5 hearts will have to / give birth to the headlight. / This headlight will be the child-God, rather / like the primitives’ Jesus. / He will be the divine blossoming of / this machine mother. / In graphic form, I see / him as pure machine compared to the / more human machine-mother. He will have to be radiant with glory. And the graphic means / to obtain this machine child, / will find their expression in the use / of an endless screw.”

[33] George Baker discusses the close relationship between the works of Picabia and those of Duchamp during this period. Baker, *The Artwork Caught by the Tail*, 2007, 16–23 and 31–35.

[34] August Sander’s massive photographic project *Citizens of the Twentieth Century* is an example of class-based conventions of portrayal that visually preserves some of the essential features of social difference.

[35] Notably Picabia reiterated the obliteration of expressive means in his ink drip works *The Blessed Virgin I* and *II* (both 1920), in which a nonmechanical indexicality manages to encompass both the inexpressive (i.e., automatism) and the overly effusive (i.e., nonreproducible flow).

[36] Foster presents the prosthetic model as an interpretive structure that is able to accommodate some degree of explosive energy, though the visual implications of this tendency as they are expressed in early futurism are not analyzed: “[I]n image and form Futurism favors the explosive ... Futurist motifs of the burst of energy and the gesture forced free of the body, and Futurist lines as lines of force and traces of speed, are both pledged to redefine form and to interpenetrate objects temporally. Hal Foster, “Prosthetic Gods,” *Modernism/Modernity* 4, no. 2 (April 1997), 19–20.

[37] As discussed in chapter 3, the Bragaglias made two different images titled *The Typist* (both 1911), as well as the images of musicians *The Two Masterful Notes* (1911) and *The Cellist* (1913).

[38] The idea for the work probably began as a short story *La Tigre* in 1903–1904 (according to Francesco Càllari, 1991), which he tried but failed to publish as a serial in the monthly *La Lettura* in 1914. The author revised the work and successfully published it serially in 1915 *La Nuova Antologia*. The compiled novel was published in 1917 and then republished with additional revisions in 1925. Càllari, *Pirandello e il* cinema, 1991, 20–21. For further chronological analysis, see Alessandro Vettori, "Serafino Gubbio's Candid Camera" *Modern Language Notes* 113, no. 1 (Jan. 1998), 79.

[39] The Italian phrase "*Si gira!*" (meaning literally, "Turn it!") was a director's command for the operator to initiate a film shot by cranking the camera's handle.

[40] Pirandello, *Shoot!*, 3: "Do you still retain, gentlemen, a little soul, a little heart and a little mind? Give them, give them over to the greedy machines, which are waiting for them! ... The machine is made to act, to move, it requires to swallow up our soul, to devour our life. And how do you expect them to be given back to us, our life and soul, in a centuplicated and continuous output, by the machines?"

[41] Ibid., 6.

[42] Ibid., 7.

[43] Ibid.

[44] See Mario Verdone, "Pirandello e il futurismo," in Lauretta, ed., *Pirandello e la avanguardie*, 1999). Also Alessandro Vettori, "Serafino Gubbio's Candid Camera" *Modern Language Notes* 113, no. 1 (Jan. 1998), 79–107. An example of such an antitechnological reading conflates the author's view with the character's delusion (Vettori, 83–84): "Pirandello's dark perception of technocracy leads to phantasmagoric speculations about the devastating outcome of

mechanized society. The massive, relentless, inexorable rush to mechanization will spiral up to world catastrophe. Although cryptically formulated, Gubbio's prediction insists that total destruction will be the product of a maniacal drive to uncontrolled mechanization."

[45] Unlike the form of the realist novel, which tends to frame obvious moral choices for characters, this text takes a modernist position that treats the mental state as a separate actuality distinct from social or historical conditions.

[46] Benjamin notes, "The feeling of strangeness that overcomes the actor before the camera, as Pirandello describes it, is basically of the same kind as the estrangement felt before one's one image in the mirror." Walter Benjamin, "The Work of Art," in Benjamin, *Illuminations*, 1969, 230.

[47] Pirandello, *Shoot!*, 34.

[48] Ibid., 40.

[49] Ibid., 97.

[50] Ibid., 3

[51] Ibid., 143.

[52] Boccioni lecture from 1911; printed in translation in Coen, *Umberto Boccioni,* 243–44.

[53] Pirandello, *Shoot!*, 8. Anton Giulo Bragaglia, *Fotodinamismo futurista*, 35 (original emphasis removed).

[54] Pirandello, *Shoot!*, 94.

[55] Ibid., 103–104.

[56] Ibid., 64.

[57] Anton Giulio wrote: "In us there are a number of different psychic principles and different bodies that interpenetrate, and the visible body, considered from the psychic viewpoint, is merely the instrument of the invisible body." Anton Giulio Bragaglia, "I fantasmi dei vivi e dei morti," *La Cultura moderna, Natura e arte* 12, no. 23 (Nov. 1, 1913), 756. It should be noted

that Pirandello mentions the multiplicity of souls in his book on humor, which comes much closer to Bragaglia's view: "Art … tends to fix life; it fixes it in one moment or in various given moments … But—what about the perpetual mobility of successive perspectives? What about the constant flow in which souls are? … But if we have within ourselves four or five different souls—the instinctive, the moral, the emotional, the social—constantly fighting among themselves? The attitude of our consciousness is contingent upon whichever of these souls is dominant; and we hold as valid and sincere that fictitious interpretation of ourselves, of our inner being" (Pirandello, *On Humor*, 1974, 143).

[58] Pirandello, *Shoot!*, 55.

[59] Ibid.

[60] Ibid. (translation altered). [The original reads: "Siamo come in un ventre, nel quale si stia sviluppando e formando una mostruosa gestazione meccanica." Pirandello, *Si gira...*, 1919, 74]

[61] Pirandello, *Shoot!*, 54.

[62] Pirandello, *On Humor*, 93.

[63] Ibid., 117.

[64] Ibid., 113 and 141.

[65] Ibid., 125.

[66] Henri Bergson, *Laughter*, Green Integer, 1999. "The attitudes, gestures and movements of the human body are laughable in exact proportion as that body reminds us of a mere machine" (32). Elsewhere Bergson identifies comedy with "mechanical inelasticity" (15) and "mechanical rigidity" (15).

[67] Pirandello, *On Humor*, 113.

[68] Pirandello, *Shoot!*, 32.

[69] "Ah, if each one of us could for an instant tear himself away from that metaphorical ideal which our countless fictions, conscious and unconscious, our fictitious interpretations of our actions and feelings lead us inevitably to form of ourselves; he would at once perceive that this *he* is *another*, another who has nothing or but very little in common with himself." Ibid., 123.

[70] Pirandello, *On Humor*, 113 and 116.

[71] Quoted by various sources, Pirandello says this in a letter to his daughter Lietta to describe his reaction to his wife becoming increasing disconnected from reality; cited in translation in Nina Davinci Nichols and Jana O'Keefe Bazzoni, *Pirandello and Film*, 1995, 19. His wife was eventually institutionalized.

[72] Francesco Càllari, *Pirandello e cinema*, 1991, 24; the original source is not specified.

[73] Nina Davinci Nichols and Jana O'Keefe Bazzoni, *Pirandello and Film*, 11.

[74] Letter from Pirandello to A.G. Bragaglia, January 25, 1918; reprinted in Mario Verdone, *I fratelli Bragaglia*, 1991, 17.

[75] Dziga Vertov, "The Resolution of the Council of Three, April 10, 1923" (1923); reprinted in *Kino-Eye: The Writings of Dziga Vertov*, 1984, 13–21. For example, he writes, "The kino-eye lives and moves in time and space; it gathers and records impressions in a manner wholly different from that of the human eye ... I am kino-eye. I am a builder" (ibid., 15–17).

[76] Dziga Vertov, "We: Variant of a Manifesto" (1922); reprinted in *Kino-Eye*, 1984, 9. Like Pirandello, Vertov plays off a perception of human fault (ibid., 7): "The machine makes us ashamed of man's inability to control himself."

[77] Ibid., 8: "We introduce creative joy into all mechanical labor, / we bring people into closer kinship with machines, / we foster new people."

5. Mass Mechanism

> Everyone crowds together, mingles, merges in the grand caldron of the cinematograph.
>
> —C. Previtali, 1912[1]

> The crowd is a being that remembers and imagines, a group that evokes other groups much like itself—audiences, processions, parades, mobs in the street, armies.
>
> —Jules Romains, 1911[2]

The landmark film *Quo Vadis?* (dir. Enrico Guazzoni, 1913) premiered on March 7th, 1913, at the grandest theater in Rome—Teatro Costanzi—during an invitation-only event sponsored by the Italian distributor for the Roman film studio Cines, before this epic film went on to capture worldwide attention.[3] Showing at the same time in the lobby of the theater was a group exhibition of Italian futurist works that arrived for its Italian premiere in late February, after traveling to numerous venues in Europe in 1912.[4] A few nights later, on March 9th, inside the Costanzi auditorium, the futurists mounted one of their *serate*—events with readings, performances, and lectures that often ended in scandal.[5] In what would later be called "The Battle of the Teatro Costanzi," or simply "The Battle of Rome," the futurists and their vociferous supporters were pitted against a large contingent of cultural traditionalists, armed with fruits and vegetables, and the raucous proceedings were punctuated by physical brawling.[6] The coexistence of futurism and early film at the site of their public reception in Rome has some added significance given that the ambitions of the filmmakers coincided with those of the futurists: both wanted to enthrall assembled audiences. This historical convergence also stands out in light of the sparse evidence of avant-garde filmmaking before World War I. Typical accounts of futurism's involvement with film during that era rely on written

accounts of lost works, or else they include non-futurist filmmakers who demonstrated unconventional tendencies or a similarly adventuresome spirit, such as Luca Comerio, Aldo Molinari, and Marcel Fabre.[7] The material presented in this chapter provides the basis for rethinking formal and conceptual linkages between futurism and film during the prewar era in Italy. There is evidence that creative ideas moved back and forth between the visual arts and early film, and the ways certain futurists and filmmakers employed comparable visual techniques are of particular art historical interest. Despite remaining relatively distinct domains of cultural production in those years, their charged encounter at Teatro Costanzi (Fig. 73) in 1913 conveys some sense of their relative popularity among Roman viewers, but it also symbolizes the broader formal and conceptual overlap between futurism and Italian film from 1911 to 1913. During this brief period, both futurism and film tried to imagine the effects of social and industrial modernization through themes and techniques that were designed to capture the different modes of movement exhibited in modern life.

From the earliest days of the technological medium, filmmakers have harnessed and directed the forces of the urban crowd, merging the erratic movements of the onscreen masses with the steady motion of film technology. In early cinema, for instance, depictions of crowds offered spectators diverse ways to envision urban collectivity—from the urban throngs in early film actualities (1895–c. 1905) to the many variations on crowds during the fertile interwar period.[8] In the years leading up to World War I, films depicting striking workers and mob violence were among the reasons why civic and religious institutions in Italy, the U.S., and elsewhere initiated laws censoring filmic content (around 1908–1913).[9] This chapter analyzes another type of crowd imagery that emerged during the second decade of the new medium's existence: historically reenacted crowds, depicting mass entertainments, famous battles, and large-scale disasters, for example. Pioneered by Roman film companies beginning in 1905, the historical epic became established as a distinct genre by 1910–12, with themes and techniques for rendering momentous events or the broad sweep of history.[10]

Multilayered crowd imagery stands as one of the thematic and technical achievements of this phase of film's development, and it contributed to a sense of social cohesion among viewers inside the darkened theater.

Historical accounts of early film have often placed a premium on the idea that viewers were surprised by this new means for presenting moving images. Writing about the visual shock triggered by the earliest public presentations, historian Tom Gunning has convincingly argued that the film audience was made up of curiosity-seekers who willing participated in the staged illusions, and it was not composed of overly credulous viewers confused about the veracity of the projections, as other scholars have supposed.[11] In the historical context of the cinema's first decade (what Gunning has termed "the cinema of attractions"), visual shock amounted to spectator responses to an expectation developed by over the course of the screenings that were conducted by skilled, vaudeville-style presenters. The projectile effect of imagistic movement triggered the surprised reactions of the audience. During the interwar years, Walter Benjamin identified a similar quality of shock at work in the visual reception of both avant-garde visual art and cinema. While paintings invited individual reflection due to material stasis, he claimed, the constantly changing images in films produced collective responses—fusing physical and behavioral automatisms with physical mechanisms of the moving image.[12] Despite these material and perceptual differences, both mediums generated astonishment for viewers experiencing visual disruptions that were often associated with modern life.[13] Shock manifested anaesthetizing, defensive responses, he argued, but it also held the potential for social revolution.[14] According to Benjamin, the effects of shock migrated from avant-garde aesthetics to film production when the moral outrage expressed in the artistic milieu became associated with the direct sensory stimulation in projected images.[15] In film, perceptual shock entailed the viewers' lack of critical distance, because, "with regard to the screen, the critical and the receptive attitudes of the public coincide."[16] As moral outrage was converted into automatic responses, the technological medium succeeded where

traditional artistic mediums failed—in supplying the populace with immediately recognizable analogies for the large-scale, at times intangible, processes of modernization. For scholarship on the different phases of film's development, the principle of shock has mediated adjacent discourses concerning spectatorship, ranging from the credulity and complicity of viewers with pictorial illusionism to the internal mechanics of perceptual automatism, including possible revolt. Providing a central concept with which to interpret the shifting responses of viewers during that era, shock also works as a metaphor for the mechanisms by which collective identities were formed.

Extending the principle of visual shock and perceptual automatism to the period of Italian film production before World War I, this chapter explores spectatorship within the rapidly changing film industry, and then turns to the visual qualities of specific early film. In particular, crowd images provide a rich source of material for investigating the themes and techniques in early film that were associated with social and historical change. By reorienting the discussion of shock around the historical epic, I analyze the ways that the imagery of onscreen crowds served as a template for social and aesthetic experience, which is comparable to early futurist imagery of disruptive bodily and social forces. Since the epic genre took shape at approximately the same time as early futurism, my analysis compares particular film sequences with futurist paintings of crowds and, in the process, addresses the issue (raised in the chapter 1) concerning the chronological gap in futurist visual art between the first three types of productive, agitated, and leisure crowds (1910–11) and the later patriotic images (1914–15). If, as Benjamin claimed with respect to a later period, the reception of filmic and avant-garde images each generated a form of shock, then I would argue that a key moment of formal and thematic convergence between these distinct cultural fields actually arrived before the war, and the meeting at the Teatro Costanzi in March 1913 illustrates one vivid example. Amid this physical coincidence, the visual mechanisms used within these different aesthetic languages would have prompted viewers to address the

potentiality of the urban crowd in various forms—on the walls, onscreen, and within the auditorium. In a more general sense as well, the cinema became a physical site at which spectatorial expectations could be aligned with the broader effects of modernization, and the new visual terms for experiencing collectivity could be learned.

Multiple Viewings

One of the intellectual responses to the immersive film experience was to presuppose a basic level of critical distance for the viewer. In his 1907 essay "The Philosophy of the Cinematograph," Giovanni Papini made a case for the analytical potential of early cinema when he described the film theater as a place to discover philosophical concepts and "new metaphysical suggestions," in the vein of Socrates's piazza, Hamlet's cemetery, or Nietzsche's mountaintop.[17] This contemplative experience was possible for Papini, because filmic illusionism—with its teeming sensations generating "a succession of movements taken from actual events and full of vitality"—were overseen and arranged by a detached observer, who, like the author himself, contemplated their deeper significance. Unlike Henri Bergson and Étienne-Jules Marey, who a decade earlier disapproved of film illusionism (though each for different reasons), Papini embraced the false appearance of life as a specific philosophical problem situated in the movie theater.[18] As with the ancient Greek paradox of mimesis, in which visible traces both preserved and undermined experiential vitality, Papini framed filmic technology in the context of this ancient idea of ephemeral replicas.[19] Following the basic assumption that naturalistic perception remained separate from representational artifice, he analyzed the medium's discombobulating effects on the viewer: "We have the impression that we are watching true events," but this was a distortion of reality, "a little like opium without the negative effects." Appearing both lifelike and lifeless, film rendered a type of essential reduction: "the idealized world [is] reduced to a minimum." By extrapolation, he concluded that this reduction carried an existential dimension: "the existence of mankind can be reduced to a

wisp without removing any of its reality!" This understanding of reduction falls along the historical line connecting reductive methods used by Marey (in the 1880s) and, later, by Marcel Duchamp (in 1912–13), yet Papini was less willing than either Marey or Duchamp to relinquish the critical faculty of the individual subject. To maintain critical detachment, Papini's spectator developed an intensifying resistance to the sense of immersion produced by the projected images.

Determined to counteract the automatic responses triggered by machinic processes, Papini's viewer surveyed the cinematic illusion from a privileged vantage: "We almost feel like the gods contemplating their own creations, made in their own image and likeness." Not only the author, but the entire audience—signaled by Papini in the first person plural "we"—gaze upon the passing images as if presiding over an amusing artifice. They are able to comprehend this representational condition of critical separation: "thanks to photographic subterfuge we are able to enter a world with two dimensions, which is far more imaginary than our own." Even as he endowed everyone with the capacity to distinguish the ideal from the real, the copy from the original, an unforeseen danger for the spectator emerged in the concluding paragraph: "Spontaneously the thought occurs to us that somewhere there is *somebody* watching us, in just the same way we are watching the figures in the motion picture and to whom we, who are flesh and blood, real, eternal—may simply seem to be colored images speeding towards our death merely for his entertainment." In an abrupt reversal, the audience assumed the qualities of the filmic image—reduced, finite, and being watched by an invisible god-like viewer. This final twist on receptivity transformed visual illusion into an analogy for human mortality, and filmgoers were condemned to perceive their own lives as another type of fleeting image. The visual medium that reaffirmed self-conscious perception held a grim truth of annihilation, and this *momento mori* was hauntingly externalized as an omniscient entity, detached and "watching us."[20] The critical perspective of the viewer, premised on a close correspondence between philosophical idealism and cinematic

illusionism, malfunctioned when the individual succumbed to spectatorial paranoia. While the mechanized motion of film foreclosed criticality for Benjamin—since the viewer's automatic response replaced any momentarily critical position—Papini showed, inadvertently perhaps, that an unstoppable flow of images triggered a dysfunctional response. By remaking the world as artifice, mechanical reproduction generated a paranoid viewer. This model of spectatorial isolation revealed a contradiction in the way the individual subject resists film's potential for collective experience, a kind of psychic flaw played out in the movie theater as an effort to keep individual and collective aims clearly delineated.

While Papini imagined an intellectually removed spectator, a different idea of early film spectatorship comes from historical research that has found that, amid the popular interest and economic success of early cinema, audiences experienced varied forms of spectatorial and ideological identification.[21] Film attracted a broad segment of the society, and the movie theater of that era has recently been described as constituting an extended public space, rather than simply being a site for intellectual inquiry.[22] The history of film spectatorship at this time involved certain economic factors. Between 1906 and 1910, a large infusion of finance capital to Italian film companies prompted the development of film as a national industry with a distinct style of production, making Italy one of the most prosperous places internationally for film production, distribution, and box office revenue—a model that American cinema would dream of replicating. Through this capitalization, the production companies invested in more lavish projects with longer running times, and they built theaters to accommodate their growing audiences.[23] The construction of theaters was so rapid that Papini likened it to an invasion: "These theatres … are now invading the main streets."[24] The physical site of reception drew people from varied sociocultural contexts, so the audience reflected a place's cultural diversity.[25] As one early film critic observed, "old and young, men and women, wealthy and poor, intellectual and illiterate, everyone crowds together, mingles, merges in the grand caldron of the cinematograph."[26] Ricciotto Canudo, an Italian film theorist living in Paris,

described this diversity of cinematic audience as recreating the ancient festival and erasing separate social classes, in which "the uniform will of the masses" comprises a "desire for a new *Festival*, for a new joyous *unanimity*, realized at a [film] show, in a place where all men can forget, in greater or lesser measure, their isolated individuality."[27] The cinema fostered different forms of collectivity, but, despite the surge of popular interest and the influx of funding, success for any given film was not guaranteed, because of shifting public tastes, which one critic described as "difficult to stabilize. Because the public is varied, mobile, hysterical."[28] The growing audiences had changing expectations about the images that drew and held their attention. Filmmakers aimed to keep viewers engaged for a longer duration (and for a higher fee), so they began making works with longer running times and with greater ambition.[29] To absorb their attention, filmmakers also developed enhanced narrative devices, techniques of spectator positioning, and spectacular visual effects—all of which contributed to a rise of what has been termed the classical modes of narration, in which an awareness of the cinematic apparatus is suppressed, creating a sense of visual identification with the camera and generating a hypnotic spell of self-contained diagesis onscreen.[30]

As a general strategy for reaffirming a sense of shared identity in the theater, Italian filmmakers oriented their imagery thematically to the idea of a shared past.[31] Remaking the past to spectacular effect, epic films—such as *Quo Vadis?* and *The Last Days of Pompeii* (dir. Mario Caserini and Eleuterio Rodolfi, 1913)—offered different examples of how early cinema approached the problem of visualizing what Canudo called "the uniform will of the masses." Based on pioneering efforts at such Roman film companies as Cines, large crowds of fifty or more extras were mobilized for historical reenactments. One critic appreciated the Italians superiority "in the stage handling of a great number of people."[32] Among the hundreds of historical films made in Italy between 1909 and 1914, crowd imagery became a mainstay for recreating military battles and religious and civic ceremonies, as well as for depicting large-scale leisure activities, such as festivals, parades, and other spectacular forms of

entertainments. The onscreen crowd was a visual surrogate for disparate audiences drawn to increasingly elaborate and expensive productions by images of giant throngs, vast armies, temple worshippers, and fleeing crowds, etc. Epic crowds could be described as functioning as an ideological instrument for constructing new collectivities, since, even as the camera and the projector trigger psychological automatisms of viewer responses, the historical films exerted a mobilizing effect on audiences, according to their thematic and formal content.[33] Serving the broader ideal of social cohesion, the historical epic genre inspired collective responses in Italian and international audiences alike.

In the formative years of the epic genre, intellectuals had supported the idea of making films to instill a unifying national image in the populace.[34] In a 1909 interview, socialist economist Arturo Labriola considered cinema to be a form of mass education: "Why not plunder the treasures of our civic history, so dramatic and so unknown to the masses? Why not give ourselves a general picture of all of our national development?"[35] Like another mode of classicism, Labriola suggested that cinema could vivify the lessons of history. By contrast, the futurist painters explicitly rejected the general interest in classical imagery in their first manifesto in 1910: "We condemn as insulting to youth the acclamations of a revolting rabble for the sickening reflowering of a pathetic kind of classicism in Rome."[36] Boccioni elsewhere laments "the rhetoric of ancient Rome" that only awakens nationalism.[37] Their denouncement of the cultural turn towards ancient classicism was consistent with their call for a radical break with the historical past. Somewhat belatedly, the futurists extended their ideas concerning the accelerated rate of cultural and social change to include film only in 1916. Allied with social action, their endorsement of film declared the liberatory potential of cinema: "The Futurist cinema ... will become the best school for boys: a school of joy, of speed, of force, of courage, and heroism."[38] Their idea of mass education was the opposite of intellectual detachment: the onscreen action could incite social action. These different versions of the cinema's pedagogical role in society revolved around a tension between the historical continuity of

classicism and the radicalism of avant-garde rupture, but the historical epic film manifested another possibility: history remade as a contemporary experience.

In a text on a subject not related to perceptual automatism, Benjamin described how an image of ancient Rome had come to represent for Robbespierre "a past charged with now-time, a past ... blasted out of the continuum of history."[39] Presenting the past within an unfolding present, the historical image could be thought of as having the capacity to catalyze violent potentials within the social body. Reframed in terms of the visual language of film, the heroic past might be seen as manifesting a fantasy in which a film audience might be pushed toward social revolution. One of the more striking images of the contagious social effects of film comes at the end of Blaise Cendrars's poem *L'ABC du cinéma* (1926): "The crowd who leaves the cinema, who spills into the street like black blood, who like a powerful beast extends its thousand tentacles and smashes the palaces, the prisons."[40] Like an inhuman entity that wreaks disaster, the crowd irrupts spontaneously, and its revolutionary energies symbolize a radical dimension of perceptual automatism. Cendrars's image of uncontrollable spectatorial response suggests that the collectivity crystallized in the theater would ultimately reject the medium's effects of diegetic immersion in favor of violent action. His interwar era fantasy of automatic audience response becomes a type of a historical afterimage reminiscent of the rowdy crowds at nickelodeon screenings in the earliest days of cinema, prior to the development of immersive techniques and middle-class settings.[41] In light of this history of spectatorial attraction, it should be mentioned that the futurist *serate* events, like the one staged at Teatro Costanzi in 1913, were structured around a wide-ranging program of dramatic performances, readings, and musical acts that resembled vaudeville and the variety theater, and its effort to spark violent responses, as if to unmask the sedate, obedient crowd, this effort might be framed as a historical response to cinema.[42] While the futurists challenged cultural traditions and instigating the passions of viewers, early filmmakers sought legitimacy in the eyes of skeptical cultural leaders and middle-class audiences and aimed to quell the

pervasive fears associated with mass audiences and their unpredictable behaviors. Before turning to specific images from the epic film genre, it is worth underscoring a duplicity embedded within historical imagery between mass education and patriotism, on the one hand, and radicalism, on the other hand. Given these divergent possibilities for imagining the experience of cinema, historical epic films offered a general cultural platform for mediating different images of collective action, and those efforts converged chronologically, thematically, and technically with early futurism.

Mobile Masses

> Every epoch dreams that it has been destroyed by catastrophes.
>
> —Theodor Adorno, letter to Walter Benjamin, August 1935.[43]

Among the most spectacular images in historical epic film are disaster scenes in which massive destructive events terrorize and scatter populations. In such scenes, typically anonymous extras ricochet through flimsy sets, while performing stereotypical gestures of panic and evacuation. During such sequences, a film's narrative progression is usually suspended as uncontainable forces rage across the screen—in the form of fire, earthquake, volcanic eruption, etc. As in Cendrars's poem, the crowds onscreen appear to "spill into the street like black blood" and palaces and prisons do crumble amid a nonnarrative logic of devastating events that arrive, as if from outside human time. Imagery of widespread destruction poses the question of mortality in a visceral language of immediacy: why does one live and another die? These disaster scenes depict trying circumstances and concrete resolutions, thus appearing to richly deserve one critic's description of early Italian film as "a theater of nerves."[44] According to Cendrars, cinema constituted a visual language of thrilling action, "recognized on the screen from the convulsions of the crowd, screaming and crying."[45] As bodies are annihilated by overwhelming forces, the expressive registers of figuration are

reduced to a narrow range of responses triggered by the perilous threats. This lack of onscreen expressiveness can also be viewed through the widespread belief at that time that film possessed an excess of movement. An Italian film critic identified this problem in 1909: "the figures move too much and too violently, and they move without pause: it is an obsession with movement, in which every limit is broken and every sincerity destroyed."[46] The movement of onscreen actors, for this viewer, transgressed acceptable limits. Just as one critic complained, "the movements [are] too accelerated, schematic, and mechanical," another added, "their gestures [are] excessive and excessively rapid."[47] Although these criticisms mostly centered on histrionic gestures by individual actors, the automatic movements of the disaster crowd multiplied the jarring visual effects of perceived motion. For Canudo, excessive movement characterized a whole spectrum of cinematic possibility, in which humanity finds its own mirror-image "in numerous open-air spectacles representing disordered, incoherent, but intensely willed efforts."[48] The historical epic took excessive motion to an unsettling extreme, unleashing visual effects akin to what Freud called "the destructive influence of excessive energies at work in the outer world," and its disaster imagery presented the unconscious forces of the collective to an audience in the form of automatic responses and spontaneous action.[49]

Disasters were a familiar sight in the theater on account of the numerous films in circulation documenting the effects of actual disasters, such as the 1906 eruption of Mt. Vesuvius and the 1911 eruption of Mt. Etna; a severe storm in Cetara, Southern Italy, in 1910; as well as earthquakes in Calabria (in 1905, 1907, and 1909), Irpinia (in 1906 and 1910), and Messina (in 1909). Certain Italian films used generic titles, such as *The Disaster of Calitri* (1910), *The Disaster of Reggio and Messina* (1909), and simply *Disaster* (1914), for example.[50] Writing home from Rome in 1907, Freud described how short films projected in Piazza Colonna compete for the crowd's attention with shouting newspaper boys who have "an accident to offer, with dead or wounded."[51] Alongside the exciting new medium, disaster

was a category of modern experience that continued to capture the public's imagination. Etymologically, the term *disaster* denotes a misalignment of stars or their fatal constellation, in which the massive, unseen forces associated with cosmology, astrology, geology, or even history overtake local events. Representing a negation of the existing social order, the unfamiliar time signatures of disaster are initially superimposed onto and then completely drown out the rhythms of everyday life. Hidden forces burst into the present with cataclysmic effect, and this theme stretches well beyond the limits of one genre or medium. Cinematically, the awesome effects of massive natural forces provided an unsettling allegory for the processes of modernization that likewise altered societies, displaced people, and determined individual fates. The spectacular images chronicling social disruption simultaneously unsettled and satisfied observers. In the context of the historical epic, the mechanics of filmic disaster produced a frozen moment outside of narrative time, simultaneously symbolizing the effects of modern life and disclosing a mythic quality of suspended time.

Combining the astonishingly modern with the distant past, disaster imagery composed a version of what Benjamin called, in a different context, the "arrested constellation"—an image of history crystallized in the present. Benjamin notes, however, that this type of historical image is "charged with now-time," in which citizens enact a sense of revolutionary potential that has been embedded in cultural memory. Not unlike the planetary transit pictured in Giacomo Balla's painting *Mercury Passes Before the Sun* (1914; Fig. 74), the "arrested constellation" produces a sense of temporal suspension, recognizable as a moment of mass automatism. Choreographed in film narratives, disaster imagery was a cosmic alignment by which viewers were exposed to a type of unthinkable movement. If early Italian epic films pictured certain constellations of shared action, the moment of revolutionary commencement never fully arrived, as I detail below. Rather than inaugurating the revolt dreamed for by intellectuals and avant-garde artists, the epic film presented viewers with the recognizable consequences of social instability. Through its capacity to absorb social anxieties and to

depotentiate actual social conflict, epic disaster imagery was an ideologically embedded metaphor for social control. Exposed to images of disorder—such as fleeing figures dispossessed of their families, homes, or cities—spectators became more unified. Fused together by this constitutive violence, filmic audiences could reaffirm their commitment to social cohesion. At that moment of narrative suspension, epic disaster images generated a sense of visual engagement that spoke to excessive movement and sociohistorical displacement in a modern language of collectivity, thereby increasing (not decreasing) the gap between the audience's sense of shared commitment and its liberatory potential. An aesthetic correlation can be observed to have developed amid this arrested, mythic moment between moving images and images of movement—between a medium one critic called "a plastic art in movement" and a guiding futurist strategy called "pure plastic rhythm," or "plastic movement."[52] Turning to specific disaster images in two films—*Quo Vadis?* and *The Last Days of Pompeii*—I will analyze the ways that early film and futurism, despite their different mediums and attitudes, had a shared fascination with the momentous movement of bodies and crowds.

Based on a novel about Christians martyrdom in ancient Roman times, the film version of *Quo Vadis?* (dir. Enrico Guazzoni, 1913) mobilizes onscreen crowds as a key element contributing to the spectacular visual qualities associated with the epic film.[53] The ambitious scope of the historical narrative is visually translated into a massive scale in this Cines production—with its grand vistas, massive sets, and large crowds of extras.[54] Throughout the work, crowd images give different versions of social order and chaos. The final scene, for instance, showing Christians being fed to lions in the Coliseum, treats this ancient form of sacrificial entertainment with requisite opprobrium by framing some of the shots from the martyrs' perspective. Even so, the ancient crowd's enjoyment in the spectacle of death supplies riveting filmic effects, as well as a brutal punctuation to the story, that lends a bloodthirsty tone to the modern attraction of cinema. Earlier in the film, another crowd scene

signals transition, not finality: when Nero sets Rome ablaze, disaster overcomes the city. Composed solely of people escaping burning buildings and darting through streets, this sequence creates an exhilarating hiatus in the dramatic narrative. The plot is suspended as the fire rages. In a preliminary shot, the terrified throng surges through a temple colonnade and scrambles down a flight of steps with smoke menacing from behind. The rhythm of panic is measured in the actors' gestures and their chaotically converging and diverging paths. A still from this scene (Fig. 75) shows the crowd from an elevated perspective looking down at the temple's façade with figures pushing into the street. Seeing the action from an elevated position, the viewer receives a chaotic overview of the unfolding events similar to Boccioni's *Riot in the Galleria* (1910; Fig. 11) and Russolo's *The Revolt* (1911; Fig. 12)—which, painted several years before, were being displayed in the lobby of Teatro Costanzi the night *Quo Vadis?* premiered. This fleeing crowd in the film formally and conceptually resembles futurist images of agitation: the frenzied activity is doubled in Boccioni's image of the crowd, while the wedge shape in Russolo's painting recurs as a diagonal path of actors exiting the temple down a flight of stairs.[55]

The same scene continues by cutting to traumatized figures rushing into the streets (Fig. 76). Silhouetted against the luminous bank of white smoke, anonymous bodies race toward the camera. Viewed at the level of the street, the camera positions the spectator amid the panicking crowd, and the crisscrossing trajectories visually mimic the confusing vectors of movement in Carrà's *Funeral of Anarchist Galli* (1911; Fig. 13). Like the futurist painting, a bright background contrasts with a dense cluster of figures in the shadowy foreground, but in place of Carrà's sociopolitical agitation, the dark atmospheric film images communicate the multidirectional, claustrophobic confusion associated with evacuation. Miniature, restless forms appear at the center of the film shot, and they grow with accelerating motion into discernable figures that disappear beyond the left and right edges of the frame. The interpenetration of bodies and atmosphere shares visual qualities with Boccioni's painting

States of Mind: The Farewells (1911; Fig. 77), in which approaching and departing figures blend into the opaque atmosphere of rising train locomotive exhaust. With the individual figures emerging from and disappearing into a thick shroud of fire and smoke, the street-level film shot composes a sort of diagram of figural motion that points directly toward the viewer. In their trajectories of motion, the figures are not individuated forms so much as they are momentarily distinguishable from the amorphous crowd: they constitute crowd fragments, not identifiable characters. The anonymous urban population are presented with a veritable futurist mise-en-scène of crowd action—with visual strategies of agitated movements, backlighting, and atmospheric effects.

Shifting from the wide view to the medium-range shot, the epic fire sequence in Guazzoni's film ends with a close-up view of isolated bodies running away from camera through smoke and flames. As the anonymous figures merge more fully with their smoky ground, the forms meld together, and the bodily contour are fused to these elemental forces of nature (Figs. 78 and 79). The images enact a mode of figural plasticity that is dislocated from everyday habits and entirely dependent on the immediate situation. Mirroring the indeterminate forces of catastrophe, the contorted figures are flattened into dark silhouettes are visible against the backdrop of fiery disaster. At this point in the film, Guazzoni's fleeing anonymous bodies assume abstracted figural qualities and the effect of hasty bodily movement that are surprisingly similar to works on paper by Boccioni from around the same time, including two entitled *Dynamism of a Human Body* (1913; Figs. 80 and 81). Like the cinematic extras, the futurist figures effect a panicked rush, and they are enlarged in the frame, so their limbs extend off the page, while their feet are clipped by the bottom edge. Given that Boccioni was in Rome at the time *Quo Vadis?* premiered at Teatro Costanzi, it is possible he would have seen the film before returning to Milan to continue his preparations for a one-person show in Paris, in which his *Dynamism of a Human Body* works were first exhibited. In the absence of material confirming his attendance, it is nonetheless notable the

extent to which the images by both Boccioni and Guazzoni convey the experience of abrupt bodily movement and render similar figural qualities associated with an anonymous mass subject.

Also, the fire sequence in *Quo Vadis?* visually manifested a broader shift that took place in Boccioni's work—from crowd imagery to more isolated figures (from 1911 to 1913). The distorted close-ups of the bodies in motion distill the broader views of the spontaneous and automatic movements of the crowd into their most essential form, in which the sense of bursting energetic forces is magnified. In both cases, the figures flee into an unknown, rapidly changing world: their forms are no longer delineated separately, but rather are overtaken by an open figural contour that traces a chronotope of psychosocial transformation in a suspended moment.[56] These moving bodies at once articulate automatic responses, as triggered by life or death situations, and they frame a brief glimpse of liberation from social routines. In the transition from crowd to anonymous body, both Guazzoni's film sequence and Boccioni's works isolated a basic structure of mass experience—the visual template for expressing bodily and perceptual shock. Appearing in different mediums, this type of moving figure fused the theme of psychophysiological exertion with visual tendencies associated with deindividualization. This figural motion inhabited a mythic time of arrested constellation, in which past and present converged outside of the narrative progression. Evident in both artist's works, movement overcame an anonymous body, and the excessive figural energies offer a glimpse beyond the mechanical progression of time—inaugurating to a project of transition and renewal. Aiming to open the visual and conceptual space of unexpected outcomes, their imagery triggered associations with psychophysical automatism and social action.

Guazzoni and the Futurists

Enrico Guazzoni constructed images of crowds and bodily movement within a visual language that relied on an innovative sense of composition and rhythmic editing. The

filmmaker's interest in visual experimentation can be explained, in part, by his artistic background. Before working in cinema (first as a set decorator, then as a director), he trained as a painter and an illustrator at the Istituto di Belle Arti in Rome, which put him in a position to mold the public reception of early Italian films, like other academically trained painters who composed imagery on sets, in posters, and even in theater decoration. In 1904, he assisted Federico Ballester in painting a ceiling mural for a Roman film house—Cinema Moderno.[57] Eventually finding work in the burgeoning industry, the artist described envisioning "vast horizons for cinematography ... I could see the fusion of all the arts, painting, sculpture, theater."[58] In his historical epic images, he melded together techniques of painting and filmmaking into a *tableau vivant* of Rome's triumphal past.[59] Writing on *Marcantonio e Cleopatra* (dir. Enrico Guazzoni; 1913), Matilde Serao described the film as "painted, yes painted, in scenes of power and singular grace by a famous painter, Guazzoni."[60] Using "famous painter" as a poetic metaphor for filmmaker (the vocation for which he actually received acclaim), Serao signals textually what was also an actual continuity of production techniques between early film and the plastic arts before World War I. While his background no doubt informed his filmic choices, it was his onscreen techniques that would help to forge a new path for early cinema.

Crowd imagery was a powerful visual element in Guazzoni's films, but the aesthetic he pioneered went beyond simply assembling large groups of extras. Film historian Gian Piero Brunetta describes him as "the first Italian director truly capable of orchestrating large casts, composing images, organizing space, creating narrative syntax, and making the most of set design."[61] According to Brunetta, the filmmaker made a significant contribution to early cinema by establishing a strong visual relation between the individual and the crowd, and his techniques work as "a continuous intertwining of passions between obvious persons and diverse classes."[62] The filmmaker addressed this aspect of his work in a memoir published in 1918: "I aimed above all to see to it that the true protagonist would be the grand multicolored

crowd that harbors all sorts of sentiments, the most desperate passions, the faith and the fanaticism ... But it was necessary to give an aesthetic to this crowd, a cinematographic aesthetic."[63] His use of the phrase "true protagonist" to describe the crowd mirrored Scipio Sighele's phrase "the true protagonist of history," used to describe the idealized collective served by the artist.[64] Guazzoni also employs the phrase "multicolored crowd," which bears a striking similarity to certain futurist texts. For instance, Marinetti's founding manifesto portrayed the crowd as "the multicolored, polyphonic tides of revolution in the modern capitals,"[65] while Boccioni described the threat posed to traditional Italian society by "the multicolored and febrile crowds."[66] The similar language used by Guazzoni and the futurists bespeak their shared interest in representing the potentiality of the crowd, particularly in its chaotic movement. Like the futurist painters, Guazzoni envisioned different modes of social and political order, and the social collective was the primary object of his filmmaking, which fashioned its own aesthetic of movement. Mobilizing the effects of figural motion, *Quo Vadis?* created a visual language of the crowd, while tracing an "unprecedented freedom" of movement in space that "gave life to a policy of virtual power," according to Brunetta.[67] The film was "a giant leap forward" for the industry, and helped to make him "the most erudite director in terms of the figurative arts."[68] The visual and thematic overlap between futurism and early film is not coincidental, however, in the sense that Guazzoni had known and worked with Anton Giulio and Arturo Bragaglia before they became involved with futurism.

Prior to launching photodynamism, the Bragaglia brothers were involved with the budding film industry in Rome given their father Francesco was a technician, then an executive at the Roman production house Cines.[69] Before 1911, Anton Giulio apprenticed directly with Guazzoni, as well as with another film pioneer Mario Caserini.[70] Their training with these directors and their exposure to film production at the time the epic genre was developed informed their aesthetic ideas. It is notable how the critical reception of early film converged with the premises underlying photodynamism. Both early film and photodynamism were

systems for mechanically presenting figural motion that complicates the traditional ideal of immutable beauty. In January 1909, one of the same critics who described film's excessive motion reasoned that art required the opposite: "Art has always been essentially the distillation of life into immobility."[71] One of the key issues for film critics was trying to determine the aesthetic status of figural motion. In November 1909, another critic pointed out: "I have only seen one film in which the actors have demonstrated an understanding that immobility ... is an element of truth and of art."[72] The contrast between art and cinema—between an unchanging ideal and the ever-changing real—hinged on the difference between human and mechanical qualities, for another writer: "It is the machine that substitutes itself for the artist and, even more so, that imitates man in what looked like his inviolable dominion: the manifestations of the spirit."[73] The camera was thought to generate haphazard or accidental images, while the artist was thought to make something more lasting. Unsetting this perceived distinction, Guazzoni brought an artistic approach to figural motion that could fulfill the expectation that the medium could be "an enormous current of new aesthetic emotion."[74] Similarly, the Bragaglias' photographic works plotted the vectors of bodily motion in an attempt to express "aesthetic emotion" in the domain of technology.

As with the excessive movement of early cinema, the Bragaglias' aesthetic hinged on composing a visual language of gestural movement. In their work *A Gesture of the Head* (1913; Fig. 50), an abrupt action implies the spiritual vitality of a figure beyond the format of the fixed portrait. Also, in the polyphysiognomic portraits (discussed in chapter 3; Figs. 48 and 51), aggregations of superimposed views intentionally introduced the figure to a visual space outside of the frozen pose. Writing on photodynamism, Anton Giulio Bragaglia made the argument that photographic reproduction and fine art are not exclusive: "But the soul can express itself as well with the artifice of my machine as with the artifice of their brushes."[75] For him, just as for Guazzoni, mechanical reproduction could capture the flows associated with life's movement, rather than showing only fixity, and this movement communicated another

form of visual truth. So, although their photodynamic images presented the violent release of expressive human forces from the physical enclosure of an anatomical or naturalistic body, the Bragaglias aspired to create “a signifier of real life of every single life.”[76] Given the brothers’ involvement with filmmaking, Anton Giulio’s statement concerning the ambition of photodynamism appears to carry an unspoken homage to epic cinema: “The day in which the different values existing in all our [photodynamic] experiments can be fused into one single work of art, this will be a great work of art ... Then we will be able to portray the magnificent, immense palpitation of a rampant crowd...”[77] The visual language of bodily movement achieved two of the most innovative expressions of the prewar era in photodynamism and in the historical epic, and it was not accidental that photodynamism emerged in Rome at the same time as the epic genre. This geographical and chronological intersection of futurism and epic cinema also holds an unexpected twist.

Around the time of his film apprenticeship, Anton Giulio Bragaglia worked as an avid researcher of ancient ruins. He was serious enough about his work to publish articles on archeology and interviews with archeologists.[78] The seeming contradiction between his affinities for avant-garde and ancient themes won him the humorously incongruent name “futurist archeologist” from Marinetti and others.[79] Despite their divergent frames of reference, futurism and archaeology both presented images of ruins and disruptive social forces. The founding manifesto, for instance, imagined ruinous outcomes when it called for the destruction of museums, libraries, and academies. In a text from 1910, Marinetti imagined scrawling the following inscription across the façades of those same cultural institutions: “TO THE EARTHQUAKE / THEIR ONLY ALLIES / THE FUTURISTS DEDICATE / THESE RUINS OF ROME AND ATHENS.”[80] Allied with the forces of natural disaster, futurism wanted to create new archaeological ruins, metaphorically speaking, and the avant-garde aim of disrupting social relations implicitly recreates an ancient past in its a mythic notion of collectivity revived by destruction in the present. Retrospectively, Anton Giulio explained his interest in both

futurism and archaeology as dissonant qualities within himself. “I was already possessed by the artistic, historical demon,” he claimed.[81] Also, he recalled always feeling a mysterious attraction to archaeology.[82] The duplicity between the distant past and radically new—what Anton Giulio called “this double individual that is in me”—generated what he observed to be the contradictory psychic responses of agitation and utmost patience.[83]

In his text “Gradiva” (1907), Sigmund Freud attributed great psychological significance to archaeological ruins, which he recommended an analyst learn to excavate within an analysand.[84] Years later, Freud referred again to the ever-present psychic unconscious as ancient Roman ruins.[85] If the geological analogy of ruins symbolized the layers of the mind, then the physical destruction wrought by catastrophic forces signals in the context of psychology instinctual drives bursting forth. Looking to harness and direct these hidden energies, both early futurism and epic films repeatedly depicted disastrous situations, signaling a sense of collective loss and dispersal, while also indicating a restitution of a bygone time. Although the futurists vigorously resisted the idea of ancient classicism, their radicalism manifested a mode of discontinuity with the present that was anchored in a continuity associated with the distant past. As a recurring theme during this prewar moment, the images of ruinous decline mobilized a set of visual and conceptual propositions by which the effects of modernization could be understood. The mythic fusion of collectivity by disastrous events is at the heart of another symbol tying futurism to historical epic cinema.

Eruption

Combining assorted deadly possibilities—earthquakes, fires, and noxious gases, as well as stampeding—the volcanic eruption plays a similarly spectacular role in early Italian cinema, mimicking the actual eruptions that had occurred in Italy from ancient times to the present. Among the best examples of the volcano film is the 1913 version of *The Last Days of Pompeii*, directed by the Bragaglias’ former mentor Mario Caserini, along with Eleuterio

Rodolfi. As the concluding section of a conventional narrative involving desire and deceit in ancient Pompeii, the final disaster sequence accentuates the film's overarching theme of moral corruption. Immediately prior to the eruption of Mt. Vesuvius, a crowd assembles in the arena to watch the games. At the same time that the falsely accused Glaucus prepares himself to face the lions below, a man in the crowd recognizes and publicly identifies the villainous Egyptian High Priest Arbace as being the actual murderer (Fig. 82). The crowd rallies against Arbace, and those nearest to the local figurehead reach into his elevated viewing stand to seize him and haul him toward the arena. At this moment of popular insurrection, the volcano stirs, preempting the crowd's demand for social justice. In narrative terms, the disaster displaces the social unrest brewing in the crowd and prompts a kind of leveling of social differences in a shared bid to escape. This shift in the magnitude of violence also manifests a complicated symbolism by which the angry, then frightened, crowd appears to be both the cause and the effect of the eruption. In one sense, the disaster continues social agitation by other means, since the dangerous potential of the crowd is displaced onto the volcano. In another sense, the eruption minimizes the populist revolt, because Arbace's corrupt deeds are rendered irrelevant. In each case, the disaster motif supersedes divisive attitudes, sparking a unified cause of evacuation, though each person acts for him- or herself. Employing strategies comparable to futurist visual arts, such as plotting different vectors of movement, this epic film redirected social radicalism into the collective response to uncontrollable events. Spectacular onscreen crowds created a ghostly reflection of the social reality in prewar Italy—the immediacy of social agitation was absorbed into a historical reenactment, which literally employed low-wage extras drawn from those same impoverished groups that manned the barricades during actual riots. The disaster imagery in this eruption sequence functioned in narrative terms as a diffusion of class antagonism.[86]

The final ten minutes of *The Last Days of Pompeii* show the effects of the eruption, which cause the population of the city to panic and flee as the main characters are engulfed by

the chaos. Diverse visual effects and rapid editing form an unstoppable flow of the imagery that creates havoc for viewers. One prominent effect is the red tinting that lasts throughout the sequence, metaphorically signaling a general mood of crisis and the dangers of lava and fire specifically. Other visual effects include a model of a volcano and the simulation of falling buildings, as well as smoke, fire, and documentary footage of an actual lava flow. In the first two shots, lasting just under a minute combined, several effects are superimposed atop the images of actors scrambling through the theatrical sets. In the first shot, as the crowd flees the arena, physical manipulations to the film stock alter the naturalistic appearance of the images. An aberrant streak of bright light appears vertically on the right edge of the frame, thickens and moves to the left to overtake more of the image. Then, a luminescent liquid enters from the top of the frame, spilling down over the images and obscuring the numerous figures. No doubt intended to convey the threat of lava physically engulfing the crowd, these effects produce what appears to be a deft reworking of Russolo's painting *The Revolt*, in which the crowd's agitation is visualized as a glowing red-orange ember. At one point, the luminous spill pattern subsumes the entire frame, and the representational content of the image can no longer be deciphered, producing a complicated effect of substitution for and destruction of the populace. In the absence of recognizable forms, the spectator is curiously bound more tightly to the events in progress, since the horror of the illegible image permits a sense of affective identification with the overwhelming natural forces. After this symbolic negation, the image of the naturalistic crowd reappears for a few seconds, before the sequence shifts to a close-up of steaming dirt and rock rolling down a hillside. On top of this relatively static image of an actual volcanic event, more technical effects have been added. The filmstrip has been purposefully scratched and shows evidence of chemical or literal burning, while the image surface has been sprinkled with dark flecks of solid matter. Already fused together visually, the lava-crowd is negated again by violent scratches and abuse to the image. The physical distress inflicted onto the material connotes natural catastrophe, but it also stands for the emotional distress of

the fleeing crowd. The physical manipulations to the images undermine their semantic content to produce an ad hoc language of abstraction, and the violent interruption of the recognizable image lets viewers experience for an instant the continuous, abstracted flow of the filmic projection, briefly unmoored from its referential content during a suspended moment of narrative time. At the moment of mass destruction, the filmmakers' formal engagement with the medium briefly elides the distinction between epic film and the avant-garde and opens a radical possibility for collective reception.

Describing the images of collectivity in early Italian film, Brunetta stages an instructive visual comparison between crowd imagery in epic films and Giuseppe Pellizzza da Volpedo's *The Fourth Estate*, a painting that was a rallying point for mainstream socialists at the turn of the twentieth century. Brunetta writes: "In 1897, Pellizzza da Volpedo depicted a compact column of proletarians marching towards the twentieth century in his celebrated oil painting *The Fourth Estate*; now that same column was marching in Napoleon's and Julius Caesar's armies and directors set it loose, letting it grow uninhibited in earthquakes, volcanic eruptions, and catastrophes of every type imaginable."[87] The historian implies that early filmmakers translated the socialist crowd of workers into a militarized group, on the one hand, and into a disordered mass dispersed by disaster, on the other. This cinematic transformation of the crowd, through conscription and the threat of annihilation, affirmed collective identity, while at the same time refuting the socialist principles of pacifism and internationalism. To underscore this shift in crowd imagery, Brunetta cites Giuseppe Prezzolini's remark from 1913 about film production of the time: "Not an actor! An entire nation in each scene!"[88] Intended as a humorous exaggeration of the large onscreen crowds, the original remark succinctly captures a truth about these epic films and their audiences—the unifying fiction of history had the capacity to absorb the whole nation. Amid the consequences of social and historical disorder, an idealized image of revived national identity could be molded. Through this double action of discipline and disaster, social unrest was converted into less threatening forms. Effectively,

the epic helped diffuse political radicalism by transforming the idea of common sociopolitical cause into a penumbra of catastrophic effects. By depotentiating radical social energies, the epic disaster scenes in *Quo Vadis?* and *The Last Days* offered an alternate image of collectivity, in which the concept of social action was rendered without a sense of directedness and in which the crowd was more fully aligned with the idea of modernizing the nation.

Speculation

Appearing at the same time as futurism, early film epics responded to the changing cultural and economic landscape by developing a visual language of mass society that utilized some of the same techniques and strategies developed by the avant-garde visual artists. This historical analogy between film and the avant-garde even extended to the financiers of early Italian cinema, as Brunetta explains, "The aristocrats ... saw themselves not so much as captains of the cinematic industry as much as patrons of a new art form," who found "a way to appear like an illuminated avant-garde, directly responsible for the cultural growth of the cinema."[89] As a booming industry in Italy in the early twentieth century, cinema promised high returns underwritten by cheap labor costs and attracted massive investment.[90] For example, Cines was founded with the financial support of Roman aristocrats, and it received major backing from Banco di Roma from 1906 to 1912.[91] The infusion of finance capital into the industry at large that had enabled an increased scale of production and distribution also created the long-term effects of overproduction from 1908–09. Too many films were being made too quickly, leading to market instability. The transformative effects of finance capital on early cinema were in several ways homologous to the productive and destructive effects of economic modernization that had been experienced in Italian society since the middle of the nineteenth century. The historical impetus for building up Italian industry had been fed by a sense of ongoing disaster, as one government economist described in a report from the early 1860s: "If we hope to salvage something from the economic disasters that continue to pile up

around us, ... then we desperately need to modernize and renew manufacturing machinery."[92] By the early twentieth-century, the bankers considered themselves to be an economic avant-garde (according to Brunetta), supplying and managing the funds that sparked development and upheaval.

As one of the products of financial speculation in the film industry, epic disaster scenes visually prepared audiences for the destructive forces of capital. Images of cities being reduced to ruins are a complicated visual analogy for the invigorating and destructive processes of industrial development. If Papini had internalized the effects of film as a type of intellectual riddle before World War I, some twenty-five years later, Benjamin was more forthright in recognizing the destructive effects of film, what he termed "the dynamite of the tenth of a second" that produced "far-flung ruins and debris."[93] Mobilizing an archaeological metaphor, he framed this historical transformation as an immediately perceptible phenomenon, not as an intellectual exercise. Comparing film to "a muscle of the body," Benjamin saw filmic perception as a physiological reflex without contemplation, a type of automatism, or "reception in a state of distraction." Epic disaster images from the prewar period provide some historical evidence supporting Benjamin's premise. As these images demonstrated vast unpredictable forces, triggering spectatorial shock, they diffused the critical potential of the general populace and, more specifically, of socialists. For social criticism to exist "with regard to the screen," it needed to be contained in the images themselves, whereby an intellectual or critical dimension would be preserved in formal properties of specific images.[94] While epic films created a language for understanding the destructive and constitutive of capital, opening a potential for visual interest outside of the narrative and outside of a mechanical unfolding of history. Well before the principle of montage was articulated, the techniques found in these disaster scenes—such as the anonymous templates for action in *Quo Vadis?* and the materiality of the crowd in *The Last Days*—diverted the expected narrative flow into a vivid spectrum of formal constellations.

The concluding section of Benjamin's essay on perceptual automatism famously addressed Marinetti's idea of merging war and aesthetics.[95] Citing a long passage written by the futurist, Benjamin admired the clarity of the writing, and then he offered this praise: "The question it poses deserves to be taken up by dialecticians."[96] Marinetti's assertion of the beauty of war and the "metallization of the human body" described the sociohistorical transformation caused by capital. If war provided "the artistic gratification of a sense perception altered by technology," Benjamin stated, the desire for physical destruction was a measure of the alienation caused by capital.[97] The literally destructive effects of war gave tangible evidence of the mechanization of aesthetic perception. A term conspicuously absent from Benjamin's epilogue is cinema—the "dynamite" that was an ideological mechanism of the first order and that purportedly razed and remade the known world. The omission is telling, because, while Marinetti was cast as the prophet of violent outcomes, cinema was not associated with the most extreme forms of perceptual automatism. Yet, along with futurism, early cinema would have been similarly linked to "the aestheticizing of politics."[98] Due to the spectator's unsettling lack of critical distance, the mass mechanism of film was a type of mass directedness without direction that would appear to fit comfortably into Adorno's historical axiom: "If indeed the advances of technology largely determine the fate of society, then the technicized forms of modern consciousness are also heralds of that fate."[99] Describing the mechanics of fate, Adorno elsewhere expressed some of the consequences of movement without conscience: "The concept of fate might well be patterned after the experience of domination, proceeding directly from the superiority of nature over man … Fate is domination reduced to its pure abstraction, and the measure of its destruction is equal to that of its domination; fate is disaster."[100] Forging ahead with the innovative possibilities for perceptual automatism, the epic disaster confronted mass audiences with an image of their shared historical fate.

As with historical epic films, the futurist visual artists portrayed the spontaneous action of crowds and the physical responses of an anonymous mass subject. Futurist crowd images showing work, leisure, and political struggle from 1910–11 gave way to more individuated figures by 1912. One critic describing the excessive figural motion in 1909 captures a visceral response to early film that provides some context for understanding the radical forms of figuration that appeared in the work of Boccioni during 1912–14, which are the subject of the next chapter in this study: “The Cinematograph will also give them a vision of countries further away, of people more strange, of human expressions more unknown, moving, acting, palpitating in front of the gazes of the contemplator, who is pulled along in the rapidity of the figuration.”[101] Bodily automatism, coupled with the mechanism of film projection, produced an unhinged, unfamiliar movement, and Boccioni would be drawn to presenting a type of figural motion that would be analogous to cinema, in the sense that it produced similar effects of rapid and unknown expression. Beginning in mid-1914, the futurists landed on a unifying idea of collectivity—the patriotic crowd—that would absorb their diverse visual techniques and diverging beliefs about mass society.

In a speech delivered at the Teatro Costanzi in Rome in late February 1913, Marinetti depicted futurism as “a great mass of shining metal ... from deep within the volcano,” which had been dug by hand.[102] Held aloft by the futurists like a totem, this shiny metallic ore was at once a mythic and a modern form: “Now we are walking closely, with our arms raised, holding it in our burnt hands, up along the rough path, and we are breathing in unison, not watching to see whether any of us outstrips the others by virtue of their more powerful muscles and the strength of their tireless lungs. What does it matter if our footprints are continually being wiped out by those who come after us?”[103] Their only desire, he says, is to “not let the great, fiery mass ... fall to the ground, so that the world may have greater thirst for novelty, more fires of violence, more light of heroism, and more love of freedom!”[104] This ritual procession of futurists is a twist on the epic film disaster: the crowd is fused together under the sign of

permanent change. Finding vivid expression in the unforeseen benefits of violent disruption, futurism likewise forged a mechanism of mass consciousness. Although early film and futurism had been relatively distinct cultural projects before World War I, there was a brief time from 1911–13 during which the visual language of the avant-garde intersected with the forms of mass entertainment. During that brief historical encounter, the images of disaster collected and dispersed the mythic, modern collective, and this simultaneous destruction and renewal could be experienced as a pleasurable event.

Notes

[1] C. Previtali, “I gusti del pubblico,” *La Vita Cinematografica*, no. 3, February 15, 1912; reprinted in *Tra una film e l’altra: Materiali sul cinema muto italiano; 1907–1920* (Venice: Marsilo Editori, 1980), 143. [“Vecchi e bambini, uomini e donne, signori e poveri, intellectuali e analfabeti, tutti si accalcano, si confondono, si fondono, nel gran calderone di un cinematografo, dove ce n’è per tutti.”]

[2] Jules Romains, “The Crowd at the Cinematographe” (1911) in Richard Abel, *French Film Theory and Criticism*, 53.

[3] Ricardo Redi, *Cinema muto italiano, 1896–1930* (1999), 86. The same author indicates the film premiere as being on March 8, 1913, in Ricardo Redi, *La Cines: Storia di una casa di produzione italiana* (1991), 39. The source with the later publication date is presumed to be the more accurate one. Also, *Quo Vadis?* was shot in 1912 and released in early 1913.

[4] Giovanni Lista, *Cinema e fotografia futurista*, 2001, 155–56.

[5] Marinetti, *Critical Writings*, ed. Günter Berghaus, 2006, 173. Another notable avant-garde event occurring the month prior (on February 21, 1913) in the same theater included Balilla Pratella’s concert “Musica Futurista” and a reading of Giovanni Papini’s “Il discorso di Roma” (later published in *Lacerba*, March 1, 1913; republished in Gambillo and Fiori, eds., *Archivi del futurismo, Vol. 1*, 1958 141.)

[6] F.-T. Marinetti, “The Battles of Rome,” in *Critical Writings*, ed. Günter Berghaus, 2006, 173–74. Berghaus notes the particular royals in the audience that night, with whom Boccioni skirmished; Ibid., 457, note 8.

[7] Historical works discussing the relationship between futurism and film include Gian Piero Brunetta, *History of Italian Cinema*, 2009, 54–57; Wanda Strauven, *Marinetti e il cinema*, 2006; Giovanni Lista, *Cinema e fotografia futurista*, 2001, 19–39; Giovanni Lista, “Futurisme et cinéma,” in Germain Viatte, ed., *Peinture, Cinéma, Peinture*, 1989; and Mario Verdone,

Cinema e futurismo, 1987. Film projects cited as being reminiscent of futurism include *Balla Excelsior* (dir. Luca Comerio, Italy, c. 1913–14; B&W, 23 min.); *Pedestrian Love* (*Amor pedestre*) (dir. Marcel Fabre, Italy, 1914, B&W, 10 min); and *Mondo baldoria* (*Revelry World*) (dir. Aldo Molinari, Italy, 1914, B&W, 32 min.).

[8] Examples of the crowd imagery in the interwar period include avant-garde visions of cultural revolution (e.g., Dziga Vertov's writings and films) and modern industrial society (e.g., Frtiz Lang's *Metropolis*), as well as a new style of urban realism containing scenes of street life and festive gatherings (e.g., Elvira Notari's films).

[9] Films include *The Strike* (dir. Ferdinand Zecca, 1904), *Child of the Barricade* (dir. Alice Guy, 1907), *Street-Rough's Strike* (dir. Romeo Bozetti, 1909). Gian Piero Brunetta describes a crisis in Italian film production in 1908–09: "The crisis is aggravated... by the first interventions by religious institutions and government, who see film as a very formidable threat to morality of the masses." ["La crisi è aggravata ... dai primi interventi delle istituzioni religiose e statali che vedono nel cinema una minaccia assai temibile per moralità delle masse popolari" (Brunetta, *Storia del cinema italiano*, 2001, 41). On film censorship in the U.S., see Norman Denzin, *The Cinematic Society*, 18–19.

[10] Examples of influential historical reenactments include *La presa di Roma* (dir. Filoteo Alberini, 1905) and the short dramatic narrative *Nerone* (dir. Luigi Maggi and Arturo Ambrosio, 1909).

[11] Tom Gunning, "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator," *Art and Text*, no. 34 (Spring 1989), 31–45; reprinted in Philip Simpson, Andrew Utterson, and K. J. Shepherdson, eds., *Film Theory: Critical Concepts in Media and Cultural Studies, Vol. 3*.

[12] Benjamin stated: "There was no way for the masses to organize and control themselves in their reception [of avant-garde painting]. Thus the same public which responds in a

progressive manner toward a grotesque film is bound to respond in a reactionary manner to surrealism" (Benjamin, "The Work of Art" in Benjamin, *Illuminations*, 1969, 235).

[13] "The [film] spectator's process of association in view of these images is indeed interrupted by their constant, sudden change. This constitutes the shock effect of the film, which, like all shocks, should be cushioned by heightened presence of mind." (Benjamin, "The Work of Art," in *Illuminations*, 1969, 238).

[14] In a text from 1940, Benjamin wrote, "Thinking involves not only the movement of thoughts, but their arrest as well. Where thinking suddenly comes to a stop in a constellation saturated with tensions, it gives that constellation a shock, by which thinking is crystallized into a monad ... In this [monadic] structure he [the historical materialist] recognizes the sign of a messianic arrest of happening, or (to put it differently) a revolutionary chance in the fight for the oppressed past." Benjamin, "On the Concept of History," 1940.

[15] Rae Beth Gordon argues the reverse—that bodily and psychic automatisms in the café concert and early cinema led to avant-garde practices. *Why the French Love Jerry Lewis: From Cabaret to Early Cinema*, 2001.

[16] Walter Benjamin, "The Work of Art," 234. An alternate translation can be found in Benjamin, "The Work of Art" (second version), in *Selected Writings, Vol. 3*, 116.

[17] Giovanni Papini, "La filosofia del Cinematografo," *La Stampa*, May 18, 1907.

[18] Bergson dismisses film as being purely lifeless mechanism, opposed to life, while Marey thought it was unsuitable for scientific analysis because it reproduced naturalistic perception.

[19] I am alluding to a skepticism expressed by both Socrates and Plato regarding the capacity of mimetic art to represent qualities of reality without its needing to show a complete understanding of reality. An analysis of this complicated set of philosophical issues in Plato's works can be found in the first chapter of Stephen Halliwell's *The Aesthetics of Mimesis: Ancient Texts and Modern Problems*, 2002, 37–71.

[20] When Papini writes that the audience members comprise “colored images speeding towards our death,” the chromatic vitality of life precedes grim outcomes.

[21] On the social composition of early film audiences, see Miriam Hansen, *Babel and Babylon: Spectatorship in American Silent Film*, 1991; especially Ch. 2, “Early Audience: Myths and Models.”

[22] Hansen, *Babel and Babylon*, 1991, 14.

[23] Film historian Aldo Bernardini dates the emergence of the long-running Italian film to the second half of 1911, and he estimates that by 1913–14 the average fiction film was 1,000 to 1,500 meters long, which translated into a running time of about an hour. Aldo Bernardini, *Cinema muto italiano, Vol. 3: Arte, divismo e mercato, 1910–1914*, 1982, 90–95.

[24] Papini, “La filosofia del Cinematografo,” 1907.

[25] Hansen, *Babel and Babylon*, 1991, 77.

[26] C. Previtali, “I gusti del pubblico,” *La Vita Cinematografica*, no. 3, February, 15, 1912; reprinted in *Tra una film e l’altra: Materiali sul cinema muto italiano; 1907–1920*, 1980, 143.

[27] Ricciotto Canudo, “Naissance d’un sixième art,” *Les Entretiens idéalistes* (Oct. 25, 1911); reprinted in Richard Abel, *French Film Theory and Criticism, Vol. 1*, 1988, 65.

[28] C. Previtali, “I gusti del pubblico,” *La Vita Cinematografica*, no. 3, February 15, 1912; republished in *Tra una film e l’altra*, 143.

[29] Recent scholarship on early cinema suggests strong historical linkages among the rise of film as an industry, the development of more advanced production techniques, and shifts in film spectatorship. Gian Piero Brunetta, *History of Italian Cinema*, 2009, 27; Steven Ricci, *Cinema and Fascism: Italian Film and Society*, 1922–1943, 2008, 46–47; and Pierre Sorlin, *Italian National Cinema, 1896–1996*, 1996, 19–21.

[30] Miriam Hansen observes, “[T]he elaboration of classical methods of spectator-positioning appears as the industrial response to the problems posed by the cinema’s availability to

ethnically diverse, socially unruly, and sexually mixed audiences." Hansen, *Babel and Babylon*, 1991, 16. Later, she notes (ibid., 79): "The celebration of film as a new universal language ultimately coincided in substance and ideology with the shift from primitive to classical modes of narration and address that occurred, roughly, between 1909 and 1916."

[31] Italian cinema in this period, according to film historian Steven Ricci, "engaged in figurative and literal reconstructions of that audience's imagined communal history." Steven Ricci, *Cinema and Fascism*, 2008, 47.

[32] *The Moving Image World* (December 13, 1913); cited in Pierre Sorlin, 26.

[33] Jean-Louis Baudry, "Ideological Effects of the Basic Cinematographic Apparatus," *Film Quarterly* 28, no. 2 (Winter 1974–75), 286–98.

[34] Gian Piero Brunetta writes (*History of Italian Cinema*, 2009, 30): "In the beginning, cinema was enthusiastically embraced by positivist intellectuals and pedagogues as an ideal school for the masses." Other historical examples are G.B. Avellone's article "Il cinematografo e la sua influenza sulla educazione del popolo," *Giornale d'Italia*, October 18, 1912; and Filippo Marchetti, "L'industria cinematografica e l'educazione delle masse," *Giornale d'Italia*, October 20, 1912; both articles are reprinted in *Tra una film e l'alta*, 1980, 170–74.

[35] Interview with Arturo Labriola, *Lux* 2, no. 11 (October 1909); cited in Davide Turconi, *La stampa cinematografica in Italia e negli Stati Uniti dalle origini al 1930*, 1977, 11.

[36] "Manifesto of the Futurist Painters" (1910) in Apollonio, ed., *Futurist Manifestos*, 25.

[37] Boccioni, letter to Vico Baer, November 9, 1912: "Il nazionalismo italiano si sveglia solo con la rettorica dell'antica Roma. Quando si tratta di riconoscere gli sforzi e il coraggio intellettuale di un italiano, il nazionalismo tace o mormora sottovoce." (Umberto Boccioni, *Lettere futuriste*, 56 and 240).

[38] "The Futurist Cinema," 1916; printed in translation in Apollonio, ed., *Futurist Manifestos*, 207.

[39] Benjamin, “On the Concept of History” (1940); in *Selected Works, Vol. 4*, 395.

[40] Blaise Cendrars, *L’ABC du cinéma*, 1926. This poem is dated “1921, Rome.”

[41] Tom Gunning, “The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde,” *Wide Angle* 8, no. 3–4 (Fall 1986), 63–70. Also see, Hansen, 77.

[42] Marinetti published a manifesto in 1913 titled “The Variety Theater”; reprinted in *Critical Writings*, ed. Günter Berghaus, 2006, 185–92. Tom Gunning has mentioned this historical connection; Gunning, “Cinema of Attractions,” 1986. Also, on the relationship between the musical hall and Marinetti, as well as avant-garde performance in general, see Laurence Senelick, “Text and Violence: Performance Practices of the Modernist Avant-Garde,” in *Contours of the Theatrical Avant-Garde*, 25.

[43] Theodor Adorno and Walter Benjamin, *The Complete Correspondence, 1928–1940*, 109

[44] Gualtiero I. Fabbri, “Il teatro della nevrosi,” *La Cinematografia Italiana ed Esterna*, no. 87 (August 1, 1910); reprinted in *Tra una film e l’altra*, 99.

[45] Blaise Cendrars, *L’ABC du cinéma*, 1926, 23.

[46] A. Vicenzi, “Il cinematografo e la pittura,” *Lux*, no. 12 (Nov. 1909); reprinted in *Tra una film e l’altra*, 87–88.

[47] The first quotation comes from A. Vicenzi, 89, while this second comes from an extended passage of an article by an unspecified writer in *Scena illustrata*, Florence, 1 July 1910, which was excerpted in Gualtiero Fabbri’s “Il teatro della nevrosi,” *La Cinematografia Italiana ed Esterna*, no. 87 (August 1, 1910); reprinted in *Tra una film e l’altra*, 99.

[48] Ricciotto Canudo, “The Birth of a Sixth Art,” reprinted in translation in Richard Abel, *French Film Theory and Criticism, Vol. 1*, 1988, 59 and 60. “This spectacle is produced exactly by the excess of movement to be found in film.”

[49] Freud, *Beyond the Pleasure Principle*, Part IV, para. 6, 1989; this translation appears in Walter Benjamin, "On Some Motifs in Baudelaire," *Illuminations*, ed. Hannah Arendt, 1968, 161.

[50] An encyclopedic source of early Italian film is Aldo Bernardini's *Il cinema muto italiano*, *Vol. 1–4*, 1982.

[51] Freud letter home from Rome dated September 22, 1907: "When they have an accident to offer, with dead or wounded, they really feel masters of the situation" Sigmund Freud, *Letters of Sigmund Freud*, 1992, 262. I was originally made aware of this citation by Jonathan Crary's *Suspensions of Perception* (Cambridge, MA: MIT Press, 2001), 364.

[52] The description of film comes from B.C.V., "L'avvenire del cinematografo," *La Rivista Fono-Cinematografica*, no. 3–4 (Jan. 20–26), 1909; reprinted in *Tra una film e l'altra*, 66. Boccioni's description of futurist aims appears in "Technical Manifesto of Futurist Sculpture," 1912 and also in "Plastic Dynamism," 1913; both reprinted in Apollonio, ed., *Futurist Manifestos*, 1970.

[53] The novel was written by Henryk Sienkiewicz and was adapted to film by Enrico Guazzoni.

[54] Riccardo Redi, *La Cines: Storia di una casa di produzione italiana* (1991), 40. Film historian Marcia Landy writes of this film: "the dramatic power of the film derives from these crowd scenes. The effect of the choreography … is visually overwhelming" (Marcia Landy, *Italian Film*, 2000, 30).

[55] Later, Piet Mondrian would exclude the diagonal line from his compositions, precisely because of its dynamic effects or, one could say, because its excessive movement. Mark Cheetham, *The Rhetoric of Purity*, 1991, 121.

[56] Steven Ricci, *Cinema and Fascism*, 2008, 47; see note 31. Also, Hansen suggests silent film "allowed for the experience of competing temporalities, especially on the part of people who bore the brunt of modernization" (Hansen, *Babel and Babylon*, 1991, 124). The term *chronotope* comes from M. M. Bakhtin, "Forms of Time and Chronotope in the Novel" (1937–

38); published in Bakhtin, *The Dialogic Imagination*, 84–258; a definition of the term appears on ibid., 84.

[57] This large painting titled *The Triumph of Light* depicts a Belle-Époque-style allegory, in which an ancient goddess rides four horses through the air while saluting to a number of figures in billowing togas luxuriating on clouds.

[58] Enrico Guazzoni, "Mi confesserò," 1918; cited in Gian Piero Brunetta, *History of Italian Cinema*, 2009, 32.

[59] Ivo Blom, "*Quo vadis?* From Painting to Cinema and Everything in Between," 2001, 281–96.

[60] Matilde Serao, *Il Giorno* (Naples, n. d.): "... è dipinto, sì dipinto, in quadri di una possanza e di una grazia singolare, da un pittore insigne, il Guazzoni." Cited in Riccardo Redi, *Cinema muto italiano*, 1999, 86.

[61] Brunetta, *History of Italian Cinema*, 2009, 33.

[62] Brunetta, "L'évocation du passe, Les années d'or du film historique," 1986, 58. ["Un entrelacement continu de passions entre des personnes appartenant à des classes diverses."] It should be mentioned that Sorlin also discusses this facet of Guazzoni's slightly later films *Julies Caeser* and *How Heroes Are Made* (both 1914). Sorlin, 36.

[63] Enrico Guazzoni, "Mi confesserò," 1918; cited in Gian Piero Brunetta, "L'évocation du passe, Les années d'or du film historique," 1986, 58. Printed in French translation from original Italian as follows: "C'est de Shakespeare que je tirai la conviction qu'une grande polyphonie pouvait se substituer au monotone solo ... et en suivant toujours les canons des dramas shakespeariens les plus importants, j'ai visé surtout a faire en sorte que le vrai protagoniste soit la grande foule multicolore qui nourrit toutes sortes de sentiments, les passions les plus disparates, la foi et le fanatisme ... Mais il faut donner une esthétique à cette foule, une esthétique cinématographique. Le cinema ... peut exploiter sur une grande échelle le mouvement des masses, forcément trop restreint par les limitations scéniques."

[64] Sighele writes in *L'intelligenza della folla*, 1903, 3: "Today it [the collective entity] is understood that the true protagonist of history, though not always visible." This phrase is also mentioned in chapter 1.

[65] F.-T. Marinetti writes in "The Founding and Manifesto of Futurism," 1909; in Apollonio, ed., *Futurist Manifestos*, 22.

[66] Boccioni writes, "The multicolored and febrile crowds are monstrous for the Italian, who in all his noble existence discussed the past grandeur of the country, in the quiet streets of his beloved small town—former capital, no doubt—full of glorious shades of old closed buildings, gardens closed, closed minds." Boccioni, *Pittura e scultura futuriste*, 2006, 42)

[67] Brunetta, *History of Italian Cinema*, 2009, 37 and 33. He says: "More than anything, the use of open space gave life to a policy of virtual power. It could transmit energy and convey vitality to a static, monumental, and repetitive conception of time. As the action space began to expand on the screen, so did the space in the theater and in audiences' imagination" (ibid., 33).

[68] Brunetta, *History of Italian Cinema*, 2009, 37.

[69] Anton Giulio Bragaglia, "La Stirpe Bragagliesca," *L'Osservatore politico letterario*, no. 6, 1965, 51. In this posthumously published memoir, Bragaglia also writes (ibid., 54): "At 16, I helped a film director." ["A sedici anni io ero aiuto regista al cinema."]

[70] Antonella Vigliani Bragaglia: "Bragaglia lavora con Mario Caserini ed Enrico Guazzoni," printed in the Appendix of Anton Giulio Bragaglia, *Fotodinamismo futurista*, 1980, 134. Anton Giulo mentions his apprenticeship to Caserini in "Cinema Romana 1905," *Star* 3, no. 7 (Feb. 16, 1946), 3.

[71] B.C.V., "L'avvenire del cinematografo," *La Rivista Fono-Cinematografica*, no. 3–4 (Jan. 20–26, 1909); reprinted in *Tra una film e l'altra*, 67.

[72] A. Vicenzi, “Il cinematografo e la pittura,” *Lux*, no. 12 (Nov. 1909); reprinted in *Tra una film e l’altra*, 87–88.

[73] “Estetica e cinematografia,” *Lux*, no. 11 (Oct. 1909); this unsigned article is reprinted in *Tra una film e l’altra*, 84.

[74] B.C.V., “L’avvenire del cinematografo,” *La Rivista Fono-Cinematografica*, no. 3–4 (Jan. 20–26, 1909); reprinted in *Tra una film e l’altra*, 66. The articles continues (ibid., 67): “The Cinematograph instead realizes maximum mobility in life, but it makes you dream of a new art, different from any manifestation already existing.”

[75] Anton Giulio Bragaglia, “L’Arte della fotografia,” *Il tirso* (February 11, 1912); reprinted in the Appendix of Anton Giulio Bragaglia, *Fotodinamismo futurista*, 223. [“Ma l’anima anche io so esprimerla con l’artificio della mia macchina cosí come essi con l’artificio dei loro pennelli.”]

[76] Anton Giulio Bragaglia, *Fotodinamismo futurista*, 41.

[77] Ibid., 42.

[78] Anton Giulio Bragaglia claimed to have published a book on the topic, though scholars have not corroborated this claim. Anton Giulio Bragaglia, 1965, 54. [“Il mio primo libro fu dedicato agli scavi archeologici del 1910.”]

[79] Anton Giulio Bragaglia, “La Stirpe Bragagliesca,” 1965, 59. [“Ero già col carissimo Marinetti e mi chiamavano ‘l’archeologo futurista’ ritenendo, loro, che vi fosse contradizzione tra antico e moderno.”]

[80] Marinetti, “Against Professors” (May 1910); reprinted as “Against Academic Teachers” in Marinetti, *Critical Writings*, ed. Günter Berghaus, 2006, 82.

[81] Anton Giulio Bragaglia, “La Stirpe Bragagliesca,” 1965, 54. “Io era già posseduto dal demone artistico storico.”

[82] Anton Giulio Bragaglia claimed (ibid., 59): “Whereas I had already begun to have passion for archeology, a mysterious tendency always alive in me. Also it amazes me still, agitated

and dynamic man of action, for patience, relaxed in the blessed peace, which I enjoyed between the old papers of an archive." ["Mentre già cominciavo ad aver passione per l'archeologia, misteriosa tendenza sempre viva in me. Ancora stupisco me stesso, smanioso e dinamico uomo d'azione, per la pazienza, distesa nella pace più beata, che io godo, tra le vecchie scartoffie d'un archivio."]

[83] Anton Giulio Bragaglia wrote (ibid., 59): "See, briefly, the source of the other aspect of this double individual that is in me: impatient and the most patient archival mouse, lover of archeology and of the extreme art in time." ["Ecco, brevemente, l'origine dell'altro aspetto di questo doppio individuo che è in me: impaziente e pazientissimo topo d'archivio, amante dell'archeologia e dell'arte estremista all'un tempo."]

[84] The full title of the Freud text is "Delusion and Dreams in Jensen's *Gradiva*" (1907; translated by James Strachey); republished in Freud, *Psychological Writings and Letters*, 1995, 193–265.

[85] Freud, *Civilization and its Discontents*, 2005, 34. The specific passage reads: "Now let us, by a flight of imagination, suppose that Rome is not a human habitation but a psychical entity with a similarly long and copious past—an entity, that is to say, in which nothing that has once come into existence will have passed away and all earlier phases of development continue to exist alongside the latest."

[86] Theodor Adorno writes in a letter to Walter Benjamin from Aug. 2–4, 1935: "As Horkheimer puts it, a mass ego only properly exists in earthquakes and catastrophes ... The dreaming collective serves to erase the differences between classes." Theodor Adorno and Walter Benjamin, *The Complete Correspondence: 1928–1940*, 107.

[87] Gian Piero Brunetta, *History of Italian Cinema*, 2009, 35.

[88] Brunetta, *History of Italian Cinema*, 2009, 35. The quotation comes from Giuseppe Prezzolini, "Paradossi educativi," *La Voce*, August 22, 1914.

[89] Brunetta, *History of Italian Cinema*, 2009, 39.

[90] Brunetta claimed (ibid., 41): "The strong competitiveness, which Italian products have in the years preceding World War I on the international market, especially depends above all on very low production costs due to the extremely modest labor costs."

[91] According to Brunetta, "The very rapid development of Cines, its ability to penetrate foreign markets, and its ability to offer products of good quality depend on the combined financial assistance of the Banco di Roma and a young industrialist, Adolf Pouchain" (Brunetta, *Storia del cinema italiano*, 2001, 29; my translation). On the financing of Cines, also see Ricardo Redi, *La Cines: Storia di una casa di produzione italiana*, 1991, 25–29.

[92] This quotation comes from a report written by economist Francesco Protonotari on the first Italian industrial exhibition in Florence in 1861. Cited in Vera Zamagni, *The Economic History of Italy*, 1993, 77.

[93] Walter Benjamin, "The Work of Art," in Benjamin, *Illuminations*, 1969, 236. An alternate translation can be found in Benjamin, "The Work of Art" (second version), in Benjamin, *Selected Writings, Vol. 3,* 2002, 117.

[94] Adorno appears to confirm this interpretation when he says in a letter that Benjamin's artwork essay makes it sound as if film could turn the masses into revolutionaries, which Adorno doubted. Letter to Benjamin, dated March 18, 1936; printed in translation in Theodor Adorno and Walter Benjamin, *The Complete Correspondence: 1928–1940*, 127–134.

[95] Benjamin cites a newspaper article Marinetti wrote in favor of an Italian colonial war in Ethiopia, though Marinetti's glorification of violence is apparent in such prewar texts as "War: The Sole Cleanser of the Universe" (1911; reprinted in Marinetti, *Critical Writings*, 53–54) and "The Necessity and Beauty of Violence" (speech from 1910; reprinted in *Critical Writings*, 60–72). Marinetti's correlation of art and war was the reorientation of what had been a longstanding idea to approach military engagement with technical mastery; for example,

Jacob Burckhardt titled a section in his text *The Civilization of the Renaissance in Italy* (1860), as “War as a Work of Art.” See Jacob Burckhardt, *The Civilization of the Renaissance in Italy*, 2002, 70–72.

[96] Walter Benjamin, “The Work of Art” (second version), in *Selected Writings, Vol. 3*, 121.

[97] Benjamin wrote (ibid., 122): “Its [humankind’s] self-alienation has reached the point where it can experience its own annihilation as a supreme aesthetic pleasure.”

[98] Ibid.

[99] Theodor W. Adorno, “The Schema of Mass Culture,” in *The Culture Industry: Selected Essays on Mass Culture*, 2001, 96.

[100] Theodor W. Adorno, *The Philosophy of Modern Music*, 2003, 67.

[101] B.C.V., “L’avvenire del cinematografo,” *La Rivista Fono-Cinematografica* 3–4 (January 20–26, 1909); reprinted in *Tra una film e l’altra*, 1980, 67. [“Il cinematografo gli darà anche la visione dei paesi più lontani, degli uomini più sconosciuti, dell’espressioni umane più ignote, moventisi, agenti, palpitanti dinanzi agli sguardi del contemplatore trascinato nella rapidità della figurazione.”]

[102] Marinetti, “The Battles of Rome,” in *Critical Writings*, ed. Günter Berghaus, 2006, 173. The second section of this text, titled “The *Divine Comedy* Is a Fleapit of Commentators,” was presented at Teatro Costanzi on Feb. 21, 1913, according to Berghaus (ibid., 174).

[103] Ibid.

[104] Ibid.

6. Unknown Forces

> Everything moves toward catastrophe! And one must have the courage to surpass oneself until death.
>
> —Umberto Boccioni, 1911[1]

With *Unique Forms of Continuity in Space* in 1913 (Fig. 84), Boccioni modeled a complex visual statement on mobility and plasticity, capturing a historical sense of bodily potential and continuing to represent an ambitious achievement for early twentieth-century sculpture. Showing more vigor than a walk, but less than a sprint, the nonnaturalistic assemblage of bodily forces implies swift action, as if jogging or marching in double time. The syncopated volumes of muscle appear to be distorted by the ongoing, metamorphic activity. Originally constructed in plaster, then cast in bronze posthumously, this freestanding statue was described by the artist as his "most liberated" sculptural work.[2] The figure appears to overflow with excitement and exudes a sense of purpose as well. Its right shoulder juts forward confidently, similar to the equestrian cadence of Verrocchio's monument to Bartolomeo Colleoni in Venice (a photograph of which the artist owned; Fig. 85). Overlapping planes compose the back and shoulders of the figure, while framing a wide chest that reads at once as rib cage, military uniform, and armor plating. First exhibited in Paris in the summer of 1913, the figure garnered immediate praise and attained a mythic status for its commitment to a new visual language of movement. We might initially describe it as a modern rendition of Talos, refashioned according to an industrial rhythm.[3] At the same time, this deformed body subtly echoes equine anatomy: with its quick, muscular gait, the body lacks arms, and both legs bend in the opposite direction, while tapering into utilitarian hooves. It has a diminutive cranium that resembles Colleoni's round helmet from the side, but looks flimsy head on. In lieu of a face, geometric planes assemble around a thick horizontal element pulling the whole

figure forward, as if by reins or a cruelly spiked bit. This fusion of human and animal possibilities adds to its formal language of mobility that avoids obvious social type or status. If the work has become iconic—appearing on the Euro coin in 2002, for example—its disjointed features also continue to defy recognition, leading to a series of questions: who is it, where is it going, and what does it want? We might begin to formulate answers to these questions by outlining of several myths from that period related to the formation of the modern subject.

Boccioni's figure in motion extends a lineage of artistic and intellectual works made in Italy that aimed to inspire a sense of national unity among its citizens. In the mid-nineteenth century, the as-yet unformed national identity was described by artist and statesman Massimo D'Azeglio as an effort to restore the Italian character: "Italy has been revived, [and] the Italian character will be revived as well."[4] To promote a sense of civic responsibility, this ideological project of mental and physical revival would entail instilling the qualities that were associated with good national character, while also being amenable to moral, civic, and physical education. Such a subject was presumed to be strong, but it alternated between taking the lead and following directives.[5] By the early twentieth century, the futurists mobilized around an updated version of this model citizen, one that was adapted to a modern, industrial society. Their modernist version was not so much aligned with technology as it was calibrated to meet the demands of social and economic modernization. Exhibiting traits hardly unique to Italians—such as muscularity, decisiveness, and youthful impertinence—a basic template of masculine vigor organized around the seductive myth of "the new man," which would later inspire youth of different countries after World War I.[6] Before the war however, this myth was forged incrementally by Italian artists and writers who wanted to escape the weight of their history. Exemplifying this attitude, futurist Giovanni Papini's "The Discourse of Rome" (1913) appealed to a protean image of "the man, the naked man, the man who knows to begin from himself."[7] Instead of a mechanized body, his renovated figure was composed of naked flesh, raw human potential, without clothing or encumbrance. It charted its own course and

encountered unforeseen outcomes. Directly challenging the civilizing "discourse" historically rooted in Roman classicism,[8] Papini revealed some of the futurists' new investments: "We want to create a man who chooses decisively between the duties of the citizen and the rights of the artist."[9] No longer limited to serving a greater good, this modern figure would show singular, artistic determination. It would be a free spirit in a rejuvenated body. Appropriately, Papini's influential text was publicly recited at the Teatro Costanzi in Rome in late February 1913: the historical discourse of refinement and restraint brazenly returned to its place of origin, deformed and unrecognizable. Barely a month after attending this reading, Boccioni produced his "most liberated" sculptural work—the anti-classical figure in movement, which offered a comparable framework for imagining the freethinking subject.

From 1912, Boccioni began to make figural representations that avoided using well-defined structure of human anatomy and that rejected those visual systems associated with social legibility, underwritten by physiognomy. Although he departed from conventional concepts, he struggled to arrive at a new set of figural possibilities based on movement outside of static traits. Giving shape to a less defined mode of figuration, he gravitated toward vague bodily contours that loosely conformed to such stereotypically masculine qualities as action and assertiveness. *Unique Forms* likewise expresses this tendency to elude anatomical and aesthetic limits. What initially resolves as a cohesive full-length figure shifts before one's eyes, eluding clear identification and subdividing into new parts beyond classification. Probing the surrounding space, while anchored to its somewhat abbreviated plinth, the malleable body oscillates between undulating curvature and regular geometry with a crude grace reminiscent of youthful conviction. This energetic mass verges on losing control, and its molten forms create an effect of menacing momentum, often mistaken for machine-like determination, especially after being repeatedly rendered in bronze. Separated from the ground by the geometric base, the abrupt motion appears to traverse a smooth horizontal plane, as if sliding along precisely engineered tracks.[10] At the intersection of human forms, animal forces, and

geometric regularity, this composition ventriloquizes machinic possibilities (perhaps in anticipation of more distinctly vehicular trajectories), thus resonating with another prominent avant-garde motif of mechanical figuration: the machine-child.

In futurist founder Filippo-Tommaso Marinetti's 1909 novel *Mafarka the Futurist*, the main character endeavors to build a mechanical son that is part airplane and part human.[11] With his technical ingenuity, he circumvents a woman's role in reproduction, so the resulting vehicular creature defies not only gravity and history, but biology as well. With mechanized appendages in place of arms, this Icarus of the industrial era comprises a creature of uncertain origin, suspended between the human and the machine. This implicitly misogynistic idea of machinic conception worked as a symbol of both patrimony and artistic production. The machine-child motif was taken up a few years later in dadaism—with abundant irony—in such works as Marcel Duchamp's "headlight-child" and Francis Picabia's *Girl Born without a Mother* (c. 1915).[12] In another text, Marinetti reiterated his love of machinery by positing a wider aim of futurism: "we aspire to the creation of a nonhuman species."[13] Unlike Papini's "naked man," this nonhuman birth exemplifies a tendency in Marinetti's works to use technological imagery to imagine the modern citizen, uninhibited by mere flesh. Evidently, for him, the mechanical was synonymous with the nonhuman, and both connoted radical revision. This distinction between the mythic renewal of the human spirit in general and the fabrication of mechanized body in particular helps to contextualize Boccioni's *Unique Forms*, which art historians often read as having a mechanized, cybernetic quality.[14] In fact, this sculpted figure does not refer to machines and technology, not directly anyway, but recalibrating this interpretation proceeds over the course of this chapter—in three interrelated sections on muscularity, architecture, and metal. For now, it is enough to suggest that some of the confusion may arise from the resemblance between two version of the modern subject—Marinetti's machine-child and the longstanding literary and visual figure of the motherless child (or "mitherless bairn"). Like its cybernetic cousin, the orphan motif carries a similarly

questionable definition of origin (due to uncertain parentage), and, by underwriting an alternate version of the rootless subject, stranded amid forces of modernization, it comes closer than the machine-child to capturing the actual trajectory of Boccioni's sculpture.

To be orphaned meant to have an unknown family lineage, so the orphan was called "son of unknowns" (*figlio di ignoti* in Italian) or otherwise described as "father unknown" (*padre ignoto*). While the conditions of population growth and poverty in Europe of the late nineteenth and early twentieth centuries resulted in serious social problems with respect to abandoned children, the orphan also functioned in a somewhat more optimistic context—as a metaphor for newly urbanized people who chose to break their traditional familial ties in the countryside.[15] Not wholly consistent with either of these positive or negative connotations, Boccioni employed the term *unknown* (*ignoto*) repeatedly in personal and poetic writings to describe an existential condition. An undated entry from his diary reads: "Perhaps living and creating is the only revenge, the only possibly insult against the unknown which has already left its mark on us and from which we will never escape."[16] Even as this remark conveys a deeply etched condition, perhaps the most striking examples appear in his free-word poem "Small Dress Shoe + Urine" (1913), which swings dizzyingly between social, psychological, and microscopic levels of perception. Beginning with a monetary transaction on a London street involving a prostitute, the scene then shifts to their sexual encounter.[17] His fragmented imagery magnifies ever-smaller details, until his perspective finally gives way to biological, indeed chemical, processes. With a vertiginous combination of microscopic and macroscopic magnifications, Boccioni ponders the chances of this meeting resulting in offspring. The gap between sated desire and possible procreation holds for him consequences of cosmic significance, and he returns repeatedly to one word—*unknown* (*ignoto*; Fig. 86).[18] One of the central themes of this freeform poem, the unknown connoted a predicament that could not be separated from a sense of uncertain patrimony, whether his own or a more general notion of social and historical condition.[19] Although this term did not show up in his manifestos, it

nonetheless supplied a powerful premise for his radical social and aesthetic ideas, which informed his work throughout his tragically short career. Animating Boccioni's concept of the anonymous body in motion, the orphan likewise figured into Papini's work a few years later as an analogy for the modern citizen.

The condition of unknown origins corresponds with the experiences of a vast urban population in Papini's volume of essays *Four and Twenty Minds* (1918), which commences with an ode to "The Unknown Man." The writer argues that, instead of producing idealized biographies of individuals, writers ought to document those whose stories have not been written, those who comprise "the most important personage in history, the greatest hero of humanity."[20] Such a depiction of heroic, unknown persons (by which he meant the general populace) mirrors Scipio Sighele's populist rhetoric from fifteen years earlier that had referred to the anonymous crowd as "the true protagonist of history."[21] Papini briefly traces the lineage of this unknown type from ancient times to historical events, and even to modern democracy, claiming that, by avoiding recognizable individual traits, this nameless crowd has managed to resist labeling and identification—thus constituting a collective body without identifiable features. Instead of fear, this image of the unknown should inspire respect, he advises. In an eerie foreshadowing of the 1921 burial of the Unknown Soldiers in Rome, the author wrote that, even though modern society places too much importance on individual identity, "should not we forgetful moderns erect a monument to the Unknown Man?"[22] As a monument to forgetfulness, the concept of the unknown foregrounded mass anonymity for a modern era. Rooted in pre–World War I rhetoric of the crowd, his concept became ensconced within the image of the new man, and it indicated not so much a direct blueprint for authoritarian politics as a necessary precondition for its development. The empowerment of unknown persons served a key proposition for underwriting different models of mass society—authoritarian, democratic, and otherwise—and it filtered into competing ideologies, finding expression in various cultural forms spanning diverse social, political, and aesthetic contexts.

Embracing the experience of indeterminacy in his works, Boccioni traced the varied contours of the modern anonymous subject. Writing in his 1914 book on painting and sculpture, he declared: "*We modern Italians have no past* ... We futurists are the only *primitives of a new and completely transformed sensibility*."[23] His visualization of unfolding social and aesthetic activity matched his language of collective potentiality, pitched to urban populations. For instance, he made paintings of spontaneous energies irrupting from productive and agitated crowds in 1910–11 (Figs. 7 and 11). Following his interest in urban crowds, Boccioni started to make works composed of a single figure by 1912–13, in which the body is overtaken by spontaneous and agitated forces.[24] He sought to isolate the basic unit of social change, and his sculpture *Unique Forms* composed a set of visual propositions that opened productive avenues for the avant-garde, even as it intersected with ideas that would lead to disastrous historical outcomes. Art historian Marianne Martin describes this work as "perhaps the most exalted statement of the cathartic and resuscitative aims of Futurism, which demanded not only a new world with new values, but a new man as well."[25] Alongside the textual and thematic ideas presented thus far on the lineage of the abandoned child, the broader issue concerning how this work relates to "a new man" amid the pervasive sense of social and historical uncertainty will be developed over the course of this chapter. I will be analyzing the formal and conceptual significance of this particular work along the following three crucial trajectories: its expression of muscular movement, its relation to architectonic form, and its posthumous casting in bronze. With its diverse vectors of possibility, this sculpture has come to symbolize many things over the years: for instance, a fusion of human and nonhuman elements, an exemplar of modern, industrial ambition, and a harbinger of military conflict or authoritarianism. What is often missing from these analyses is a sense of what was at stake in this image of vigorous figural activity, which revolved around the search for the aesthetic terms by which a modern body could adapt to the unknown forces unleashed by modernity.

Muscular Movement

In his drawings and works on paper beginning in late 1912, Boccioni depicts energetic pulses moving across muscular armatures without showing much concern for anatomical actualities. A frenzied conjunction of bulges and hollows in his drawing *Muscular Dynamism* (1913; Fig. 87), for instance, overtakes a torso moving mid-stride through a range of positions. Dark lines etch a muscular calligraphy onto the page, as airy passages are threaded into and beyond the figure to model an athletic physique with oddly abbreviated appendages. Unlike the imprecision associated with *pentimento* lines, this accumulation of diverging and intersecting lines specifies an unfolding reserve of energy not yet fully actualized. The areas around the legs employ an assortment of lines, running perpendicular to the presumed outline of the body, extending the motion into the surrounding space. Initially, the effects appear scattered, but the sum of these disparate, rhythmic elements gives an overall quality of forward momentum, like a quantum diagram of micro-pulsations comprising a singular gesture of psychophysical exertion. Pushing the motion to the left, a straight white line extends from the right edge of the image, like the long tail of an arrow prodding the figure's darkened spine. Similar to an actual arrow symbol, the trajectory of this figure is neither past, nor future, but ever-present: unfolding virtual motion on the visual plane. Boccioni's approach to movement contrasts with other more mechanical depictions of motion from the same period, as with many of the artworks inspired by Marey's chronophotography. The mechanical trajectory treats temporal succession as equal parts distributed across the visual field. For example, Duchamp's *Nude Descending a Staircase, No. 2* (1913) uses linear repetition of visual elements to give an indication of elapsed time, and a similar distribution of successive moments is evident in Giacomo Balla's *Dynamism of a Dog on a Leash* (1912), as well as in photographic images by Arturo and Anton Giulio Bragaglias, such as *The Bow* (1911) and *Greetings* (1911). While these formal repetitions can be traced back to the automatic

processes of the camera (as discussed in chapters 2 and 3), the same cannot be said of Boccioni's works made between 1912 and 1913 that visualize a type of bodily motion not premised on mechanical means and that circumvent the quantitative measures of Marey's biomechanical method.

In lieu of linear succession, Boccioni envisioned movement in a continuous, integrated process that allocates psychic and physiological potentials over the entire figural framework. He outlined his approach in an exhibition catalog essay:

> A *body in movement* is not therefore, for me, the study of a still body subsequently rendered in movement, but a *body in actual movement*, that is a living reality, absolutely new and original. To render a body in movement, I certainly do not give the trajectory or the passage from a state of rest to another state of rest, but rather I force myself to fix the form that expresses its continuity in space.[26]

Some confusion may arise from of the artist's use of the phrase "body in actual movement," which, in this context, corresponds to a concept of reality not precisely definable within systems of spatial or temporal measurement. So, what he calls "actual movement" involves an integration of internal and external processes that refers to what we might call "virtual movement." This "living reality" of motion does not present motion as successive states, but rather develops a nonmeasurable approach dubbed "continuity in space." In a review of Boccioni's sculpture and drawing show that traveled to Rome in December 1913, critic and artist Polidoro Benveduti slightly reformulated this aesthetic aim, perhaps owing to this confusion: "It is understood that to construct or to compose a dynamic whole it is necessary to study reality in motion or in its possibility of movement."[27] For Benveduti, "reality in motion" was adjacent to possible motion beyond actuality. Indeed, not all potentials of the figure become manifested in actuality. Similarly, the movements available to a person are not always actualized, and they may even defy actuality, including immaterial forces that move the body or that open divergent trajectories within the same frame of reference. Being real but beyond precise measure, the virtual dimension of motion involves such actions as advance planning or adapting to a complex situation. In a psychophysical context, the range of potentials

available to a person crossing a street or navigating a crowded piazza, for example, are virtual conditions that might be deemed immaterial or even metaphysical, strictly speaking. But, while it is akin to individual and collective will, virtual motion is not synonymous with spirit. In Boccioni's work from this period, the profusion of marks emitted from a central figural core connoted a malleable substance that was able to connect potentiality with actuality. His visual solutions came not from mechanical reproduction but from an invented formal system of virtual motion.

In other works on paper by Boccioni, we witness the same tendency to abstract from the literal trajectories of successive positions in space using diverse visual techniques and unusual bodily contours. The figure in *Muscles in Speed* (1913; Fig. 1) has a left-charging posture composed of sharp linear coordinates, overlaying a patchwork pattern of shaded masses and empty spaces. With pumping legs that propel the torso towards the upper left corner of the frame, the close-up view transcribes an uncoiling of psychophysical forces. A wide mix of lines, strokes, and washes modulates the flow of visual motion across the frame: clusters of formal elements signify a dense concentration of muscular force. As these techniques render a tumult of moving parts, the figure's interior and exterior are visually interwoven, so that exact figural contours are left undefined. Even when the figure has been more firmly delineated in the frame, as in *Dynamism of a Human Body* (1913; Fig. 88), its contour does not comprise a closed shape. There is no head, feet, or hands, and its partially delineated extremities blend with the exterior. Along the top edge, the shoulder traces an angle of swift motion leading to an arm that dissolves into a band of positional probability. Likewise, the legs have indeterminate contours that elude anatomical actuality. These limbs are not absent or amputated, but rather open to the atmospheric surround: they are rendered indistinct by their virtual movement.

Alongside his use of mixed techniques and loosely delineated outlines, the pivot-action of bodily joints in his figural drawings exhibits a greater degree of formal definition.

Small curved lines around hips and knees indicate tight rotational arcs in various works, such as *Muscular Dynamism* (1913; Fig. 89) and, most graphically, *Study for Dynamism of a Human Body* (1913; Fig. 90). These lines are not anatomical and instead show a range of possible motion; again, like an arrow's tail, they indicate a virtual trajectory in lieu of precise spatial positioning. Other vitalist flourishes often appear next to these curved lines, like arrow points that mark an upward thrust of energy overtaking the figure, as with *Muscles in Speed* (Fig. 1) and *Muscular Dynamism* (Fig. 87). These flame-like extensions correspond with a flicker effect of proprioceptive awareness, analogized so effectively by Walter Benjamin's description of characters behaving erratically: "darting flames of impatience who flicker in the drafts of fate."[28] Boccioni's aesthetic impulses are attuned to an experiential register of impatience that does not resolve rationally or scientifically, but is rooted in a heightened sense of anticipation consistent with the expectation of events not yet actualized.

Anticipation was a pivotal concept to philosophical, psychological, and physiological inquiry in the late nineteenth century. For instance, philosopher Henri Bergson distinguished between two forms of anticipation: one predicts patterns of activity by measuring effects and by reducing uncertainty, while another preserves the conditions of uncertainty in which voluntary action occurs.[29] The latter insists upon interpreting time as an opaque medium that has been artificially made to seem transparent by the former. In effect, the accidental quality of anticipation aims to preserve freewill by avoiding principles of strict measurement. In another context, physiologist and psychologist Wilhelm Wundt described a sense of anticipation that would later come to haunt pre–World War I Europe:

> Emotions exhibit peculiar modifications when their affective character is [determined] ... by ideas which refer to the future, whether in the way that an occurrence is definitely expected, or that some indefinite idea of the future gives rise to a feeling, and through it to an emotion. The most general of these expectations of the future is expectation itself. In it we outrun the impressions of the present, and anticipate those which the future will bring.[30]

A person physically and emotionally prepares for upheaval prompted by expectations or by "some indefinite idea of the future." As a bodily expression of the virtual, this propensity to "outrun the impressions of the present" involves the psychophysical processes of anticipation. Such an anticipatory condition, in which overflowing affective forces obscure actuality, is the concept of the future that resonates through a wide spectrum of aesthetic attitudes in Italian futurism. Visually speaking, the unbounded shapes and volumetric extensions of Boccioni's moving figures envision the ways that anticipation and affect overtake the actual. Stretched across a range of possible positions, the multiplying formal adjustments of the virtual body displace an actualized, physical anatomy during a moment of heightened uncertainty.

Anticipation also informed an important observation from the period immediately before World War I concerning physical and social agitation. In 1913, historian Guglielmo Ferrero described what he perceived to be a pervasive condition:

> Never has man lived in such a state of permanent and growing excitement ... Can we conceive our perpetual agitation being left without any limits save exhaustion, insanity, or death? ... The limits of the over-excitement of our nerves raise one of the most serious problems of our epoch.[31]

He aimed to direct this "perpetual agitation" toward organized physical activities, such as sport, thereby diffusing the social agitation of the general populace. The psychophysical quality of agitation was thought to manifest an inherent predisposition for revolution, as with the contagious effects of crowd outbursts, described by Scipio Sighele, Gustave Le Bon, and Gabriel Tarde.[32] As discussed in chapter 1, the futurists subscribed to this idea of involuntary mass behavior, but they thought it could trigger sociohistorical change, and the concept of spontaneous revolution recurs in the interwar period in intellectual discourse and artistic imagery.[33] In 1911, Boccioni's *Riot in the Galleria* and Luigi Russolo's *Riot* pictured overflowing agitated forces that matched futurist rhetoric about historical transformation. Following his investigations of the riotous crowd, as one among other types of crowds,

Boccioni turned his attention in 1912–13 to depicting solitary figures with a similar sense of overflowing excitability that was consistent with Ferrero's "over-excitement of nerves."

Inscribing the excessive energies of the virtual body in motion, Boccioni rendered the visual effects of anticipation with greater specificity and imagination in his works tracing the paths of unbounded figures. Reviewing the body of work in late 1913, Benveduti described a "lyrical impetus of the material towards the infinite," arising from the linear forms of the spiral, the parabola and the hyperbola.[34] Eluding closure, these shapes mold an open figural contour. As Benveduti explained, visual force is demonstrated by this formal expansion: "Dynamism awakens in us the idea of force, thus of movement: alright. But what type of movement? THE MOVEMENT OF THE FORCE. (To be clear: a circle is an immobile form; a hyperbola and a spiral are forms in movement: the typical forms that material assumes as soon as it expands)."[35] In contrast with the regularity of a circle, irregular forms inscribe force at the level of form and contour.[36] In *Dynamism of a Human Body* (1913; Fig. 91), for example, an abstract figure melds with its surroundings. Intersecting lines diagram multiple vectors trailing off the left and right and bottom edges. This loose visual arrangement charts contiguous, disjunctive volumes within which blended colors modulate the impressions of bodily sensations and responses. Highlights of lavender accentuate the contrast by producing an effect associated with increased activity, particularly in the lower half of the image, while dark hues of green, sienna, and purple settle into adjacent passages of lower intensity. Compared with this colorized figure, the less chromatic *Dynamism of a Human Body* (Fig. 88) plays black ink contours against blank areas. These basic pictorial elements produce an origami pattern of folding and dimpling that nonetheless yields an impossible figure that would appear to compose its own ground. Dark green and ghostly magenta flow like vitalist energies through a labyrinth of nonintersecting lines. The open contour in this work asserts a minimal degree of separation and bodily organization before collapsing into a visual field equated with fluid motion.

In 1914, the budding art historian Roberto Longhi published a long text on Boccioni's sculptures and works on paper from 1912–1913 that remains as one of the most persuasive discussions of the artist. Like Benveduti, Longhi attributes a stirring visual power to the formal tendency of "unhinged" contours.[37] Expressing agitation, his lines create "dangerous" and "imperious" curves that trace their lineage to Renaissance painting: "Reward to those who will know how to stop the movement of a single line of Botticelli, or of Boccioni."[38] Informing this comparison was his observation that both Boccioni and Botticelli employ the curved line as an unstoppable force of figural vitality, and both explored the figure in motion, or what art historian Aby Warburg elsewhere at this time had called, in the context of classical painting, the "alien figure."[39] In a similar vein, Longhi describes an irruption of ancient force in Boccioni's work—they are "spontaneously ancient, but not, mind you, antiquated."[40] Anticipation supplies a key coefficient of free motion to the futurist figures, though the unpredictable muscular curvature of the modern body stretches across a virtual plane of motion. Escaping closed, regularized forms, this linear profusion infuses all of Boccioni's figural works on paper from 1912–13, generating a latticework of abstract figural possibilities. According to the artist, these paper works were preparatory sketches for his sculptures, yet the linear quality associated with virtual motion would be somewhat different when translated into three-dimensions.[41]

While the effect of movement in his two-dimensional works derives from aggregated marks, sketchy outlines, and semi-transparent washes, there were no direct equivalents for these techniques in sculpture. Material was present or not, so the figure could not simply fade into its surroundings. The artist had already declared his intent the year prior: "Renewal [of sculpture] is impossible without looking for the STYLE OF MOVEMENT."[42] After returning to his studio in Milan after a trip to Rome, where he spent several weeks in February–March 1913 involved with futurist exhibits and events, Boccioni constructed a series of four full-length plaster figures during an intensely productive period—from April to June. Each work in the sculptural series carries a distinct rhythm of movement, or visual chronotope—from the lento

of *Synthesis of Human Dynamism* (1913; Fig. 92) to the andante of *Spiral Expansion of Muscles in Motion* (1913; Fig. 93), from the allegro of *Muscles in Speed* (1913; Fig. 94) to the presto of *Unique Forms* (1913).[43] Across this series of works, the effects of motion are inversely proportional to the amount of accumulated material, and the figures with less material appear lighter and more agile. Eschewing anatomical depiction, Boccioni's formal distortion refuses those visual and tactile qualities typically associated with naturalistic light reflections on solid surfaces. In lieu of depicting physical objects through light and dark, his assemblages of shapes conjure invisible properties, akin to magnetic fields of force. The plaster surfaces are not associated with luminosity, but they act as bands of energetic activity, so that the figures depict sources of electromagnetic or thermal intensity. The nonvisible, virtual fields of motion calibrate varying degrees of radiating intensity, amounting to an externalization of internal forces, whether voluntary or involuntary.[44] Preserving an unbounded linear vitality, his sculptures modulate types of energetic expansion. The artist explained the intended effect on viewers in the preface to the catalog for his 1913 exhibit in Paris: "The spectator must ideally construct a continuity (simultaneity) that is suggested by the form-forces, equivalent to the expansive power of the bodies."[45] Extrapolating from the formal elements given, viewers arrive at psychic and emotional equivalents (i.e., reversing the path of externalization), so their mental constructions recreate the resonance patterns found in the artwork, or what Boccioni described as "the model form—the form of forms."[46] The continuity of internal and external forces explains why three-dimensional sculptural distortions not only express motion but also instill the mental disposition appropriate to this accelerated condition. Of these full-length plaster figures, three were destroyed—*Synthesis of Human Dynamism*, *Spiral Expansion of Muscles in Motion*, and *Muscles in Speed*—and the only one to survive was, curiously, the one that projects the swiftest, most spontaneous qualities of movement—*Unique Forms*.[47]

As with the works on paper, *Unique Forms* uses curvature to capture a forward momentum that is reminiscent of classical works, such as *Nike of Samathrace* (250–180 BC; Fig. 97). Side-by-side comparison between the modern and ancient works is irresistible given that both harness the visual effects of mobility. *Nike* generates visual movement from a combination of elements—leaning pose, actual wings, and full-length draping. The draping, in particular, supplies the formal tendency common to both figures. By pressing against and trailing behind the ancient goddess, the windblown fabric creates various impressions of force—from taut to loose, from creased to smooth. This range of formal effects parallels the variation in *Unique Forms* between sweeping planar undulations and more detailed articulations—a dichotomy of motion that had been established in the drawings as the relationship between an unbounded motion of limbs and the more specific trajectories of joints. Perhaps the strongest effect of movement in *Nike* occurs at points where the fabric extends furthest from the bodily core, since the force appears to intensify as it moves outward, similar to the action of a whip. These undulations in the fabric, translated into solid marble, signal the flutter of an unfolding moment that entails vital energies extending beyond the bodily envelope. Boccioni's open contour formulates a modern analog to this classical draping. An increased effect of movement in *Unique Forms* is similarly located at the points furthest removed from the torso. For example, the flimsy cranial flap bends elastically like a fin or like a partially unfurled sail, offered to any passing wind. In addition, flame-like trails ripple behind the figure's calves with an unhinged motion, approximating a frenzied pattern of dissipating force. Boccioni declared his aim to "MODEL THE ATMOSPHERE which surrounds objects," in order to express an interconnected reality of invisible and visible realms.[48] Instead of depicting the actual forces of windblown drapery, the vitalist undulations of the modern statue exemplify the formal principles that attempt to integrate internal and external flows—or, as he called it, "external plastic infinity" and "internal plastic infinity."[49]

Fabricated over a few months, Boccioni's full-length sculpted figures each consist of a plaster medium poured over, and modeled onto, a metal armature attached to a wooden base. Made of gypsum mixed with water, the medium begins as a moldable compound, but hardens with exothermic haste. Sculpting with plaster occurs in both additive and subtractive phases—the wet material is initially built up and, then, the dried mass is carved and finished. Due to its ease of use and its cost relative to stone, it was commonly used for centuries to decorate architectural interiors. At the same time, plaster is fragile, easily suffering discoloration and damage from physical contact or moisture. As a sculptural medium, it is ideal for making molds, but is usually considered a transitional medium due to its structural instability. Compensating for this lack of resilience, three works in Boccioni's figural series—*Synthesis of Human Dynamism*, *Spiral Expansion of Muscles in Motion*, and *Muscles in Speed*—build up thick trunk-like deposits that firmly root each figure to its base. Counteracting the heaviness of these other pieces, *Unique Forms* (1913) fashions lighter, more agile looking forms, and their greater separation from the support yields a stronger effect of rapidity. Inseparable from the artist's desire to create new objects in their environment was his project to present indeterminate activity and anticipation, however, it should be mentioned that virtual motion was not the initial intent of his formal experiments with sculpture.

In April 1912, before ever working in three dimensions, Boccioni proposed using diverse or everyday materials in sculpture as a strategy of formal interpenetration.[50] Since cogs, flywheels, or propellers are part of modern daily life, he reasoned, they blend into the body. As part of his concept of sculptural innovation, this compositional premise involved embedding actual objects and mechanical elements in the figure. When he started producing works in late 1912, however, he did not employ technological elements. Well before making his four full-length plaster figures, the artist made a few busts—*Fusion of a Head and a Window* (1912–13; Fig. 95) and *Head + House + Light* (1912–13; Fig. 96)—in which various foreign elements were combined with the plaster, such as human hair, a window casing, and a

section of metal railing. Shown alongside the full-length figures in the summer 1913 exhibit in Paris (but now destroyed), these formal experiments did not presume to depict motion, though they would lead to it indirectly. Adding foreign materials to the plaster complicated the finishing process, so the surfaces of the plaster material in those earlier works would have remained relatively rough. Also, judging from photographic documentation, these composite works using plaster were these less successful initial attempts to mix materials, anticipating his more resolved formal innovations of 1914–15 that utilize diverse materials, though without plaster.[51] His late-1912 experiments with real-world elements would have shown him that the plaster used on its own could be more conducive to the full range of formal and technical manipulation, including carving and finishing. In this homogeneous state, this medium—with its speedy construction and fragility—became more capable of modeling the effects of motion.[52] So, as he became more intently focused on rendering energetic figures, the elimination of embedded objects would have comprised an essential condition for discovering those plastic qualities associated with speed and agility.

Plasticity generally connotes a material that can receive impressions by accurately absorbing immaterial forces during the fabrication process. In contrast to material resistance, plasticity carries the connotation of instability. Expressing plasticity and motion, *Unique Forms* continued an approach mastered by Auguste Rodin, who introduced movement into sculpted figure in the late 1870s. Their shared interest in bodily and material plasticity foregrounds a significant contrast between them. Generally speaking, Boccioni avoided conventional figural anatomy like Rodin, who used improbable postures and exaggerated torsion to translate ineffable experiences into formal propositions, as in his *Flying Figure* (1890–91). At a simple level, *Unique Forms* emphasizes lower body exertion and eliminates the arms, much like Rodin's *L'Homme qui marche*, (1877; Fig. 98) which had no need for them "because a man walks on his legs," according to the artist.[53] Certain figures in Rodin's *Gates of Hell* look half formed or partially melted, as if to indicate their emergence from, and return to, flowing matter.

For Boccioni, the degree of anatomical distortion intensified over the course of making his four full-length plaster figures. By the time he produced *Unique Forms*, he went from delineating recognizable body parts (e.g., facial features, hands, and feet) to modeling more abstract forms. In light of a similar degree of anatomical distortion, it is hard not to think of Boccioni's work when art historian Leo Steinberg describes Rodin's sculpture "as a viscous flow that melts and reconstitutes itself before our eyes."[54] Elsewhere, Steinberg notes, a figure by Rodin exhibits a "skinflow of continuity"—a quality that would be extended by Boccioni's exploration of virtual motion.[55] Their similar interest in formal distortion, however, depended on very different surface effects.

Each sculptor treated the surface of the figure from divergent, even incompatible, formal perspectives. For Rodin, various inconsistencies on the sculptural surface originated during the process of making, as the artist manually subjected the bodies to inhuman forces—such as twisting, tearing, or sheering off parts. These deviations became analogous to the real-life distortions that befall idealized bodily forms. Alongside the impressions left by the artist's hands were the effects of accidents occurring during fabrication—such as bursting, bubbling, or crumbling of the materials.[56] Expanding upon Michelangelo's technique of *non finito*, Rodin's motley surfaces reiterated the visual mantra of imperfect earthly materializations. The effects of physical contingency signal unavoidable, sometimes catastrophic circumstances, to which humans succumb in the actual world. A sense of brutality, according to intentional and unintentional manipulations, may also create great psychic and physical distress, as with the bodies in *The Gates of Hell*. This connotation of disastrous encounters also infuses descriptions of Rodin's works: according to Steinberg, his sculpted surfaces offer a "tragic sense of man victimized" that makes "the musculature of a torso seethe like blistering lava."[57] Elsewhere, Steinberg links the formal approach of the artist to the context of social uprising: "He [Rodin] knew, as every revolutionary mob knows, that the mangling of a representative statue reads as an act of aggression against its prototype."[58]

If violence inflicted on material forms carries symbolic weight, the material distress in Rodin's work also holds a more direct relation to disaster. Historically, Rodin's work matured around the time that archaeologist Giuseppe Fiorelli invented a method for preserving the outlines of the bodies found buried in the volcanic ash in Pompeii (Fig. 83). The Fiorelli process, as it was called, involved pouring wet plaster into the vacuous impressions left by the deteriorated remains, then excavating those "castings" from the empty spaces. The resulting imperfect shapes manifested a type of figuration that merged material contingency with the actual circumstances of catastrophe: the distorted and partial anatomies provided an index of the terrifying historical event. Fiorelli's eroded, broken, and oozing bodies are neither idealized bodies nor realistic forms, and their capacity to record destructive effects offers a nonaesthetic analog to Rodin's material contingencies. As with Fiorelli's castings from imperfect molds, Rodin's sculptures sought to apprehend ineffable experiences and to write the human figure in a visual language of disaster through figural distortions and rough treatments.

When Boccioni took up sculpture towards the end of 1912, he explored surface roughness to the extent that the objects embedded in plaster precluded fully finishing the forms. Gradually seduced by the smoothness of plaster, his figural works would come to escape the idea of unavoidable material contingency. Aligned with anticipatory motion, the full-length figures increasingly relied on smoothness to depict motion. By the time he made *Unique Forms*, his plastic sensibility aimed to minimize accidental or incidental friction and to sidestep those concrete actualities that might cause atmospheric drag. If Rodin's roughness is reminiscent of Michelangelo's *non finito*, Boccioni's smoothness shows another type of incompleteness—one in which forces are not yet actualized. For instance, the original plaster model of *Unique Forms* was likely smoothed with a wet sponge and, later, with dry sandpaper in order to remove incidental deviations from the overall shapes. Responding to the desire—really, the necessity—for movement, its smooth vectors slice through the air, mostly avoiding the visual effects of material contingency and introducing a sense of liberatory velocity,

however virtual or fleeting. The bodily intensities of the futurist figure plot a three-dimensional matrix of psychophysiological potentials that does not correspond directly to anatomy or materiality. Given that physical mobility demands a degree of psychic plasticity, this visualization of virtual motion measures the space of both physical agility and mental preparedness, a space permanently inclined toward anticipation and action.[59] As a vigorous response to sociohistorical uncertainty, this model of virtual movement approximates the parameters of freedom set forth by Bergson by opening to a visual space of indeterminate action.

The modeled plaster of *Unique Forms* introduces a singular bodily image into an empty space literally and conceptually. In futurist sculpture, Boccioni writes, "the elements are scattered to create planes, voids, views."[60] *The void* here refers to the literal condition of space that is not filled with matter. The artist employed an additive process to create material forms where previously there were none, and this idea of filling an empty space has distinct physical and psychical consequences, as Adrian Stokes made evident in his writings concerning the differences between modeling and carving in the visual arts.[61] In a less literal sense, Boccioni describes, in a later text, how his three-dimensional figuration blends into its environment: "We will have the elongation of the body in a ray of light that hits it and entering from a *void* into a *fullness* that passes before it."[62] Originating from the artist's mind, this *void* now represents immateriality and immaterial forces, and it serves as a metaphor for addressing the growing sense of excitement referred to by Ferrero. The idea of the void modulating the figure recurs in writings about Boccioni's plaster figures, but it is also used by his contemporaries who were familiar with his sculptural works.

Describing the futurist's figures in retrospect, Emilio Cecchi uses *the void* to express a more physical connotation: "Sculpture fills the shape of the void made in the air by a body that moves."[63] This shaped expanse connotes the formal relationship between atmospheric conditions and modeled plaster. Using a slightly different connotation of this term, the poet

Giuseppe Ungaretti refers to *the void* when telling an anecdote about talking to a young unnamed sculptor, who I take to be Boccioni.[64] This sculptor had told the poet that, while Michelangelo sought to free figures from the solid block, "for us, instead, sculpture fills the void that invokes an apparition."[65] This reads very much like Boccioni's remarks (also in the first-person plural), distinguishing his own work from Michelangelo's: "If the Greeks and Michelangelo have given the type of what is solid and human, we will render sensation as the type of the spirit."[66] Whether used by the artist or his peers, the term *the void* denotes a ubiquitous, but invisible realm that infuses concrete actuality as with air currents, as well as with immaterial forces, and, used to refer to Boccioni's images of figural motion, the term signals virtual space.

Reconfiguring the figure vis-à-vis a shaped void visually manifested a synthesis of idealism and realism. Boccioni noted in a manifesto from 1913: "Between real and ideal forms ... we have discovered a form which is variable, evolutionary, and quite different from any other concepts which have existed up till now. We futurists have discovered form in movement, and the movement of form."[67] The virtual dimension of the body created a formal solution to the problematic polarity between continuity of bodily experience and discontinuity of intellectual reflection.[68] An aesthetic fusion of ideal and real, the virtual simultaneously contains and disperses material forms, while opening a conceptual space to depict the experience of transformed subjectivity. Disrupting the visual field, Boccioni's inscriptions of virtual motion demonstrate energies that enliven the body beyond fixed appearances. Yet, this mode of figuration presents problems for the concept of individual identity, since the virtual aims to escape those material and sociohistorical contingencies that anchor personal responsibility. If, as Papini argued, the autonomous individual is only a specialized framework for mass subjectivity, the myth of the "unknown man" constructs a type of shared, unfixed agency in continuous movement and without fixed identity. Despite smoothing the incidental effects derived from material processes, Boccioni's full-length sculptures neither generalize

nor idealize: they compose unique, spatial continuities in which past, present, and future merge in a bodily frame of reference.[69]

Boccioni's method for distorting figures was described by Longhi as a positive development: "To create these transformed organisms by way of a systemic deformation."[70] Premised on the quality of psychophysical plasticity that accurately transcribes internal forces into external forms, Boccioni's deformation may also be thought to have rendered truthfully the transformative potential of the mind-body fusion. By contrast, Marcel Duchamp's figural distortion (discussed in chapter 2) signals ongoing expressive failure due to misaligned psychic and physical systems. For the optimistic futurist, bodily distortion was based on the truth of internal qualities becoming externalized, while, for the more pessimistic Duchamp, exterior forms remained occluded from inexpressible inner forms. Rooted in a sense of optimism, Boccioni made speculative attempts to formally inscribe indeterminacy, and his figures from 1912 to 1913 point to the potential for spontaneous innervation—with *Unique Forms* achieving a kind of figural liberation in the space of the virtual, overflowing actuality and overtaking the historical moment. In light of this virtual dimension, do the deformations in *Unique Forms* demonstrate liberation from social constraint, or do they envision a domineering form of authority? Is the "truth" of bodily vitality cause for optimism or not? Does the artwork's abrupt motion prepare viewers to respond to disaster, or does it in some way contribute to its emergence? Before answering these crucial questions, we need to account for what is perhaps the most unexpected aspect of this figural movement: architecture.

Body-Building

In his preface to the catalog accompanying his 1913 sculpture show, Boccioni wrote, "Architecture is to sculpture what composition is to painting."[71] The first question to be asked is what did he mean by architecture? In the same preface, he described his sculpted figures as a "spiral architectural construction" that triggered "a *sculpted simultaneity*, which is analogous to

simultaneity in painting." It is clear that the artist is not simply referring to physical structures, but to something abstract as well. According to this "simultaneous" effect, external forms mirrored internal forces, and the viewer reconstructs an image of those immaterial forces based on the external forms. The structure is not static, but entails immediate responses. Considered the formal equivalent of two-dimensional pictorial strategies, the structure of architecture became a basic premise for Boccioni's works that pictured expanding muscular forces. Each of the full-length plaster figures in 1912–13 incorporates geometric elements that signify architecture—not machine parts, as many believe.[72]

While this fusion of body and architecture does not make sense at first, there are specific formal and conceptual reasons why he chose to complicate bodily movement with buildings. The application of this architectonic principle to physical sculpted materials produced disjunctive combinations—though some were more startling than others. A particularly bizarre sculpture made at the end of 1912 (destroyed after his death) was *Fusion of a Head and a Window* (Fig. 95). Modeled after his mother, the figure's head is split open by a cruciform section of a window casing, around which cluster some schematically rendered rays of light.[73] The ghastly pictorial experiment of "simultaneous" elements was coupled with foreign materials embedded in the plaster, such as his mother's hair and a section of an actual window. Notwithstanding its unsettling content, this lost work was his earliest sculpture to efface the figure's identity—a strategy closely tied to architecture. In the preface to his exhibition catalog, the artist described a desire to rethink the figural profile: "the profile is abolished [in his sculpture] as a value in and of itself, every profile contains the hint of the other (preceding and following) profiles that form the sculptural ensemble."[74] In what appears to be a simplified reworking of cubist portraiture, he suggested making an aggregation of views that would circumvent the single facial profile. Elsewhere, in notes for his 1912 manifesto of sculpture, the artist wrote, then crossed out: "It is necessary to consider the human body outside of physiognomic logic."[75] In his artworks, he would employ architectural

elements to subvert the visual conventions associated with individual identity. The desire to abolish the profile—to fuse head and window—falls within a widespread interest by various avant-garde artists of the early twentieth century to negate existing systems of facial expression.

In the early part of the century, the diffusion of visual impressions in painting underwrote a blurring of figures with their surroundings, and facial features in portraits, both painted and sculpted, became increasingly muted, such as in Eugène Carrière's *Woman Seated* (1901; Fig. 99) and Medardo Rosso's *Ecco puer* (1906; Fig. 100). A few years later, the cubist formal reduction often obscured the identities of figure and sitter, as with Picasso's *Girl with a Mandolin* (1910; Fig. 47), which documented neither naturalistic phenomena nor sensory impressions. This strategy of effacement gradually became more explicit in the trope of facelessness in Giorgio De Chirico's *Andromache* (1916; Fig. 101) and Carlo Carrà's *The Metaphysical Muse* (1917), for example. The blank areas on these heads delineate the visual space associated with nonindividuated identity. In Guillaume Apollinaire's poem "Le Musicien de St.-Merry" ("The Musician of St.-Merry," c. 1913–16), a man without visage gathers people into a Parisian street by the power of his music, and his anonymous form mirrors the theme of restless collectivity.[76] Generally, the body without a face trope represents somebody—not simply nobody—but its identity remains unknown, perhaps even unknowable. Wilhelm Wundt wrote that "facial expression becomes *symbolic*, so to say; it is the sensible index of a mental condition," suggesting that a rejection of facial expressiveness defies the symbolic transcription of an individual condition.[77] The faceless are emotionally illegible. The elimination of facial features evades even the principle of disguise, which still preserves individual identity behind a mask. Facelessness takes on horrifying literalness in Georges Duhamel's World War I memoir about the dehumanizing effects of war,[78] and prior to the war this same aesthetic of anonymity carried strikingly different connotations, in such works as Duchamp's *Nude Descending a Staircase, No. 1* and *No. 2* (Dec. 1911 and Jan. 1912; Figs. 33 and 35) and the

Bragaglias' *A Gesture of the Head* (1913; Fig. 50). Those prewar works play individual expressivity against photographic processes, albeit in contrasting ways, to render mechanical movements beyond the codes of bodily and facial recognition. Around the same time, Boccioni launched another approach to the same issue of nonindividual identity: body-architecture fusion.

As part of his desire to complicate the profile and to move beyond physiognomy, Boccioni made a series of formal substitutions culminating in the installation of architectural elements in and around the space previously occupied by the face. Formally, this substitution originated from a tendency in his earlier works to complicate the bodily contour through the effect of contre-jour lighting.[79] By exaggerating impressionistic effects of perceptual diffusion, he identified light and shadow as the elementary terms by which figures were melded with their surroundings. Wanting to fuse figure and environment, Boccioni arrived at some unusual visual solutions, including showing his mother traversed by architectonic elements—such as housing blocks, iron railings, and window casing. In the preface to his sculpture and drawing exhibit catalog, the artist described the idea behind this type of bodily fusion with buildings: "Widening the concept of the sculpted object in this way to a plastic art combining object and environment will entail the necessary abolishment of the distance that exists, for example, between a figure and a house 200 meters away." Since the sculpted figure was inextricably bound with its environment, the artist supposed that near and distant phenomena would form part of the same continuous spatial and temporal medium. Being more specific, he noted: "If a spherical cap (a plastic equivalent of a head) is traversed by the façade of a building, the interrupted semi-circle and the square of the façade interrupting it together form a new figure, a new unity composed of environment + object."[80] Proceeding in two steps, he first equated the head with "a spherical cap," then he combined this geometric shape with architectural elements. A spherical cap is visible in his 1913 drawings of human dynamism (Figs. 90 and 102), in which each figure is a sum of static and moving parts, made up of simplified, rounded

contours traversed by straight lines. Expanding upon the head-window motif, Boccioni eventually replaced the head altogether with architectural elements.

In such works on paper as *Unique Line of Continuity in Space* (1912–13; Fig. 103) and *Figure in Movement* (1913; Fig. 104), the head of the figure is obscured by a geometrical wedge that trails off the upper edge, as if extending indefinitely. Given that the darkened squares signify windows in the façade of a housing bloc, this geometric shape integrates the figure and the building into the same visual field, similar to the way that a wedge of people pierces a cluster of buildings in Luigi Russolo's *The Revolt* (1911; Fig. 12). Although Russolo configured an adversarial relationship among elements, in which spontaneous social dissent comprises an incisive wedge-shape piercing the urban landscape and extending beyond the frame, Boccioni reversed the relative scale of these elements—by miniaturizing the buildings and magnifying the body—thus mapping the city onto a now gigantic body. In Soviet Russia, the enlarged figure amid an anonymous collective in the urban landscape served as revolutionary motif in Boris Kustodlev's *The Bolshevik* (1920; Fig. 105). With a sense of mass political mobilization akin to Russolo's and Kustodlev's paintings, Boccioni's body-building subtly equated the isolated body with an innumerable crowd, and his composites of architecture and figuration visually imagine a generalized social experience at that moment of intensifying modernization. By traversing the enlarged anonymous figure, architecture for Boccioni marked an internalization of social forces and an externalization of unpredictable bodily forces: a fusion of internal and external flows in the modern subject. A very different image of body-building fusion from around this time was created by Pablo Picasso in his design for a costume for the American Manager character in the ballet *Parade* (music by Erik Satie and scenario by Jean Cocteau; first performed in 1917). Added to Cocteau's original scene by Picasso, this caricature of the American businessman (rising to around eight feet) is an outlandish composite that also presaged a postwar fascination with the American skyscraper, mentioned later in this chapter.

In Boccioni's sculptural works, this adjusted scale—magnified body and miniaturized building—marked a decided shift away from actuality, in terms of both scale and materials. Softening the jarring effects of the head-window composite, this new ensemble of figure and architecture was more poetic and less literal. In *Anti-Graceful* (1912–13; Fig. 106) the cranium (again symbolizing his mother's) erupts with miniaturized architectural elements. Delineating the shapes of nearby buildings, such as those seen through the window, the flat planes grow out of the head and into a defining feature of the portrait. Shifting from the actual window to the miniaturized housing bloc, the composite forms in his plaster busts continued his experiment to create "a new unity composed of environment + object."[81] While the newly scaled fusion in *Anti-Graceful* did not negate identity, his subsequent full-length figures did. In the sculpture *Muscles in Speed* (Fig. 94), the head-building fusion assumed the form of a large cubic form perched conspicuously atop a rendering of muscular movement. Now replacing the head, the potential for individual identification is eliminated entirely: there are no parts to be reassembled, and there is no mask to remove. With its movement growing from the ground, *Muscles in Speed* depicts not so much physical acceleration as an urban aggregation—a collection of urban forms and corporeal forces. Throughout all the works in which unidentified figures take on features of their urban environment, the body has been melded with its location, becoming symbolically fused with the collective. Just as the shared visual and tactile space of the tenement building defines collective habits, his figures mirror architecture at the same time that the environment absorbs his figures, similar in this respect to Aroldo Bonzagni's wartime portraits of social types, such as *The Dregs of Society* (1917–18; Fig. 107).[82] But, a different type of social legibility emerges from the anonymous in Boccioni's works. Akin to Papini's unknown man and Apollinaire's man without a face, his figures have been literally fused with the externalities of place, outlining a model for subjectivity that neither implies mechanical means nor requires technological explanations. If they do supply a visual analog for mechanical reproduction, it is not because they signify unstoppable vehicular

motion, and not because they recall the biomechanical method for measuring bodily movement; but rather, it is because his fused figures use the technique of superimposition, as if they have been made with the technique of multiple photographic exposures. This poetic composite sets a network of bodily forces into motion around the improbable girth of the tenement building, as in the sculpted version of *Muscles in Speed*, so that the experience of place modulates the physical traits of the inhabitants.

By the time Boccioni made *Unique Forms* in May–June 1913, the housing-head area of *Anti-Graceful* and *Muscles in Speed* had been reduced in raw dimensionality to abstract, geometric forms. Already imagined in miniature in relation to the figure, the imposing architectural planes then became a few suggestive features set at right angles. For example, the profile of *Unique Forms* is formed by a rectilinear vertical plane that tilts forward (Fig. 109). Also, buttressing this vertical plane on the left side of the head (on the right when facing it), there is a flared structure that composes a jaw line (Fig. 111), inclined at an angle of architectural support, like the right edge of the structure in *Anti-Graceful*. At the leading corner of the vertical profile, a horizontal crossbar with a curved, upward barb delineates the basic dimensional axes of a straight brow with a curving forehead, perhaps deriving from the schemata showing the geometry of the human head (Figs. 109, 111, and 112). Otherwise, this cruciform shape gives a drastically simplified version of the window casing—formally aligning this abstract structure of fenestration with the anatomical region of sight. However one accounts for this geometric ornament, the futurist's prevailing idea of uniting the figure with its surroundings began using contre-jour lighting and full-sized windows, it went through some scalar adjustments and formal simplifications, and it ended up assembling simplified elements that completely efface the identity of the figure. This fusion of bodies and architecture parallels Boccioni's text that reads: "Our works of paintings and sculpture are made from calculation because emotion stems from internal construction (architecture) and escapes the visual accident."[83] In effect, his formal principle aims to describe the automatic processes of mind

and body—again, not as individuated forms, but as a collective potential that has been integrated into the formal structure. The plaster material reciprocates that formal purpose; it stretches a corporeal membrane across the armature of the city, constantly anticipating and adapting to change. Embodying an expansive urban fabric, this sensitive psychophysical medium responds both to its internal impulses and to its external surroundings, becoming molded into a kind of template for modern subjectivity. It assumes an unknown identity that has become engulfed by the complicated rhythms of the gathering crowd, like an equestrian statue in the public square or a confident athlete entering a clearly defined field of play. The futurist body faithfully renders the impressions the urban expanse, while the city imprints itself onto the plastic surfaces of a constantly adapting body. For Boccioni, architecture supplied both literal and conceptual conditions for figural motion, and this architectonic doubling makes the visual interpretation of their astonishing fusion potentially complicated.

When it was made public in the summer of 1913, this body of work attracted the attention of friends and critics who were sympathetic to his introducing architecture into figuration and who acknowledged that this principle was a significant aspect of his work at that time. In a positive review of that Paris show, fellow futurist Gino Severini wrote, “Boccioni first introduced to the sculptural work architectural elements of the sculptural milieu in which the subject lives.”[84] For Benveduti, architectonic form was the essence of a modern Italian practice that was finally capable of competing with Michelangelo:

> If my readers go to see the Galleria Futurista and go there with a mind willing to consider only simple architectural lines of this sculpture, without the torment of searching for similarities with the cold reality, they will feel for it new and profound aesthetic emotions and they will also produce them for this art, which testifies to the resurrection and the liveliness of the Italian genius, after four hundred years of death.[85]

As we can surmise, this “resurrection” is traced to qualities and arrangements of his lines and planes. Perhaps taking a cue from the artist’s statement on internal construction, Longhi observed in his book on futurist sculpture how mobile and immobile elements are mutually

articulated: “The environment will give architecture to the individual, or what is the same, the moving individual will give architecture to itself.”[86] This same assessment appears formulated elsewhere in Longhi’s text: “Body and architecture of a unified body.”[87] For the historian, the body and the building are not separate elements in Boccioni’s works, but rather they form a single, continuous concept—a body-building.

While some understood and appreciated the formal principle at play in Boccioni works, others were completely perplexed by this combination of figuration and architecture. Italian composer and musician Ferruccio Busoni, who months earlier purchased the artist’s painting *The City Rises* (1910–11), could not understand this odd correlation. He wrote to his wife from Paris about the new sculptures he had seen: “The idea is to put into one form assorted movements of a body, obtaining an architectural effect ... There is a lot of hard work, but the result is ugly and incomprehensible, especially if a man has in place of a head a toy-house, for reasons that Boccioni explained to me with a great display of theory.”[88] The “toy-house” likely refers to the cubic housing-head form in *Muscles in Speed* (see Fig. 108), and it exemplified for the composer a failed aesthetic. While Busoni continued to support Boccioni despite his confounding experience, the letter signals some of the resistance to this body of work the artist faced. Revealing a similar level of incomprehension, Apollinaire announced somewhat dismissively in his influential column in *L’Intransigeant*: “Boccioni is attempting to restore architecture to its lost eminence. But since his experiments with form always appear to be interpretations—or better still, imitations—of nature, his effort to restore to architecture all the importance that is its due must also be considered almost totally lost.”[89] Preferring the works with “violent movement” and “joyful celebration of energy,” the critic clearly did not care for the body-building fusion. His remark on the sculptor’s “almost totally lost” effort perhaps makes sense with regard to certain works—*Fusion of a Head and a Window*, for example—but it misses the broader principle guiding that entire body of work: his figures, even in motion, integrate static elements. For Apollinaire and Busoni, the incongruity of organic forms and

architecture, however conceptually rich, was visually underwhelming.

Soon after the opening of the Paris show in the summer of 1913, after these initial responses to his body-building composite, Boccioni expressed a feeling of disappointment in a letter to futurist Ardengo Soffici: “The result [of the exhibition] is a general lack of interest not only in research and technical plastic parts but also in the concept of sculpture as art.”[90] Notwithstanding this bleak assessment, the public reception of the works in the show was decidedly mixed, and, while he received a range of responses to his obviously inconsistent results, other venues were eager to take the exhibit. After the Paris premiere, the works traveled to Rome at the end of 1913 and Florence in early 1914, and one of the full-length sculpted figures, *Muscles in Speed*, even traveled to San Francisco for the Pan-American Exposition in 1915 (Fig. 108). Despite the widespread exposure, the artist’s actions bespeak a more cautious approach: he did not continue using plaster as a medium, and he did not make any more full-length figures. When he briefly resumed making sculpture over a year later, he tellingly revisited to the same aesthetic problem related to how figures are traversed by architectonic structure, but he did so in the context of using diverse materials. The resulting *Dynamism of a Horse + Houses* (1914–15; Fig. 113) is a lyrical fusion of wood, cardboard, tin, and pigment that captures the excitement of rounded, mobile volumes being simultaneously bound and released by hovering rectilinear forms. As with the most convincing works from 1913, this body-building composition reinvented the visual terms by which he could frame the continuity and the reciprocity of dissimilar parts. Instead of marking a regrettable deviation from his interest in figural motion, the idea of combining seemingly incompatible figural and architectural elements was an integral part within his formal and conceptual efforts.

Alongside the direct body-building fusion, architectural principles informed Boccioni’s sculptures from below—as structured bases. Rather than treating the sculptural base in a naturalistic manner, as did Rodin in *L’Homme qui marche*, Boccioni created geometric volumes with smooth, precise planes: an oval base in *Spiral Expansion of Muscles in Motion*,

a triangular base in *Synthesis of Human Dynamism*, and rectangular bases for both *Muscles in Speed* and *Unique Forms*. Surmounted by organic swells of virtual motion, the regular geometry provided a framing device for his works—a three-dimensional equivalent of the picture frame.[91] Over the three months it took him to construct the four full-length plaster works (along with the help of his studio assistants), the compositional role of the base changed. As the volume of material around the legs of the figures was reduced, there became a greater sense of visual separation between the body and the base. In *Muscles in Speed*, for instance, wide legs melded to the ground appear to weigh the figure down, while a clearer separation in *Unique Forms* adds to the visual effect of motion. In the latter work, geometric blocks were added beneath the figure, thus further sharpening the distinction between movement and stasis. As neither stand-ins for feet, nor a type of foot covering (which would have suggested more restricted motion), the blocks launch the body into the air—as if it were leaping rock to rock across a river. As continuations of the base, these miniature plinths minimize the area of contact between the figure and the ground, and they intensify the effect of speed due to the increased negative space, while supplying a visual cue for setting an artwork off from the world of nonaesthetic objects. Literally and figuratively removing the body from the space of everyday actualities, the sculptural base in *Unique Forms* loosely relates to the architectural elements in the statue's head: instead of connoting buildings, it affirms a smooth, mathematical space of geometry. Architectonic elements functioned, then, in two distinct ways in this sculptural figure—as abstracted, but ultimately referential elements embedded in the body and as nonreferential, geometric units in the base. Stretched between upper and lower sections, the elastic musculature of the body creates a kind of relay between these different ways to imagine architecture. As the body gains lift from the material base, the virtual motion of the figure generates a conceptual distance from its social and historical context. The smoothness and geometric homogeneity of the support structure places the figure adjacent to the natural world—aloof from social and historical conditions, if not entirely oblivious to them.

Again, for Boccioni, the term *architecture* carried a connotation of vertiginous transition among internal and external structures, according to mobile and immobile forces. In Boccioni's text "Futurist Manifesto of Architecture" (1913–14), the word connotes an essential structure of vitalist forces in motion, similar to the Rodin's description in 1909 of the human body as being "a living architecture."[92] Neither static nor closed, it took the basic shape of a spiral: "We live in a spiral of architectural force."[93] Extending the concept of spiral architecture to a dizzying set of associations, the artist stated: "We [futurists] created a spiral simultaneity the unique and dynamic form that creates the architectural construction of continuity: PLASTIC DYNAMISM = DYNAMIC ARCHITECTURAL CONSCIOUSNESS"[94] Here the term *architectural* connotes temporal and psychophysical processes, and implies a continuous platform for projecting internal, mental processes into external, plastic forms.[95] While internal workings offered one aspect of architecture, the built urban environment offered another: "Today we begin to have around us an architectural environment that develops in all directions: from the underground lighting for the large stores from the various plans of the metropolitan railway to the ascent of the giant American skyscrapers."[96] No longer just tenement buildings, but gigantic structures and an urban infrastructure too converge on the subject who, in turn, embraces the expansive metropolitan landscape. Recalibrating the mind-body-building configuration to the forces of overwhelming urban immensity, the artist anticipated a mythic form of extensibility: "The future prepares for us an endless sky of architectural armor."[97] Traversing an ever-expanding frame of reference—internal and external, microscopic and macroscopic—the embodied architecture of Boccioni's oversized urban figure influenced several generations of artists.

In Italian futurist photographs from the early 1930s, for instance, skyscrapers took on an important role in the portraits of creative individuals. Examples include Mario Castagneri's *Depero in New York* (1931; Fig. 114) and *Depero among the skyscrapers* (1933; Fig. 115), Tato's *Dynamic portrait of Marinetti* (1930), and Quirino De Giorgio's *Self-portrait as an*

Architect of the City of Raun (1932; Fig. 116).[98] In each of Castagneri's two works, an immense, tiered structure creates a modular backdrop of multiplied units that contrasts with Depero's round head. The bilateral symmetry of the composition of each image subtly extends the idea of cerebral anatomy into the space of the city. Around the same time, in the American film *The Crowd* (1928), King Vidor took this motif in a different direction when he superimposed the main character's head onto a towering architectural grid—to convey an anxiety about urban anonymity. The merger of figure and skyscraper assumed gargantuan scale in the Soviet Union in *Palace of the Soviets* (1931–33; Fig. 117), a building initiated, but never completed that was designed to be the world's tallest and to be mounted by a colossal sculpture of Lenin.[99] Boccioni's prewar fusions created a visual model for plotting individual subjectivity within the modern city during the interwar period. Returning to the artist's substitution of building for head more than a decade later, Louise Bourgeois raised a different set of concerns in her series *Femme-Maison* (1945–47; Fig. 118), in which the unusual formal juxtaposition takes on associations with femininity, domesticity, and loss of control.[100]

Within the male-oriented context of early futurism, however, Boccioni's body-building motif defined an expansive ambition to fill the sky, to wear the urban fabric as armor, and to become fused with the dynamic intensity of the surrounding city. Allied with industrial growth and indefinite psychophysical expansion, such images of bio-architectonic potential enacted a modernist attitude of historical changes perhaps more intensely than previous futurist visual works. Nonetheless, amid the breathless determination and anticipatory motion, the effects of moving architecture can also appear violent, unstoppable, and menacing. If the smooth, virtual space of the body-building composite presented an optimistic view of modernity, its embrace of speedy motion and endless expansion made it susceptible to unforeseen, even disastrous outcomes. How, then, did this virtual dimension of psychophysical liberation relate to its sociohistorical context? And, how did a desired for anonymity translate into a cultural politics of movement?

Incognito

A fantasy image of escape from tangible sociohistorical conditions, the blurred motion in *Unique Forms* effectively preempts prolonged consideration of such social issues as responsibility and accountability. A model of anonymous virtual movement, the sculpture captures an ideology of incognito, described in the critique of modernist literature undertaken by Marxist philosopher and literary critic György Lukács.[101] Lukács is perhaps most well known for his lack of sympathy for avant-garde formal strategies and for his commitment to a renovated form of realism, through which the narrative progression of a work would identify and track measurable social and historical conditions. By contrast, incognito was a literary tendency that demonstrated an author's moral disaffection with historical actualities, and, according to Lukács, this tendency represented a growing disconnectedness from social and materialist concerns. Because modernist incognito, according to him, entailed an irreparable disjunction between individual acts and their measurable outcomes, it ultimately underwrote a deficit of ethical responsibility. Lukács did not endorse texts in which the traits exhibited by characters resisted clear social demarcations, as often depicted by authors through the use of physiognomic and pathognomonic principles. Each character, he believes, should represent a type that fits within a particular social class with an understandable social or political agenda. While the specific terms for evaluating futurist sculpture obviously differ significantly from those for evaluating modernist literature, the same general critique of illegibility may be applied to the anticipatory, anonymous movements depicted by Boccioni's figures. From this materialist perspective, his sculptures appear to be disengaged from material conditions. Circumventing the moral and visual clarity of expressive poses, *Unique Forms* aims to show the visual effects of social liberation; however, rather than remaining anchored to historical circumstances and measurable conditions, the principles of virtual motion and indefinite construction has distorted the straightforward historical awareness—its energetic excess defied a belief in establishing reasonable limits on action.

The facelessness manifested in certain Boccioni works counteracted the concept of fixed identity, which had served to distribute legal, moral, and civic responsibilities at the individual level. Without the recognizable individual as the basic social unit, those mechanisms that are intended to gauge specific behaviors cannot differentiate among moral and immoral acts, for example. In effect, Boccioni constructed an anonymous template of collective potentiality in an urban context that manifested an implied principle of governance (i.e., self-regulation) that could not be effectively monitored. *Unique Forms* produces an image of collective agency consistent with a modernist ideology of incognito, and it frames a collective escape from actuality and personal responsibility by depicting unknown forces—which can potentially lead to irresponsible, uncontrollable aggression. So, is this sculpted image of cultural and social rejuvenation proto-fascist? Does *Unique Forms* recreate a missing paternal authority through an unrepressed instinct for power, or does it perhaps enjoy the absence of a father figure? While the liberatory forms of this sculpture would appear to establish a conceptual framework that is consistent with the rise of authoritarianism in Italy, the correlation between the work and fascist ideology should be resisted on three counts: body type, visual identification, and kind of motion.

First, while the ubiquitous male bodies of fascist visual culture depicted an athleticism that resembles the virtual motion depicted in Boccioni's drawings and sculptures from 1912–13, the bodily anatomy of such fascist-era figures, whether still or in motion, is clearly defined, even etched into the hard shapes that symbolized strength of character. Mario Sironi's sculptural relief on the *Il Giorno* newspaper building in Milan, for example (Fig. 119), shows numerous shirtless males whose anatomical definition is characteristic of a fascist style of public art. Other notable examples of the idealized male figure are the mosaic images of athletes at the Foro Italia in Rome (Fig. 120), whose effects of physical movement have the qualities of prowess and competitiveness not found in the abstracted masculine forms of Boccioni. Elsewhere, male muscularity connotes heroic sacrifice in Attilio Selva's *Monument to*

the Fallen (1935; Fig. 121) in Trieste, honoring the Italian war dead from World War I. The clearly legible physicality of the male figures constituted a unifying emblem of national character, and their precise anatomical lines were correlated with determination over inaction, with an appreciation of physique over the intellect. By contrast, the lack of anatomical definition in *Unique Forms* reads as a body not entirely resolved in actuality, equivocating among possible paths, and this visual elasticity translates into a more elusive organization of masculine forces and qualities. The uncontainable futurist figure transgresses the rigid boundaries of male identity and exceeds the hermetically sealed contour of fascist figures, in which idealized anatomies of fascist athletes and heroes demonstrate symbolic clarity.

The anonymity of *Unique Forms* constitutes a second obstacle to the notion that his work presaged authoritarian forms of power. Superimposed onto a nameless multitude, the face of the fascist leader personifies the crowd, harnessing its corporeal forces and mastering its automatic discharge—much the way a military leader directs a horse in equestrian statuary (Fig. 85). If *Unique Forms* manifests muscular forces akin to the horse and rider, the figure eludes clear recognition as well. By contrast, the identifiable facial features of the fascist leader were imprinted onto the gathered people. For instance, a photograph of a rally in Piazza del Duomo in Milan in October 1933 shows the magnified face of Mussolini projected over the crowd (Fig. 122).[102] The enormous face fused with the cathedral mimics an early-fifteenth-century image of Gian Galeazzo Visconti holding a miniature Duomo (Fig. 123).[103] An apotheosis of both the crowd and the building, the leader's visage comported with an abiding sense of national anticipation: "Benito Mussolini is not a man: he is the man. He is the one the Nation has been waiting for."[104] For most effective control, the bodily forces of the fascist crowd needed to be absorbed by the face, by the fixed identity.[105] In his text "The Unknown Man," Papini asserted a reason for avoiding recognizable forms: "If they [worshippers] do not know the name and the features of the man who has achieved, they cannot fix toward him the current of their affection or their enthusiasm."[106] As an ancillary point to be deduced from

Papini's conjecture, the nameless, featureless figure apparently embodies a type of unfixed emotion. Likewise eluding fixed identity, *Unique Forms* anticipates a mode of action not yet realized. But, while it appears to reserve the visual space for the leader yet to come (perhaps presciently crafted a decade before Mussolini's seizure of power), the sculpture's absence of individual persona represents a historically significant discrepancy between potentiality and eventuality, between a general enthusiasm for action and a specific sense of foreboding. This futurist image of collective forces resists the indelible imprint of the leader's face. It reveals indeterminate movements that may well steer clear of personal responsibility, but defies the symbolic structure of fascist authority as well. Even if there are unforeseen consequences to such energetic effusion, such psychophysical potentiality inspires an image of transformative action and fresh beginnings.[107] Therefore, Boccioni's fantasy of collective forces is not fully comprehensible when it is viewed to be an image of unitary political power in embryonic form, rushing to catch up with its more fully articulated, historical visage.

Thirdly, and perhaps most subtly, the unbounded motion in *Unique Forms* resists a schematic violence that derives from a similarly unhinged image of movement in the fascist era. A ceramic object by Renato Giuseppe Bertelli from 1933 (Fig. 124) shows Mussolini's profile extended continuously around the circumference of a vertical form. The identifiable outline of the leader is visible along the sides of the material, but not distinguishable when looking at the front of the object. This bizarre portrait appears to spin away from the viewer, as if constantly looking to see if someone is approaching. Perpetually turning to the periphery, this unsettling image unleashes a sense of paranoia. Amazingly, the state-sanctioned ceramic portrait (purportedly approved by Mussolini himself) was later manufactured for large-scale distribution in metal—the image of vigilance mobilized as a form of mass surveillance (perhaps inadvertently). Its inescapable, centripetal glance carries within its visual structure a modernist appreciation of velocity, and the regularity of the form and the smoothness of the surface also suggest the spinning action of a machine. Because of these mechanized

qualities, Bertelli's paranoid abstraction compares with the Bragaglias' *Polyphysiognomic Portrait of Boccioni* (1913; Fig. 51), which also combines individual identification with a regularized machinic motion. Also, the visual structure of the futurist photograph blurs the sitter's features between facial profiles on the edge, in a sort of paranoiac twisting toward the unseen. While the unhinged figural motion in this photodynamic portrait of Boccioni resembles this atypical fascist object by Bertelli, Boccioni's anonymous masculine forms render an anticipatory mode of figuration that deviates from the machinic vectors of motion. While the indeterminate, overflowing movements of *Unique Forms* resist fascist ideology on these three counts, this futurist sculpture also served as a historical point of reference for Italian nationalism and fascist culture.

Castings

After the opening of his sculpture and drawing show in Paris in 1913, Boccioni sent a letter to his friend Vico Baer, in which he enthusiastically described a conversation he had had: "Apollinaire completely won over again, is still with me. He wants me to put various things into bronze as soon as I am back in Milan. He says there is no one but me in modern sculpture. He has said that some of my works are genuine historical documents that must be preserved."[108] Apollinaire was the first person (on record anyway) to suggest that the artist should cast his sculptures in metal, no doubt based on the premise of lending permanence and grandeur to the more modest plaster material.[109] The suggestion, according to the artist, conveyed the critic's belief in the significance of these works, so his appreciation of their historical import was linked to the idea to reinforce the unstable material. Irrespective of this apparently positive response, Apollinaire published a review a few weeks later, in which he expressed a more qualified sense of appreciation for the show.[110] After Boccioni's death in August 1916 during a military training exercise, the writer was more forthcoming in print with his praise, and his remarks were more in keeping with Boccioni's report: "The persistent labor

of Boccioni retains its importance in the history of young sculpture, which he is undoubtedly one of the innovators."[111] In a span of a few years, the poet had significantly revised his published views on Boccioni's sculpture. So began a general pattern of revision in which various writers and artists interpreted his sculptural forms through a lens of strength and permanence—a pattern that was connected to the suggestion that the plasters be cast in bronze in order to compensate for their materiality. Even art historian Roberto Longhi indulged this sort of fantasy when in 1914 he described the plasters as displaying "resounding surfaces of metallic muscles."[112] This tendency to metaphorically strengthen the actual compositions took on a strongly nationalistic connotation almost immediately.

After traveling to Rome and Florence after Paris, Boccioni's exhibition received a long and very positive review by Ugo Tommei in *Lacerba* in May 1914. Tommei compared seeing the works to standing mesmerized in front of a waterfall. The muscular forces of *Unique Forms*, in particular, evoked this colorful description: "a hint, a shiver, the most agile continuity, an unwinding muscular vortex, a loosening—as a solidification of the atmospheric wake that leaves a material form in flight."[113] Despite their small scale, he wrote glowingly, these works exceeded all previous national, religious, and heroic works—a critical assessment akin to Benveduti's comment on the resurrection of Italian genius.[114] Tommei then assumed a more strident tone in the final paragraphs of his review, perhaps emboldened by the futurists' language of rebelliousness found in various manifestoes. He suggested that, even if the artist could have found success elsewhere, Boccioni decided to stay in Italy in order to fight for his ideas. Regardless of the abuse inflicted by critics on the futurists, "young Italy is with them." As if rallying a crowd of youths, he continued with this appeal, quoted at length to preserve its breathless cadence:

> There is a whole generation that silently fights for them [the futurists]. In schools, in homes, in institutions: good and burning eyes meet you when mostly you think about one against all, strong and loving arms support you when you think you are succumbing to the enemy. Meanwhile, there is a futuristic feeling today; a desire for light and speed, a pledge to make, to create, to overcome ourselves. Futurism,

> believed to be hotheaded by the skeptical and by the inconsolable, is instead the new faith, the new hope of faith in itself and in the world. The art of Umberto Boccioni, I repeat, is an incitement, a lesson. The fugitive impression no longer stops on the canvas or in plaster, the chaotic and animated fragment does not simply arise from the brush or dry in an instant, alive for only a moment. It appeals, instead, to a new order and to new laws to ensure it.[115]

Symbolizing the futurist movement at large for Tommei, the vitality of the sculptures demanded a new faith, a new concept of order and new laws. Rather than framing his artistic success in the general context of modern art, the author emphasized a nation divided into "enemy" camps. Ominously foreshadowing the nationalist pride that would soon overtake Italy, he concluded the piece by saying: "In all the aforementioned ways, this is a fever of will, and it will bear marvelous fruits."[116]

For Tommei, Boccioni's sculptures sparked a political and moral attitude at a national level, in which radical youth mimic the plasticity of the works. Youthful doubt was rhetorically channeled into strength of conviction, while uncertainty was forged by hopeful passion into a provisional certainty—a fever bearing the fruit of power. This rallying cry for a strengthened, more modern Italy was extreme, but it also imitated an attitude shared by some of the futurists, who agitated for social change and who participated in syndicalism, anarchism, and nationalism. In their own writings, the artists used similarly hyperbolic language to describe artistic struggles as "fights" and public appearances as "battles." In keeping with this type of aggressive language, Tommei ventriloquized a form of militant nationalism through Boccioni's sculptural forms. Caught up in the fast pace of his career, Boccioni did not mention this review, but others did and were clearly troubled by the strident tone.[117] In a postcard advising Carlo Carrà to leave the futurist movement altogether, cubist painter Sergei Jastrebzoff said the article by "poor Tomei" (sic) made him want to vomit.[118] By mid-June 1914, Tommei's stridently patriotic stance would become a more common position for various factions of disillusioned radicals (some futurists included), who would adopt increasingly extreme views after the failed national strike.[119] During the artist's lifetime, Boccioni's sculptural works were

flashpoints for various rhetorical and ideological positions, and their visual audacity was taken to signify moral strengthening and national regeneration, despite the obvious instability of the physical material.

The choice of plaster for his full-length figures was not as incidental to the forms as might be presumed from Apollinaire's suggested revision. One might suspect that Apollinaire offered his advice to cast the works before reading the artist's statement on materials. In the preface to the catalog of his exhibition of sculpture, Boccioni described using an eclectic mélange of materials in a single work that would counter "the traditional ambition to fix the gesture" and would depart from "the nature and the homogeneity of the material used (marble or bronze)."[120] So, while the combination of diverse materials furnished one method by which traditional conventions could be subverted and by which modern sculpture could be relocated in a sense, another method involved the avoidance of marble and bronze. Working only in plaster in early 1913, Boccioni had abandoned diverse materials (even though by 1914–15 he reversed course by rediscovering diverse materials and avoiding plaster, as mentioned). In his short review of the show, Severini echoed Boccioni's attitude towards nontraditional materials: "It is necessary to destroy the traditional nobility of marble, bronze, and colors."[121] Opposition to bronze and marble arose from aesthetic ideals, Severini explained: "The need for abstract and absolute reality and the research on movement led Boccioni to begin by destroying the organic and static unity of the material used until now."[122] Contrary to Apollinaire, both Boccioni and Severini made the case against using traditional materials, such as bronze, and, as it turned out, the sculptor did not cast the plaster works—neither immediately following his Paris show nor during the remaining three years of his life. There is also no evidence he intended to do so, even if he did relish Apollinaire's compliment.

The original plaster version of *Unique Forms* gives a somewhat different image than the various bronze versions. Now at the Museu de Arte Contemporânea at the University of São Paulo in Brazil, the work registers a sense of warmth absent from burnished metal

replicas (Figs. 125 and 126). Its off-white surfaces with grainy texture absorbs and reflects light, giving a matte quality that is akin to an undyed fabric, like creamy muslin or raw silk (Figs. 109–112). Increasingly rough textures around cavities and in hollows of the form betray one of the qualities often associated with the sculpture—metallic smoothness. Rather than revealing an indestructible, molten core, the modelled gypsum suggests an impermanent form filling space, akin to a haystack or a snowdrift. Predisposed to rapid revision, the quick-drying plaster permitted Boccioni and his assistants to model and carve the effects of figural fluctuation, and the physical properties were vital to composing those shapes, textures, and overall image. This versatile material becomes extremely fragile however—chipping and breaking easily and absorbing dirt and moisture. So, while it choreographs a number of impressive visual effects, Boccioni's statue inherits the structural limitations of that medium. Unfortunately, this version of *Unique Forms* was badly damaged in December 1970, when a shelving unit at the museum in Brazil collapsed—shattering the forward-most leg and badly injuring the rear leg and head area.[123] A major conservation effort was undertaken immediately, during which the entire work was reconstructed based on a bronze copy and then painted a beige color, perhaps to disguise the different mixtures of plaster. In 1986, the sculpture was loaned to a large futurist exhibit at the Palazzo Grassi in Venice, and it is reported to have suffered additional damage during it return voyage to Brazil, according to museum correspondence. As of early 2010, the artwork was in poor condition due to numerous chips, cracks, and gouges, as well as discoloration and noticeable deterioration (Fig. 109). Far from demonstrating invulnerability, the figure is gradually disintegrating, and it remains extremely susceptible to environmental conditions—imprinting external forces perhaps too adeptly. If the artwork symbolized national strength and determination in the last century, the plaster version of the work is today more indicative of material distress and uncertain survival.[124] Often likened to *Nike of Samathrace*, *Unique Forms* appears, in its current state, to be more akin to the ferryman Charon, as a reminder of impermanence.

Eight days after the artist died, Marinetti published a short free-word eulogy that refashioned Boccioni into a hero, whose memory would be rapidly absorbed into the rhetoric of nationalism: "He is dead UMBERTO BOCCIONI dear grand strong best divine futurist genius yesterday denigrated today glorified overcome it overcome it overcome it toughness heroism speed come on young futurists so much so much pain-anguish-little war for grand Italy free magnified the most agile electric explosive don't cry steel steel!"[125] From denigration to glory, the artist's memory was forcefully asserted as a symbol of national strength. Surely colored by the ongoing war, this heroic portrayal concluded by evoking the physical material that best exemplified toughness and modernity, while symbolizing resistance to emotion—"don't cry steel steel!" After his tragic death, Marinetti took responsibility for the artist's estate—organizing shows, selling works, sending money to his family, and also authorizing the first metal casting of *Unique Forms* in 1931. Over the years, a total of six bronze casts have been made from the original work, while additional unauthorized copies have been made from one of the bronzes.[126] Reminiscent of his memorial text fifteen years earlier, Marinetti decided to cast the sculpture, thus strengthening the work in a manner that matched, in many respects, the poet's own images of the ballistic male body. Creating an indelible impression of unleashed force, *Unique Forms* remade in bronze posits material strength in place of material fragility, and it takes on industrial and technological connotations that are not fully available to the plaster version. To be clear, my aim is not to devalue the bronze versions, but to enrich our understanding of the various versions of the artwork by analyzing the qualities found in the plaster version.[127]

Over twenty-five years later, Marinetti's heroic image of Boccioni remained intact, and his sculptural works came to represent large-scale industrial and political forces in Italy. Speaking at the 1933 conference coinciding with a group exhibition in honor of Boccioni, artist Ernesto Thayaht evoked the artist's memory in the context of national economic development.[128] The deceased futurist, his works, and his ideas—all blended together into an

idealized image of modern style "perfectly suited to express and synthesize the enormous effort of transformation and overcoming that Fascism requires for the Country."[129] For the speaker, Boccioni was a patron saint of modern Italian industry, and his spirit was present in the most advanced machinery: "Is this not, perhaps, what Boccioni had dreamed of?" he asked. The prescient formal visions of architectonic extension and virtual motion were reiterated through the historical actualities of expansion and industry—in colonial trade and seized land, and "in the mapping and reshaping all kinds of the most disparate elements, to create new expressive, incredible unities never before seen."[130] In this context, *Unique Forms* heralded the institutionalization of unbounded economic and political forces, and this fascist-era interpretation of Boccioni and his works provided another justification for Italy's colonial policies in Africa, here portrayed as the logical extensions of the futurist aesthetic of renewal. In closing the speech, Thayaht noted that the fortunate few take Boccioni's "prophetic" message as the direct order to create.[131] Like Marinetti's poetic recasting of the artist as national hero, Thayaht's version of Boccioni condoned industrial and territorial expansion and supported a nationalist purview of modernization. Elevating Boccioni and his sculptures to the top of the chain of command, the heroic image was projected with the force of a military directive through the murky ideological atmosphere of nationalism.

Thayaht's conflation of Boccioni and his sculpture actually followed a tendency, apparent during his life, to view the sculptural works as a type of self-portraiture. In an early example, Severini made a metaphorical association in his 1913 review of Boccioni's Paris exhibit when he wrote, "in the pure and synthetic expression of a walking man's movement, Boccioni arrives at style."[132] Arrival implied both physical motion and artistic achievement, because the artist and the particular sculpture both appeared to make strides. The metaphor of movement also conveyed an autobiographical dimension, as the sculpted figure came to represent his artistic struggle. During an intense stretch in the studio in December 1912,

Boccioni explained in a letter to Severini that his sculpting was intertwined with a condition of uncertainty:

> I worked for six hours straight today on my sculptures and I don't understand the results. Planes upon planes, muscles and faces sectioned, and then what? What about the total effect? Do my creations have a life of their own? What is going to happen? Can I expect enthusiasm and comprehension from others when I, myself, wonder what emotions my work arouses? Enough. I can always find a pistol, yet I am very calm.[133]

His creative fervor appeared to himself to be indistinguishable from incomprehension, and his artistic determination signaled another expression of his despair. Another letter from that time similarly conflated artistic efforts with emotional searching: "Sculpture is a real struggle for me! I am working, working, working, and don't know what I'm accomplishing […] Form upon form … confusion."[134] That his process involved anxiety and anticipation is evident when he wrote Severini a month later: "For art, I will tell you, never before now have we needed all our strength to fight to the last. The situation is obscured because we do not know if it [our art] will ever be seen and the trend is accentuated in the end in misunderstanding and we will be in the end isolated and completely alone!"[135] An affirmation of strength came, at least in part, through his sense of unpredictable outcomes, and he was beset by aesthetic and philosophical questions: "Does free choice cause such chaos? What law regulates it?" This precarious psychic and emotional condition found material expression in malleable, but fragile forms in plaster—yet, as the literal and figurative fragility in his work was revised, these associations with uncertainty and self-doubt were suppressed.

While unquestionably similar, the plaster and bronze versions of *Unique Forms* remain materially and conceptually distinct. Even as both works give evidence of artistic innovation and were revered by fascists, the differences endure. Surely complicating efforts to separate the two versions are Boccioni's duplicitous feelings about nationalism. For instance, around the time the artist accompanied Marinetti to the Second Nationalist Congress in Rome in December 1912, he also expressed a sense of suspicion in his private correspondence:

"The Italian nationalism wakes up only with the rhetoric of ancient Rome. When it comes to recognizing the efforts and courage of an Italian intellectual, nationalism is silent or murmured softly. Half conscience!"[136] His modernist thinking was out of step with the rhetoric of the nationalist movement, led by Enrico Corradini and Scipio Sighele (before their rift in early 1913).[137] After Italy's late entry into World War I, Boccioni volunteered to fight, as did many vanguard artists on both sides of the conflict. As an enlisted soldier, he was dutiful, but remained ambivalent: "Anguish! Rage! Instincts of rebellion repressed for the idea of Country."[138] His brand of nationalism corresponded with a passionate, intellectual response to world events, which sought to weigh different courses of action and which affirmed national identity, even while remaining committed to individualistic attitudes. His views are not, however, indicative of the institutionalized and hypermodern form of Italian nationalism that arose after the war.

Although clearly impossible to conjecture how the artist would have reacted to fascism had he lived, the different versions of *Unique Forms* outline formal and conceptual distinctions worth preserving. For all its visual bravado, the plaster is fragile and requires extreme care, while the metallized versions effectively counteract the conditions of rapid material degradation. In light of these material qualities, Marinetti and others suppressed the qualities associated with its plasticity, in order to create a more reified, strengthened symbol of fascist dominance—a metallic, militarized figure. Asserting and maintaining an extreme form of sociopolitical dominance was apparently preferable, within that social and historical milieu, to acknowledging a mode of subjectivity in which social relations were not fixed and in which forms were more amenable to change.[139] The bronze versions were sufficiently different from the plaster one that, when one was offered to the Museum of Modern Art in New York for acquisition in 1948, museum director Alfred Barr explained that the acquisition committee was concerned that the work was "not touched by his [the artist's] hand."[140] This material distinction holds conceptual significance as well: the casting process repositioned the virtual potential of

the anonymous body-building, taking it from the domain of unpredictable human outcomes into the domain of unbounded mechanical motion, very nearly approaching the realm of institutionalized violence.[141]

In *Unique Forms*, Boccioni modeled the virtual movement of anticipation that represents a point of departure, a *terminus a quo*, a sort of escape route from actuality that proceeds without itinerary or destination. In contrast with the attitude that aimed to represent specific sociohistorical conditions, the artist's belief that immaterial forces shape the body emerged from an antimaterialist premise that centered around the notion of collective, unifying forces. As some interwar critics would later argue, antimaterialist tendencies in the modernist tradition were suspect because they did not address actual problematic situations and systemic inequalities.[142] Exemplifying a mode of incognito, Boccioni's statue inhabits a conceptual space within which certain materialist presumptions, such as clarity of purpose and measured results, could not be effectively applied. The artwork harbors, within its formal and conceptual structures, a nonphysical, virtual dimension of subjectivity that is difficult to distinguish from metaphysics. This hardly comes as a surprise. What is perhaps unexpected is the counterargument the artwork appears to present—that there is a virtual dimension of material forms (and, by extension, materialist discourse) that signifies unpredictable events and improbable outcomes. *Unique Forms* offers an image of psychophysical liberation that embraces unknown forces and unexpected events, while disavowing the clarity of definition that is often associated with rationality and predictability. This antimaterialist approach to figural motion does not necessarily mean that his aesthetic of movement was complicit with the political and economic violence fomented by those who embraced his vision more than a decade later.[143]

Revaluation

In his 1913–14 manifesto of architecture, Boccioni calculated what he considered to be a basic equation of modern life: "NECESSITY = SPEED."[144] If the concept of speed would later become intrinsic to the extension of totalitarian tendencies, it also provided a common metaphor for economic and industrial modernization before World War I.[145] German economist Werner Sombart wrote in 1913: "Whether employer or employed, he [the hard-worked man] is constantly on the verge of a breakdown owing to overwork. That he tends to be excited, that he is always on the move, is generally known too. Speed and yet more speed—such is the cry of the age. It rushes onward in one mad race."[146] As with Sombart's overworked employee, the futurist body was a site for staging the psychophysical responses of modernization, and it found expression in Boccioni's image of productive labor in *The City Rises* (1910–11), as well as in his isolated figures of 1912–13. His visual language of figuration moved gradually toward anatomical distortions that attended to a feeling of psychophysical agitation and excitement, as with Sombart's "mad race" and Ferrero's "perpetual agitation."[147] Many years earlier Marx glimpsed the distorting effects of capital on the worker's body, since alienated labor—that is, labor that is removed from the production process—"estranges humanity from its own body, from nature as it exists outside of it, from its spiritual essence, its *human* essence."[148] He reasoned that, "in the act of production he [the worker] was estranging himself from himself." While Marx's remarks imagined the distortions of the alienated worker, Sombart likewise attributed the psychophysical effects of the disruptive spirit of modern economic activity: "Economic activities have branched out in all directions ... What is new is its [capitalism's] boundlessness ... The activities of the capitalist have no bounds ... The expenditure of human energy in modern economic activities, extensively and intensively, is strained to the uttermost."[149] For Sombart, the energetic expenditures of the modernizing body paralleled the increased economic rates of expenditure in the industrial sector. Signifying more than just a physical quality of exertion, the concept of speed can account for the accelerating forces

needed to produce, transport, and consume commodities, as well as those associated with currencies circulating within the system, which speed up the rate of financial transactions. Alongside actualized forms of economic activity that were measured in terms of speed, a virtual dimension of capital was greatly expanded around the turn of the twentieth century that facilitated these economic activities—credit.

New forms of financing were invented in the early twentieth century that permitted an historically expanded range of capital movement beyond the scope of physical transactions.[150] As capital expanded its virtual presence, credit provided another kind of motive force that propelled economic modernization, which Marx understood to be a function of speed: "Credit accelerates the velocity of the metamorphosis of commodities, and with this the velocity of monetary circulation."[151] Around the turn of the twentieth century, banking underwent large-scale changes, including the emergence of different types of investments and the formation of a new type of bank (i.e., the commercial bank). Even as longstanding difficulties with credit markets persisted in the modern era (related to potential risk, uncertain valuations, and lax oversight, for example), the historical innovations in financing drove a wedge between those in possession of capital and those in control of it, while simultaneously opening new opportunities for speculation.[152] The shift in investment structure was characterized by increased managerial control over capital based on two important factors: the creation new contractual instruments for issuing debt and the gradual development of broad, anonymous investment markets.[153] Although decades earlier Marx noted "the credit system appears as the principal lever of overproduction and excessive speculation in commerce,"[154] there was sizable expansion of credit, primarily related to industrial manufacturing, and debt financing assumed increasingly abstract forms (through securities, commodity futures, bonds, etc.). Likewise, the social effects of excessive production and speculation, including unemployment, became magnified by the greater magnitude of investment. The formation of multifunctional commercial banks—offering short-, medium-, and long-term credit all at once—permitted a

flood of investment in Italy by 1900.[155] Two large commercial banks were established using foreign capital in Northern Italy, while Banco di Roma was founded with the domestic funds of the Vatican and Roman aristocrats.[156] While debt financing in Italy permitted various industries greater adaptability at a time of intense expansion, this open and accelerated credit market made the entire banking system, indeed the whole economy, subject to a range of destabilizing shocks, such as those precipitated by world events and institutional scandal, for instance.[157] An important year in the process of economic modernization was the crisis of 1913—during which there were disruptions in industrial forces that caused consolidation and massive worker displacement.[158]

While helping to unlock economic potential, the virtual form of capital showed a tendency to gravitate toward conflict and violence. In response to that period of economic decline in 1913, some industrialists considered the destructive potential of war to be a viable method of handling overproduction.[159] The duplicity between liberating and violent qualities of credit is illustrated by two promotional images for bonds that were circulated by Banco di Roma around 1917 in the form of postcards. One of the cards shows an ancient winged-victory figure unlocking the shackles of three male prisoners on a promontory overlooking a bay. Carrying a wreath in one hand and a key in the other, she moves through the air over a patriotic crowd with Italian flag, while poised atop of a small sphere (also winged to connote motion) that is inscribed with the Italian word for loan or lending (*prestito*). According to the image, the national cause was served by the beneficence of public financing, and the project of freedom was advanced. The funding mechanism was visually equated with figural movement and with a release from stifling incarceration. At the other extreme, another postcard from the same period also promoting bonds for the war effort, but illustrating the violent power that credit could harness. In the upper portion of the frame, a collection of men's and women's hands—floating in the heavens—drop money in the form of coinage and bills into a physically imposing mound that buries an angry Austrian Kaiser Karl I. Capturing the

economic power of combined resources, the image transforms an abstract instrument of credit into a tangible, destructive weight, delivered divinely from the sky in the form of hard currency. Through its double articulation of force, these allegorical images of credit suggested the material and mythical qualities needed to promote the higher nationalist cause.

Not simply indicative of hard work or actual commodities, money reimagined in its virtual dimension became a material for mediating immaterial forces, and, in the work of avant-garde writers and visual artists, it served as a metaphor for spiritual concerns as well. In his autobiographical work *The Failure* (1912), Giovanni Papini initially adopted pessimistic outlook about his self-image: "I feel I am a debtor. All men are debtors, though few of admit our debts, and fewer still have any intention of paying them.... I feel infinitely in debt."[160] Using the metaphorical structure of money, he conveyed his spiritual austerity: "I would prefer to owe no man anything. I would rather do without than have to be grateful to my creditors."[161] When the author later dissolved his bankrupt self, he was able to discover a new self-worth: "What is this capital that I have at my disposal, all mine, inherited from no one, stolen from no one, but earned penny by penny with the sweat of my soul in the factory of experience, and now my only treasure, the little power I have—my real self, in a word?"[162] Elsewhere, Wyndham Lewis styled the equation of money and spirit even more directly in the description of the situation of one of his characters in *Tarr* (1918): "Now for the first time his talent benefited by his money. Heavy temperament, primitive talent, well yes, genius, had their big place, but money had at last come into its own, and climbed to the spiritual sphere ... money, luck and non-personal power were the genius of the new world."[163] The impersonality of money made it a medium of spiritual attainment, for this one unfortunate character anyway.

By contrast, the theme of money is approached in a negative light in the work of Athos Casarini, a young Italian painter, who lived in New York from 1909 and who is often considered a futurist, though he was not directly involved with the movement. In *Vision of the Stock Exchange* (1914; Fig. 129), five caricatural male heads symbolizing financiers are

surrounded by abundant gold coins that appear to fall into and out of their open mouths, along with several repetitions of the English word *money*. Unsettling angles of buildings add to a sense of visual and spatial confusion around the outside of an already congested composition, and disconnected hands and wrists reach out to collect the money amid the bankers' heads. The painter described this image in a magazine article from the time as presenting "the deadly torrid atmosphere of frenzied finance."[164] Just as the artist vilified stock market financiers, he used a similarly gluttonous head, floating free from the body, to allegorize the medium of exchange in *Money* (1914; Fig. 130). Again, immersed in wealth, the face rests atop a tableau of coinage, squid tentacles, and hands with creepily long fingernails. The saturated colors and fluid shapes bring intensified visual qualities to the satirical content, which one reviewer associated with speed: He "strives to paint a state of mind—and that means, in modern society, a state of constant excitement, under the stress of speed mania, money getting, and rivalry."[165] In a published text on the subject of a trip he had made to the U.S. before World War I, Guglielmo Ferrero found there to be a mystical quality in American character behind their business savvy and practical applications of modern knowledge: "The Americans were often dreamers, idealists, almost mystics ... What is American progress ... should prove ... to be only an idealistic and semi-mystical conception of wealth itself?"[166] The "semi-mystical conception of wealth" that propelled American industrial expansion, according to Ferrero, had taken on a malevolent hue in Casarini's images of avarice.[167]

While Boccioni did not paint images of currency, he alluded to money and commerce in writing, expressing a less polemical attitude than Casarini. In a pre-futurist diary entry from 1907, for example, he wrote: "I'm discouraged not by my own [artistic] powers, but by a financial means that never seem to increase without prostitution in the most ignoble manner."[168] Like many struggling artists, he was concerned with making a living. The theme of money in the context of prostitution appears years later in his poem "Small Dress Shoe + Urine" (1913), in which a business transaction with a prostitute is depicted in monetary and

spiritual terms. The London commercial district, within which this fragmentary narration is set, announces: “Life joy money / buying selling buying selling selling.” The poem then shifts to describing their sexual interaction. Indulged without much apparent pleasure, his sexual desire shifts to the unknown consequences of the brief encounter: “Fever to penetrate comprehend the beloved body / more unknown than the UNKNOWN.” Coitus prompts an “unknown chemical function,” and his uncertainty about paternity takes the form of calculating the microscopic probabilities: “50 drops essence to be unknown.” Because the outcome of his fulfilled desire is unpredictable, “the unknown” looms as a fatalistic attitude of having possibly conceived children he would never know.[169] In another text, Boccioni describes the futurists as part of “a species of superior barbarians,” and this group of artists feels a need “to proceed in an unknown world of new phenomena that are yearning to emerge from anonymous nature. That’s why we work!”[170] Similar to his image of sexual and monetized desire, the sculptural image of *Unique Forms* can be thought to conceptualize unknown functions both as a creative inspiration and as a materialization coming from an anonymous source. In a metaphorical sense, he imagines the futurists as creating artworks that are launched into an uncertain world; they are metaphorically orphaned, abandoned to their fate. In a letter from early 1913, the artist portrays his professional disappointment when he described struggling with making sculpture: “The situation is obscured because we do not know if it [our art] will ever be seen and the trend is accentuated in the end in misunderstanding and we will be in the end isolated and completely alone!”[171] If the artist had equated money with sexual desire and artistic ambition in his poem, this fiscal dimension worked within the broader themes in his writing and in his artwork—indeterminacy and aspiration.

Mapping the visual parameters of an anonymous body in motion, Boccioni’s figuration from 1912–13 forged an aesthetic in which the body was acclimated to modern conditions of speed and industrial growth. Resisting visual associations with fixed identity, the figures hover at the edge of dissolution, and they adapt to the changing environment. Their plastic qualities

present the idea of a flexible modern subject whose postures and attitudes arise as much from without as from within, in anticipation of participating in an unknown world. This idea of material and mental plasticity infused his description of his exhilarating experience among other futurists in Rome in February–March 1913: “To think that I can communicate in my language with Italian friends in Italy, and together to explore the mysterious and tragic labyrinth of plastic evolution, I feel a thrill of a real physical tremor, of delicious anxiety, of a deep feeling that goes to tears, and I feel reborn, truly resolved, everything seems virgin, renovated, enriched.”[172] His sense of rebirth through shared artistic purpose manifested as psychophysical symptoms (“physical tremor” and “delicious anxiety”) and as material outcomes (“the mysterious tragic labyrinth of plastic evolution”), and the full-length sculptured figures he made in Milan after returning from Rome present visual qualities that were meant to communicate that same feeling of ecstatic resolution. Approaching his sculpting process as an inspired mode of formal and conceptual revaluation, Boccioni sought to capture unhinged movement irrupting from within the figure. Taking shape in that same period, *Unique Forms* visualizes virtual forces overtaking psychic and physiological processes in order to recalibrate them to the rhythms of modern life and to register an overpowering experience of transformation. The bronze versions of *Unique Forms* reinterpret the formal and conceptual meanings of the plaster version, and they manifest reinforced positions on national strength, technological speed, and industrial might. Refashioned to comport with mechanized and militarized forces, the metallic versions appear menacing and unstoppable, and they compose a different set of aesthetic associations, culminating in the now-dominant interpretation of the sculpture as a machine-body, which likewise represses the qualities of material fragility and psychophysiological plasticity, unwittingly perhaps. By revisiting the antithetical formal qualities of plaster, a different interpretation of the exhilarating and violent forces reveals another, less appreciated dimension of its conception.

In 2002, in place of the more traditional profile of a famous person, the face of the 20-cent Euro coin was imprinted with the iconic image of *Unique Forms* (Fig. 131). A symbol of Italian artistic achievement reintroduced within the context of international political and financial cooperation, the outline of the sculpture moves right to left within the circle of twelve stars that represent the European Union, and is further corralled by the scalloped edge of the small denomination piece. Boccioni's "most liberated" image of figural motion is thus reinterpreted as a medium of legal tender, rendered in relief in an innumerable edition, pressed with an exact measure of monetary worth into a metallic alloy as another rendition of the plaster version. Amid this official recognition, the image of the anonymous body-building in virtual movement continues to retain aspects of psychophysical anticipation. Depicting an emergence of unknown forces, *Unique Forms* serves a model of collective ambition that indicates a set of propositions, as well as a certain posture, concerning the accommodation of the disruptive effects of social and historical change. In his writings, Boccioni had preferred to emphasize the positive, untapped potential for movement in the collective, even amid the sometimes violent effects of transformation: "Everything moves toward catastrophe! And one must have the courage to surpass oneself until death."[173] Imprinted as an emblem of change, abstracted from actuality and made available for another stage of ongoing modernization, the visual structure of *Unique Forms* on the coin continues to exhibit those expansive qualities associated with a continually unfolding experience of the conflict and desire unleashed by modernization.

Notes

[1] Umberto Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni*, 1988, 244.

[2] Umberto Boccioni, letter to Giuseppe Sprovieri, September 4, 1913; in Boccioni, *Lettere futuriste*, 2009, 87–88 and 268–272.

[3] In Greek mythology, Talos guarded Crete and symbolized metallurgy and the mechanical arts.

[4] Massimo D’Azeglio, *I miei ricordi*, Vol. 2, 1867, 31 (my translation). [“È risorta l’Italia, risorgerà altresì il carattere italiano.”] An alternate translation of this passage reads: “Italy has risen once more; the Italian character will rise too.” Massimo D’Azeglio, *Things I Remember*, 1966, 182. (The same sentence appears in D’Azeglio’s book *Consigli al popolo italiano*, 1869, 67.) It is important to note that this statement is often cited by Italian scholars, who sometimes characterize D’Azeglio as having described a project of “making Italians.”

[5] An excellent account of this ideological project is Suzanne Stewart-Steinberg, *The Pinocchio Effect: On Making Italians, 1860–1920*, 2007.

[6] George Mosse identifies this myth of the new man in post–World War I German, Italian, Soviet, and French societies, as an immediate precursor to fascist attitudes. George Mosse, *The Image of Man,* 1996, 107–32. This author also mentions the new man in George Mosse, “The Political Culture of Italian Futurism: A General Perspective,” *Journal of Contemporary History* 25 (April 1990), 262–65. Also see A. James Gregor, *Young Mussolini and the Intellectual Origins of Fascism*, 1979, 94. One of the original sources cited in support of this myth is Giovanni Papini’s book *Maschilità*, 1915.

[7] Giovanni Papini, “Il discorso di Roma,” *Lacerba* 1, no. 5 (March 1, 1913); republished in Gambillo and Fiori, eds., *Archivi del futurismo, Vol. 1*, 1958 141.

[8] In the text “A Discourse of Rome” (1620), recently attributed to Thomas Hobbes, civic laws are both a protective wall and a connective tissue, like a living body. See Noel B. Reynolds

and Arlene W. Saxonhouse, eds., *Three Discourses: A Critical Modern Edition of Newly Identified Works of the Young Hobbes* (Chicago: University of Chicago Press, 1995), 109.

[9] Ibid, 141

[10] A ten-foot-high replica of *Unique Forms* was literally motorized in the dance performance *From Futurism to Future* (led by Italian dancer Roberto Bolle) as part of the opening ceremony of the 2006 Winter Olympic Games in Turin, Italy. The performance is described in the Wikipedia entry titled "2006 Winter Olympics Opening Ceremony," http://en.wikipedia.org/wiki/2006_Winter_ Olympics_opening_ceremony (accessed May 2011). An excerpt, lasting nine and a half minutes, from the Italian television broadcast of this part of the event is available on YouTube under the title "Olympic Opening Ceremony Torino 2006" at http://www.youtube.com/watch?v=hhOQhQfuK1s (accessed May 2011).

[11] F.-T. Marinetti, *Mafarka the Futurist*, 1998.

[12] Duchamp's phrase *headlight-child* appears in his 1912 note (sometimes called "Jura-Paris Road"), which appeared in his project "The Green Box," 1934. Reprinted in translation in Marcel Duchamp, *Salt Seller: The Writings of Marcel Duchamp (Marchand du sel)*, 1973, 26–27. Picabia created several mechanomorphic portraits from 1915 playing the modernist interest in mechanization off his own subtle affirmation of originality (the French phrase translated literally "girl born without a mother" means "without precedent") amid mechanical reproduction (including his own method of tracing over images). Additional discussion of Picabia's mechanical drawings can be found in chapter 4.

[13] F.-T. Marinetti, "Extended Man and the Kingdom of the Machine" 1910–15; published in translation in *Critical Writings*, ed. Günter Berghaus, 2006, 86. The dating of this text is ambiguous because it was first published in 1915, but the author claimed that it had been originally drafted in 1910.

[14] Art historian Christine Poggi, for example, finds a technological dimension in this work; Poggi, *Inventing Futurism*, 2009, 170–72. Other examples include Marianne Martin, *Futurist Art and Theory*, 1968, 172; and, more recently, Giovanni Lista, *Le futurisme: Création et avant-garde*, 2001, 161; and Jeffrey T. Schnapp, "Bad Dada (Evola)," 2005, 31.

[15] The association between geographic displacement and broken bloodlines symbolizes a fortuitous break in Charles Duveyrier's utopian poem "New City," published in his book *Le Livre des Cent-et-un* (1832): "No more motherhood! … Freed from the law of blood."

[16] Notes from Boccioni diary (undated; after 1908); published in translation in Coen, *Umberto Boccioni*, 260.

[17] Umberto Boccioni, "Scarpetta da società + orina" ["Small Dress Shoe + Urine"], published in *Lacerba* 1, no. 22 (Nov. 15, 1913), 254–56. The original manuscript from 1913 (labelled "Scarpatta [sic] da società + orina" by the artist) is housed at the Getty Research Institute, Los Angeles; Boccioni papers, 1899–1986, accession no. 880380, box 3, folder 12.

[18] Some specific examples from the text read (ibid.): "Fever to penetrate comprehend the beloved body / more unknown than UNKNOWN eternal condemnation," "man: the unknown that proceeds into the unknown," "to be human UNKNOWN lost infinite world," and "internal life to pass by unknown chemical function."

[19] Boccioni was raised by his mother, and remained estranged from his father. In addition, Gino Agnese has published evidence that Boccioni fathered a child by a Russian woman. Born January 26, 1908, the son, named Pietro Berdnicoff, never met his father, who was aware of his son's existence, based on a diary entry announcing the birth. Gino Agnese, *Vita di Boccioni*, 1996, 121–22 note 7.

[20] Giovanni Papini, *Four and Twenty Minds*, 1922, 2.

[21] Scipio Sighele, *L'intelligenza della folla*, 3; discussed also in chapter 1.

[22] Papini, *Four and Twenty Minds*, 1922, 6.

[23] Boccioni, *Pittura e scultura futuriste*, 2006, 72–73; excerpts reprinted in Apollonio, ed., *Futurist Manifestos*, 175.

[24] This gradual shift away from wide views of crowds to isolated figures ran parallel to a visual language in certain Italian historical epic films around the same period, as discussed in the previous chapter.

[25] Marianne Martin, *Futurist Art and Theory, 1909–1915*, 172.

[26] Boccioni, preface to exhibition catalog *Première Exposition de Sculpture Futuriste*, 1913 (my translation).

[27] Polidoro Benveduti, "La scultura futurista," *Il tirso*, December 28, 1913, 2: "S'intende che per costruire o comporre un insieme dinamico è necessario studiare la realtà in movimento o nelle sue possibilità di movimento. Dico: costruire o comporre, perchè l'arte futurista (ed è questo uno dei suoi meriti maggiori) non rappresenta." Also, while the article has a by-line reading "G. Benveduti," an editorial note that immediately follows it lists the author as "P. Benveduti."] For a reiteration of Boccioni statement about showing the action of the body in movement, see Severini, "Le sculpture futuriste de Boccioni," *L'Action d'art*, July 23, 1913.

[28] Walter Benjamin, "Julien Green," 1929; documented and translated in Benjamin, *Archive*, 158–59. The citation refers to the characters in Green's novel *Adrienne Mesurat,* 1927.

[29] Henri Bergson, *Time and Free Will*, 192–97.

[30] Wilhelm Wundt, *Lectures on Human and Animal Psychology*, 1896, 376. Bergson also discusses anticipation of future as either mechanical prediction or voluntary act in *Time and Free Will*, 192–93.

[31] Guglielmo Ferrero, "The Limit of Sport," in *Ancient Rome and Modern America*, 1914, 339–40.

[32] Scipio Sighele, *I delitti della folla* [*The Murders in the Crowd*], 1902; Gustave Le Bon, *The Crowd: A Study of the Popular Mind*, 1895 (reprinted in 2003); and Gabriel Tarde, *The Laws of Imitation*, 1903.

[33] For example, Walter Benjamin wrote during the interwar period: "If it is the misfortune of the workers' rebellions of old that no theory of revolution directs their course, it is also this absence of theory that, from another perspective, makes possible their spontaneous energy and the enthusiasm with which they set about establishing a new society." Walter Benjamin, "Exposé of 1935," section in *The Arcades Project*, 1999, 13. Historically speaking, the spontaneous resistance by workers resulted in widespread strikes in Italy between 1900 and 1910; see Martin Clark, 141.

[34] Polidoro Benveduti, "La scultura futurista," *Il tirso*, 1913: "Negli altri [futuristi] la spirale, la parabola, l'iperbole, l'angolo acuto, la massa fusi-forme, la compenetrazione dei piani… esprimono lo slancio lirico della material verso l'infinito."

[35] Ibid.: "Dinamismo ci sveglia l'idea di forza, quindi di movimento: d'accordo. Ma che genere di movimento? IL MOVIMENTO DELLA FORZA. (Mi spiego: un cerchio è una forma immobile; un'iperbole od una spirale sono forme in movimento: le forme tipiche che assume la material allorchè si espande)."

[36] The idea of the closed circular shape becomes a point of heated debate among the futurists. In his article "Il cerchio si chiude" (*Lacerba*, Feb. 15, 1914), Papini makes an analogy of aesthetic development using the circle to describe a possible return to classicism and order following the period of avant-garde disruption. In his response, Boccioni rebutted Papini's hypothetical by contending that modernization brings unique and different historical possibilities that preclude a return to classical order—thus the metaphorical circle has been historically broken (Boccioni, "Il cerchio NON si chiude!" *Lacerba*, March 1, 1914).

[37] Roberto Longhi, “La scultura futurista di Boccioni” (1914); reprinted in Longhi, *Scritti Giovanili, 1912–1922*, 1961, 157: “Dove il moto accelerato scardina, svelle gli archi rampanti dalle anche al torso per giostrarli nell’architettura tortile: i garretti springano raggi, una buccina sfiata il torso insinuato, ombre e luci sfilano abbacinate a vicenda.” [“Where the accelerated motion is unhinged, it uproots the flying buttresses from the hips to the torso to juggle them in twisted architecture: the hocks spring rays, a conch deflates the insinuated torso, shadows and light parade dazzlingly for each other.”]

[38] Ibid., 155, 157, and 160 (listed in order of appearance).

[39] For Aby Warburg, the “alien figure” marked an irruption of ancient, uncontainable forces into Renaissance paintings, as in Sandro Botticelli’s *The Birth of Venus* (c. 1486) and *Allegory of Spring* (c. 1482). See Aby Warburg, “Sandro Botticelli” (1898) and “Sandro Botticelli’s Birth of Venus and Spring: An Examination of Concepts of Antiquity in the Italian Early Renaissance,” (1893); both reprinted in Warburg, *The Renewal of Pagan Antiquity*, trans. David Brin, 1999. At once timely and out of time, this figure strides into the historical present from antiquity to disrupt life through the vitality of its movement, registering a deep sense of cultural transformation, and it is not surprising to find a similarly disruptive presence in avant-garde works made prior to World War I. Warburg even suggested: “Every age has the renaissance of antiquity that it deserves.” Cited in E. H. Gombrich, *Aby Warburg: An Intellectual Biography* (Chicago: Chicago University Press, 1986), 238.

[40] Longhi, “La scultura futurista di Boccioni,” 135. “A questo punto ripeto, e con questi intenti s’inizia la scultura di Boccioni e come tutte quelle che si riportano alle sorgenti della plastica è spontaneamente arcaica ma non, intendiamoci, arcaistica.”

[41] Boccioni described his drawings as “relating to sculptural dynamics” in a letter to Guiseppe Sprovieri, September 4, 1913; in Boccioni, *Lettere futuriste*, 2009, 87–88 and 268–272.

[42] Boccioni, “Technical Manifesto of Futurist Sculpture,” April 11, 1912; reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 51–52 and 61–65.

[43] As mentioned in chapter 5 note 56, the term *chronotope* comes from M. M. Bakhtin, “Forms of Time and Chronotope in the Novel” (1937–38); published in Bakhtin, *The Dialogic Imagination*, 1981, 84–258; for a definition of the term, see ibid., 84.

[44] Wundt describes a nebulous distinction between voluntary and involuntary acts: “Ideas which are brought to consciousness by voluntary recollection may also crop up through involuntary association; and muscle-sensations may be produced by reflexes, or, as you know, by means of external and artificial stimulation of the muscles” (*Lectures on Human and Animal Psychology*, 230). On impulsive action, he says, “There can be no doubt that the majority of the actions of animals are of this character. But impulses make up a large part of human action also, and especially in the earlier stages of its development” (ibid., 232).

[45] Boccioni, preface for his exhibition catalog *Première Exposition de Sculpture Futuriste*, 1913 (my translation). The term *form-forces*, which appears in other futurist texts as *force-forms*, is an aesthetic concept that draws from the scientific concepts of *lines of forces* and *magnetic fields*, which originated with nineteenth-century theories of electromagnetism and were introduced by Michael Faraday and further developed by James Clerk Maxwell.

[46] Boccioni, “Plastic Dynamism,” (first presented as a lecture on Dec., 12, 1913; published in *Lacerba* on Dec 15, 1913; and reprinted in Apollonio, ed., *Futurist Manifestos*, 1970, 95.

[47] A discredited version of events is that his plaster works were left outside during a rainstorm following a large commemorative exhibit of the artist’s work in 1916–17. The most accurate version comes from art historian Luigi Sansone, who reconstructed the events through extensive documentation and with an interview with Marco Bisi: following a show in 1924 at F.-T. Marinetti’s Bottega di Poesia in Milan, some of the works were stored with Piero da Verona in Milan, who kept them until 1927, at which time he dismantled the remaining works,

salvaging the metal armatures and discarding the plaster pieces; Bisi managed to recover and to reconstruct the still life *Development of a Bottle in Space* (1913). Luigi Sansone, "Le sculture in gesso di Umberto Boccioni: storie e documenti inediti," republished in Umberto Boccioni, *La rivoluzione della scultura/Die Revolution der Skulptur*, ed. Volker W. Feierabend, 2006, 28. The interview appears in the same text; ibid., 52–55.

[48] Umberto Boccioni, "Technical Manifesto of Futurist Sculpture," April 1912; reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 65. Art historian Alex Potts describes Boccioni's sculptural work as a type of translation of painting ideas: "In the end, 'modelling of atmosphere' he has in mind comes down to modeling forms in relief that one can read pictorially as nonliteral suggestions of depth, space or fragments of solid shape, as if the forms of Futurist painting were being congealed in clay … For all his theoretical radicalness, his own sculpture never quite broke out of the limits of the sculptural lump." Alex Potts, *The Sculptural Imagination*, 106–107.

[49] Boccioni, "Technical Manifesto of Futurist Sculpture," April 1912; reprinted in Apollonio, ed., *Futurist Manifestos*, 52 and 65.

[50] Boccioni's idea of mixing distinct elements in one work is set forward in his manifesto as an assemblage of related properties that rediscovers "plastic sensitivity" by using wood, cardboard, paint, metal: "even twenty different types of materials can be used in a single work of art in order to achieve plastic movement." Boccioni, "Technical Manifesto of Futurist Sculpture," April 1912; in Apollonio, ed., *Futurist Manifestos*, 51–52 and 61–65.

[51] The more successful later work is *Dynamism of Horse + Houses* (1914–15; Fig. 109), and the formal properties of this diversity have been noted by contemporary historians; see Hal Foster et al, *Art Since 1900*, 2007, 93–95.

[52] In registering figural motion, this modeling material manifest qualities quite distinct from stone carving. For a perspective on the differences between carving and modeling in British

sculpture before World War I, particularly in Vorticism, see Penelope Curtis, “How direct carving stole the idea of Modern British Sculpture,” in David J. Getsy, ed., *Sculpture and the Pursuit of a Modern Ideal in Britain, c. 1880–1930*, 2004, 291–318. Curtis also points out that the plastic quality associated with modeled figuration were formulated, at least in its modernist form, in the late nineteenth century by a German school, including Adolf von Hildebrand.

[53] Rodin responding verbally to Edgar Degas; quoted in Leo Steinberg, “Rodin,” in *Other Criteria: Confrontations with 20th-Century Art*, 1972, 363.

[54] Steinberg, “Rodin,” in *Other Criteria*, 1972, 385. In a similar vein, he describes an “irresistible energy of liquefaction, in the molten pour of matter as every shape relinquishes its claim to permanence … symbolic of an energy more intensely material, more indestructible and more universal than human muscle power” (ibid., 325).

[55] Ibid., 379.

[56] Steinberg notes: “Accident is one of Rodin’s resources for doubling the energy charge of his work. Breaks, cracks, and losses are violent. They imply the intractable and unforeseen, and that the artistic will drives its decisions against the brutal nonchalance of insensate matter” (ibid., 393).

[57] Ibid., 325 and 385.

[58] Ibid., 370.

[59] French physiologist Jean-Marie Lahy volunteered of serve in the military during World War I to study “functional plasticity,” or the lack of nervousness of machine gunners during combat; cited in Rabinbach, *The Human Motor*, 265.

[60] Boccioni, notes for sculpture manifesto, mid–1912; in Boccioni, *Altri inediti e apparati critici*, ed. Birolli, 1972: “La scultura futurista è un’architettura. Gli elementi sono sparsi per creare dei pieni dei vuoti degli scorci.”

[61] Adrian Stokes, *Colour and Form*, 1950, 40–45, and *The Image in Form*, 1972, 98–100.

[62] Boccioni, preface to the exhibition catalog *Première Exposition de Sculpture Futuriste*, 1913 (my translation; original emphasis).

[63] Emilio Cecchi, *Taccuini*, 1976, 211: "6 December [1913] Sculpture of Boccioni, should be seen as if the open air, and the sculpture of Boccioni the shape of the void made in the air by a body that moves undulating."

[64] The evidence to support this attribution of the artist's identity is both circumstantial and textual. Both Ungaretti and Boccioni were affiliated with the short-lived futurist journal *Lacerba* (in which the poet published some of his poems), and there were no other Italian sculptors that would have been described as modern who were living in Italy (i.e., Medardo Rosso lived in Paris). Perhaps the strongest evidence comes from the statement attributed to this young sculptor in comparison to a statement by Boccioni, as follows in the text.

[65] The anecdote appears in a section of Giuseppe Ungaretti's notes on tragedy, written between 1924–37, that jumps among different historical references and diverse periods. Ungaretti writes: "I was once told by a young sculptor. He told me: Michelangelo saw statues imprisoned in every block of stone that he encountered and then was taken by athletic impatience to free them with his chisel. For us, instead, sculpture fills the void that invokes an apparition. Here [it is] no longer [just] the tragedy of the word, or even tragedy, insofar as life is always tragic, but here [it is] the power of modern art" (Giuseppe Ungaretti, *Vita d'un uomo: Saggi e interventi*, 362).

[66] Boccioni, lecture delivered at the Circolo Artistico, Rome, May 29, 1911; printed in translation in Coen, *Umberto Boccioni*, 238.

[67] Boccioni, "Plastic Dynamism," 1913; in Apollonio, ed., *Futurist Manifestos*, 93. The text was first presented as a lecture on Dec. 12, 1913; then published in *Lacerba* on Dec. 15, 1913.

[68] In the field of philosophy around this time, William James described the phenomenological condition as an "experiential tissue" that synthesizes real and ideal—that is, it is an

overcoming of a conceptual dichotomy between empirical actualities and metaphysical ideals. William James, *Essays in Radical Empiricism* (Minneola, NY: Dover, 2003), 22–23 and 45.

[69] This approach to spatial and temporal continuity was obviously Bergsonian. Bergson discusses continuous multiplicity as the quality of consciousness that refrains from symbolic representation (Bergson, *Time and Free Will*, 105). In the same text, he describes "the continuous evolution of a free person" (ibid., 229).

[70] Longhi, "La scultura futurista di Boccioni," 135.

[71] Boccioni, preface to exhibition catalog *Première Exposition de Sculpture Futuriste*, 1913.

[72] See note 14.

[73] In the catalog preface, he also describes the effect of light on the figure, which is a separate strategy from architectural fusion: "Furthermore we will have the elongation of the body in a ray of light that hits it and the entering of a *void* into a *fullness* that passes before it. / I will obtain all of this by uniting *atmospheric blocs* to elements of more concrete reality." Boccioni, preface to *Première Exposition de Sculpture Futuriste*, 1913 (my translation; original emphasis).

[74] Boccioni, preface to *Première Exposition de Sculpture Futuriste*, 1913 (my translation).

[75] Boccioni, cancelled text in notes for sculpture manifesto (mid-1912) in Boccioni, *Altri inediti e apparati critici*, ed. Birolli,, 1972, 64: "Bisogna considerare il corpo umano al di fuori della logica fisionomica."

[76] Guillaume Apollinaire, *Selected Writings*, ed. Roger Shattuck, 1971, 153. The faceless man is described in his poem as "a man without eyes without nose and without ears" and "dark with a strawberry color on his cheeks." Dating from c. 1913–16, this poem appeared in *Calligrammes: Poèmes de la paix et de la guerre*, 1918.

[77] Wilhelm Wundt, *Lectures*, 382.

[78] Georges Duhamel, *Civilization: 1914–1918*, 1919, 48 and 55. Duhamel's descriptions stand in stark relief to a flashing image of the handsome face of a military officer on a train (ibid., 7–8).

[79] Boccioni's figural complications were based on the exaggerated piercing effects of contre-jour lighting, traceable back to the drawing *Controluce* (*Contre-Jour*) of 1910 (Fig. 143).

[80] Boccioni, preface to exhibition catalog *Première Exposition de Sculpture Futuriste*, 1913.

[81] Ibid.

[82] Other examples include Bonzagni's *Sunday Afternoon* (1916–17) and *Serenade* (1917).

[83] Boccioni, "Futurist Architecture Manifesto," 1913–14; reprinted in Boccioni, *Altri inediti e apparati critici*, ed. Zeno Birolli, 1972, 37–38: "Le nostre opere di pittura di scultura sono fatte di calcolo perché l'emozione scaturisca da una costruzione interna (architettonica) e sfugga l'accidentalità visiva."

[84] "Boccioni le premier introduit dans l'ouevre sculpturale les éléments architecturaux du milieu sculptural où vit le sujet" (Severini, *L'Action d'art*, 1913). The highest praise comes elsewhere when the painter writes, "The first sculptor who finally finds a style corresponding to our modern sensibility is the futurist sculptor Boccioni. The works exhibited at Galerie La Boëtie represents the most comprehensive and most interesting effort of our time."

[85] Benveduti, "La scultura futurista," *Il tirso* (1913), 2. "Se i miei lettori andranno a vedere la Galleria Futurista e ci andranno con l'animo disposto a valutare solo semplicemente le linee architettoniche di quella scultura, senza tormentarsi nella ricerca di somiglianze con la fredda realtà, ne proveranno della emozioni estetiche nuove e profonde e daranno anche loro il benvenuto a quest'arte che sta a testimoniare, dopo quattrocento anni di morte, la resurrezione e la vivacità del genio italiano."

[86] Longhi, “La scultura futurista di Boccioni,” 159. [“Al moto assoluto si accolla il relativo: l’ambiente dà un’architettura all’individuo, o, ch’è lo stesso, l’individuo spostandosi dà un’architettura a sé stesso.”]

[87] Ibid., 156. [“Corpo e architettura del corpo unificati”]

[88] Ferruccio Busoni, letter to his wife, dated June 23, 1913; printed in Gambillo and Fiori, eds. *Archivi del Futurismo, Vol. 2*, 275–76: “Boccioni ha esposto della ‹‹scultura futurista››. L’idea è di ridare in una sola forma parecchi movimenti di un corpo, ottenendo un effetto architettonico ... V’è molto studio, ma il risultato è brutto e incomprensibile, specialmente se l’uomo, al posto della testa, porta una casetta-balocco, per ragioni che Boccioni mi ha spiegato con grand sfoggio di teorie.”

[89] Guillaume Apollinaire, “First Exhibition of Futurist Sculpture by the Futurist Painter and Sculptor Boccioni,” *L’Intransigeant* (June 21, 1913); reprinted and trans. in *Apollinaire on Art: Essays and Reviews, 1902–1918*, 320–21.

[90] Boccioni, letter to Ardengo Soffici, July 1, 1913: published in “Umberto Boccioni ad Ardengo Soffici: 13 letterre + 2 cartoline,” Fabio Vittucci, ed., *L’uomo nero* 3, no. 4–5 (Dec. 2006), 517. “L’effetto che fece l’Esposizione fu strano. Mi mostrò che nessuno quasi comprende e si è occupato di scultura. Quindi ne risulta un disinteresse generale e non solo nelle ricerche particolarmente plastiche e tecniche ma proprio nel concetto di scultura come arte. Questo mi ha messo dei dubbi addosso che non ho ancora chiariti.”

[91] As an example of the artist explicitly repositioning the two-dimensional framing element as three-dimensional sculptural base, *Figure in Movement* (a preparatory drawing for *Unique Forms*; Fig. 104) used a line parallel with the bottom edge to connote a smooth plane to ground the muscular forms, while mirroring the rectangular shape of the paper.

[92] The phrase comes from a well-known anecdote in which Rodin commenting in 1909 on Aristide Maillol’s *La Nuit*. His remark is “one forgets too often that the human body is an

architecture—a living architecture." Cited in Judith Cladel, *Aristide Maillol* (Paris: Bernard Grasset, 1937), 82 and also Bertand Lorquin, *Aristide Maillol*, trans. Michael Taylor (London: Skira, in association with Thames and Hudson, 1995), 66.

[93] Boccioni, "Futurist Architecture Manifesto," 1913–14; originally printed in *Lacerba*, no. 15, Aug. 1, 1914, and reprinted in Boccioni, *Altri inediti e apparati critici*, ed. Zeno Birolli, 1972, 40.

[94] Ibid., 36.

[95] Elsewhere Boccioni describes the internal structure within himself as "architectonic necessities of the plan that was in me" (in Coen, *Umberto Boccioni*, 1988, 261) This poetic image of internal design also appears in the line from Apollinaire's poem "La Petite Auto" (August 1914): "I felt within me skillful new beings / Build and even arrange a new universe."

[96] Boccioni, "Futurist Architecture Manifesto," 1913–14; reprinted in Boccioni, *Altri inediti e apparati critici*, ed. Zeno Birolli, 1972, 40.

[97] Ibid., 40.

[98] A related motif was the portraiture that superimposed faces and mechanical elements, such as Tato's *Mechanical portrait of Futurist poet Remo Chiti*, 1930 and Ferruccio Demanins's *Marinetti alla radio*, 1932.

[99] The original idea behind *Palace of the Soviets* (1931–33), designed by Boris Iofan with Vladimir Shchuko and Vladimir Gelfreikh, has been traced back to Iofan's mentor, Italian architect Armando Brasini, who had imagined Lenin atop a skyscraper. Rather than fusing anatomical and architectonic forms, *Palace of the Soviets* imagined the architecture as an extension of the architectural plinth, a formal strategy used in *Unique Forms*, as previously mentioned.

[100] For discussion of Bourgeois's series, see Julie Nicoletta, "Louise Bourgeois's Femmes-Maisons: Confronting Lacan," *Woman's Art Journal* 13, no. 2 (Autumn 1992–Winter 1993), 21–26.

[101] György Lukács, “The Ideology of Modernism” (essay orig. published in 1958), in *Marxism and Human Liberation*, 1973, 278–307.

[102] Piazza del Duomo in Milan, October 28, 1933; published in *La rivista illustrata del popolo d’Italia*, November 1933.

[103] The image is an engraving that appears as the frontispiece in Antonio Ceruti’s *I principi del Duomo di Milano* (1879); image modeled after a painting by Stefano di Padua from 1412.

[104] Guido Podrecca, “Il fascismo” (1923), in Renzo De Felice and Luigi Goglia, *Mussolini: Il mito* (Rome and Bari: Laterza, 1983), 110. Cited in Simonetta Falasca-Zamponi, *Fascist Spectacle: The Aesthetics of Power in Musolini’s Italy*, 1997, 50.

[105] Hannah Arendt describes political terror as a condition in which the plurality of individuals “has disappeared into One Man of gigantic dimensions ... [It] destroys the plurality of men and makes out of many the One who unfailingly will act as though he himself were part of the course of history or nature” (Arendt, *The Origins of Totalitarianism*, 1976, 466).

[106] Giovanni Papini, “The Unknown Man,” 1918; printed in *Four and Twenty Minds*, 1922, 6.

[107] Hannah Arendt writes in *The Origins of Totalitarianism*: “Terror ... has to eliminate from the process not only freedom in any specific sense, but the very source of freedom which is given with the fact of the birth of man and resides in his capacity to make a new beginning” (466) Elsewhere she reaffirms the source of freedom in beginning: “Freedom as an inner capacity of man is identical with the capacity to begin, just as freedom as a political reality is identical with a space of movement between men” (Arendt, *The Origins of Totalitarianism*, 1976, 473).

[108] Boccioni, *Gli scritti editi e inediti*, ed. Zeno Birolli, 1971, 369; this translation appears in Coen, *Umberto Boccioni*, 1988, 204.

[109] Apollinaire must have been referring to the entirely plaster works, rather than those works with embedded elements, which would not have been conducive to casting.

[110] Guillaume Apollinaire, “First Exhibition of Futurist Sculpture by the Futurist Painter and Sculptor Boccioni,” *L’Intransigeant*, June 21, 1913; reprinted and translated in Apollinaire, *Apollinaire on Art*, 320–21. He began by explaining Boccioni’s debt to Auguste Agéro and Picasso, only adding later that recognizing these precursors did not “distract at all from the importance of this first exhibition of modern sculpture.” The Italian artist’s success with sculpture is made to appear dependent on the Parisian artists.

[111] Apollinaire on Boccioni in October 1916; reprinted in *Anecdotiques*, 219–20.

[112] Roberto Longhi, “La scultura futurista di Boccioni,” 1914; reprinted in *Scritti Giovanili, 1912–1922*, 1961, 159.

[113] Ugo Tommei, “Scultura futurista,” *Lacerba*, May 1, 1914, 140 (my translation).

[114] Ibid., 140 (my translation). [“E qui non c’è futurismo che tenga: chi à un par d’occhi sani o perlomeno degli occhiali buoni come ò io—e sente e pensa non bacatamente, deve rimaner di stucco dinanzi a un’opera tale e aver tanta sincerità da riconoscere che tutta la plastica passata (epopee gigantesche nazionali, templi, eroi) è stata superata da queste opere di mole così piccola. Tu vedi là una manata di polpacci in tensione presi e buttati in avanti: un accenno, un brivido, una continuità agilissima; uno svolgersi vorticoso dei muscoli, uno snodamento—come una solidificazione della scia atmosferica che lascia una forma materiale in fuga.”]

[115] Ibid., 140–141 (my translation). [“Ma l’Italia giovane è con loro. C’è tutta una generazione che combattte sordamente per loro. Nella scuola, nelle case, nelle istituzioni: occhi buoni e ardenti che incontri quando più ti credi solo contro tutti, braccia robuste e affettuose che ti sorreggon quando credi soccombere al nemico. Intanto un sentimento futuristico oggi da noi c’è; un desiderio di luce e di velocità, un’impegno al fare, al creare, a superarci. Il futurismo, creduto sfogatoio degli scettiei e degli inconsolabili, è invece la nuova fede, la nuova speranza di fede in sè stesso e nel mondo. L’arte di Umberto Boccioni, lo ripeto, è un incitamento, un

insegnamento. Non si tratta più di fermare l'impressione fuggitiva sulla tela o sul gesso, il frammento caotico e multanime che nasce sotto il pennello o la secca in un istante ma che un solo istante vive. S'invoca, invece, un nuovo ordine, nuove leggi a garantirlo."]

[116] Ibid., 141 (my translation).

[117] Milestones for Boccioni during the first half of 1914 included the publication a few months prior of Longhi's in-depth study of Boccioni's sculpture, the publication of the artist's own book on futurist painting and sculpture, and the organization and consideration of various shows.

[118] Sergei Jastrebzoff, postcard to Carlo Carrà, postmarked in Rome on May 7, 1914. MART archives; accession no. Car.I.74.1. ["L'esposizione di Roma sia disgustato e l'articolo di povera Tomei sia fuso vomitare. Sono vomidando come Le anch'io."]

[119] Oliver Shell describes Red Week and its effect on Carlo Carrà. Oliver Shell, "Cleansing the Nation: Italian Art, Consumerism, and World War I" (Ph.D. dissertation, 1998, University of Pennsylvania).

[120]Umberto Boccioni, Preface to *Première Exposition de Sculpture Futuriste du Peintre et Sculpteur Futuriste Boccioni* [*First Exhibition of Futurist Sculpture of Futurist Painter and Sculptor Boccioni*], 1913 (my translation).

[121] Severini, *L'Action d'art*, 1913 (my translation).

[122] Ibid.

[123] This description is based on photographs and a condition report that document the damage in the archive of Museu de Arte Contemporânea at the University of São Paulo in Brazil; accessed by the author in March 2010. To my knowledge, the only previous work referring to this incident is Zeno Birolli and Marina Pugliese's "I gessi di Boccioni a São Paulo," 2010; presented in February 2010 at the conference "Il futurismo nelle avanguardie" at the Palazzo Reale, Milan, and graciously shared with me by the authors.

[124] Due to its poor condition, the plaster version cannot be lent to other institutions, and it cannot even viewed by the public at the Museu de Arte Contemporânea.

[125] Marinetti, "È morto Boccioni…," *L'Italia Futurista* 1, no. 6 (August 25, 1916), front page.

[126] The casts made directly from the original plaster include: two made in 1931 by Luigi Ciampaglia at Fonderia Chiurazzi, Rome; two made in 1949 by Fonderia Giovanni and Angelo Nicci, Rome; and, following to arrival of the work in Brazil, one cast made in 1960 by Fundiçao Benedeto Metelo, São Paulo, and one further cast produced in 1972 for the Tate Britain by Fundiçao Artística em Bronze Alberta Luiza Lazzeroni Benedetti, São Paulo. The unauthorized edition of eight bronze copies (plus two additional Hors de Commerce proofs, by one account) was made in 1972 by Fonderia Francesco B., Rome, for the Galleria La Medusa from one of the 1949 bronzes. Complicating this distinction between castings and re-castings, however, is the fact that the fragile original was probably in slightly different condition for the separate castings, most notably for the 1972 Tate version, based on the reconstructed original (see note 123).

[127] My argument for reassessing this work—in its various iterations—does not related to the historical controversy surrounding the unauthorized copies made from a bronze cast in 1972 for Paolo Marinotti and La Galleria La Medusa in Rome.

[128] The exhibition "Mostra Omaggio Futurista a Umberto Boccioni" was mounted at the Galleria Pesaro in Milan. Location listed as Castello Sforzesco in Boccioni, *La rivoluzione della scultura*, ed. Volker Feierabend, 2006, 40. Ernesto Thayaht speech, titled "Sviluppo dei Principi Boccioniani" (1933) is preserved as a three-page typewritten manuscript (accession no. Tha.III.2.2) at Centro Internazionale Studi sul futurismo, Museo di Arte e Contemporanea di Trento e Rovereto, Rovereto, Italy.

[129] Thayaht manuscript "Sviluppo dei Principi Boccioniani" (1933).

[130] Ibid. ["Egli impara senza accorgersene mille cose alle quali non aveva mai pensato, segue l'opera delle bonifiche, gli sviluppi del commercio coloniale, le possibilità di tale o di talaltre esportazione, e piano piano si lascia vincere da questa Arte nuovissima, oltre la cartografia e riplasma ogni sorta di elementi disparatissimi, per creare unità nuove espressive incredibili, mai viste e APPUNTO PER QUESTO STRAORDINARIAMENTE VITALI E INTERESSANTI."]

[131] Ibid. ["Per questi fortunati eletti, le definizioni profetiche e i principi estetici di Umberto Boccioni assumono col passare del tempo, quasi il valore di una consegna... 'CREARE'"]

[132] Severini, *L'Action d'art*, 1913. "Dans l'expression pure et synthétique du mouvement d'un homme qui marche, Boccioni arrive au style."

[133] Severini, *The Life of a Painter*, 1995, 112. Also reprinted in Umberto Boccioni*, Lettere futurista*, ed. Rovati, 58.

[134] Severini, *The Life of a Painter*, 1995, 113.

[135] Boccioni, letter to Severini, dated January 25, 1913; in Boccioni, *Lettere futuriste*, ed. Rovati, 2009, 62 and 244–45.

[136] Boccioni, letter to Vico Baer, dated November 9, 1912; reprinted in Boccioni, *Lettere futuriste*, ed. Federica Rovati, 56. Boccioni and Marinetti were probably in Rome during the Second Nationalist Congress, which went December 20–22. Boccioni wrote Severini on January 1, 1913: "Siamo stati a Roma—Era l'antivigliglia di Natale e vi era un sole e un caldo tale che tutti andavano in giacca" (ibid., 60). Also see, Sentimelli, "Storia del partito politico futurista," December 1931; Giovanni Lista, *Arte e politica: Il futurismo di sinistra in Italia*, 2009, 45; Alexander J. de Grand, *The Italian Nationalist Association and the Rise of Fascism in Italy*, 1978, 40; and Ronald S. Cunsolo, "Enrico Corradini and Italian Nationalism, 1896–1923" (PhD dissertation, NYU, June 1962), 259. Berghaus mistakenly says they visited the Nationalist Congress in Rome in 1910; he either means the first congress in Florence, 1910, or the second one in Rome, 1912; Berghaus, *Futurism and Politics*, 59.

[137] Berghaus sees Boccioni's prewar involvement in nationalism as not being very consequential, since "the patriotic and nationalist sentiments which were also wide-spread in the anarcho-syndicalist movement." Berghaus, *Futurism and Politics*, 60. On the split within the Italian Nationalist Part, see John Thayer, *Italy and the Great War*, 224–25.

[138] Umberto Boccioni, *Diari*, 2003, 130.

[139] French philosopher Jean Baudrillard describes the seeming attractiveness of fascism to Italians at the time as providing an alternative to the unmasking of symbolic forms of power. Jean Baudrillard, *Simulacra and Simulation*, trans. Sheila Faria Glaser, 1994, 48.

[140] Alfred Barr letter to Benedetta Marinetti, dated June 19, 1948; printed in Umberto Boccioni, *La rivoluzione della scultura/Die Revolution der Skulptur*, ed. Volker W. Freierabend, 2006, 51.

[141] Hannah Arendt, *The Origins of Totalitarianism*, 463: "In the interpretation of totalitarianism, all laws have become laws of movement." As she observes later in this text: "Terror is the realization of the law of movement" (ibid., 465).

[142] Susan Buck-Morss notes the prevalent sentiment among European intellectuals of the interwar period: "The great, the truly horrifying danger was that his [Benjamin's] generation, with its revived mythic powers, would in the process of rejecting the recent past lose contact with historical and social concreteness altogether, and that danger was synonymous with fascism." Buck-Morss, "Benjamin's *Passagen-Werk*: Redeeming Mass Culture for the Revolution," 1983, 238.

[143] Art historian Mark Antliff discusses Boccioni and his work in the context of nationalist sentiments, informed by vitalist philosophy and widespread in avant-garde art movements in France and Italy before World War I. Antliff, *Inventing Bergson*, 1993, 11. Antliff concludes that the Bergsonism espoused by these art movements shared certain ideological precepts with fascism. Elsewhere, Antliff writes, "the Futurists actively repudiated any association of their aesthetic with the contemplative, and that any proper reading of their art must take into

account the antimaterialist premises undergirding that disavowal." Mark Antliff, "Fourth Dimension" (Dec. 2000), 721.

[144] Umberto Boccioni, "Futurist Architecture Manifesto," 1913–14; reprinted in Boccioni, *Altri inediti e apparati critici*, ed. Zeno Birolli, 1972, 37.

[145] Arendt writes in *The Origins of Totalitarianism* (465): "Terror is the realization of the law of movement; its chief aim is to make it possible for the force of nature or of history to race freely through mankind, unhindered by any spontaneous human action." In totalitarian terror, she notes, "a device has been found not only to liberate historical and natural forces, but to accelerate them to a speed they never would reach if left to themselves" (ibid., 466).

[146] Werner Sombart, *Der Bourgeois*, 1913; English translation in 1915, published as *Quintessence of Capitalism*, 181.

[147] Ibid., and Ferrero, "The Limit of Sport," in *Ancient Rome and Modern America*, 1914, 339.

[148] Karl Marx, *Economic and Philosophic Manuscripts of 1844* (Moscow: Foreign Languages Publishing, 1959), 76.

[149] Werner Sombart, *Quintessence*, 181.

[150] In recent art historical scholarship, the phenomena of money and commodities are described as being structurally analogous to semiotic signs, and both economic and semiotic forms, along with psychic phenomena, are correlated on the basis of the general conditions of exchange, or circulation. See Rosalind Krauss, *The Picasso Papers*, 1998; David Joselit, *Infinite Regress*, 34–35; and George Baker, *The Artwork Caught by the Tail*, 12–13.

[151] Karl Marx, *Capital*, Vol. 3, 1981, 567.

[152] Baskin and Miranti, *History of Corporate Finance*, 1997, 157.

[153] Ibid., 155–58, 179, and 204.

[154] Karl Marx, *Capital*, Vol. 3, 572.

[155] Gianni Toniolo, *An Economic History of Italy*, 1990, 20–24; Vera Zamagni, *The Economic History of Italy*, 1993, 145–50.

[156] Zamagni, *The Economic History of Italy,* 1993, 145–47. The domestic financing strategy was premised on decreasing disruption by foreign institutions, but the bank's geographic distance from the industrial north hindered its potential.

[157] On fragility of the Italian banking structure, see ibid., 142. Elsewhere, British economist John Strachey states, "Capitalism could never have progressed beyond the stage of quite small scale production without the development of credit. But, at the same time, this development seriously increases the instabilities of the system." John Strachey, *The Nature of Capitalist Crisis*, 1935, 309.

[158] Giorgio Candeloro, *Storia dell'Italia Moderna,* Vol. 8, *La Prima Guerra Mondiale, Il Dopoguerra, L'Avvento del Fascismo; 1914–1922*, 1993, 15: "In the economic field, the crisis had reached its peak in 1913 when, as a result of a worldwide depression, there occurred a significant disruption of the combined monetary and financial market alongside a sharp slowdown in industrial production and an increase in unemployment." Also, Candeloro stated, "Industrial momentum occurred in Italy after considerable delay, that is during the period in which almost everywhere competitive capitalism was transformed into monopoly capitalism; the fact is that the momentum had been largely determined by the action of the banks (mainly of Commercial and Italian Credit)" (ibid., 15–16).

[159] Economic historian Vera Zamagni has noted, "Some industrial circles who saw the war as a possible answer to those problems of economic stagnation and excessive productive capacity which had materialized in 1913 and 1914" (Zamagni, *The Economic History of Italy*, 1993, 209).

[160] Papini, *The Failure*, 1924, 261.

[161] Ibid., 263.

[162] Ibid., 308.

[163] Wyndham Lewis, *Tarr*, 1951, 81.

[164] "Futurist fantasies by Athos Casarini," *The World Magazine*, August 15, 1914, 11; cited in Claudio Poppi, ed., *Athos Casarini futurista*, 2003, 150.

[165] Arthur Benington, "Casarini's Fantastic Symbolism in Gorgeous Color," *The World Magazine*, March 29, 1914; cited and reproduced in Claudio Poppi, ed., *Athos Casarini futurista*, 2003, 144 and 174.

[166] Guglielmo Ferrero, *Ancient Rome and Modern America*, 1914, 149.

[167] Other works include two versions of *The Vampire* (c. 1913–14 and c. 1914), depicting monstrous creatures that appear to have become deranged by their desire for money.

[168] The diary entry is dated July 12, 1907; Umberto Boccioni, *Diari*, 2003, 41. ["Non sono scoraggiato sulle mie forze mai sui mezzi pecuniari che non accennano mai ad aumentare a meno di non prostituirsi nella maniera la più ignobile."]

[169] See note 19.

[170] Boccioni, "Il cerchio NON si chiude!" *Lacerba*, March 1, 1914, 67–69. ["La scienza ci ha condotto ad una specie di barbarie superiore, per la quale l'artista futurista sente di procedere in un mondo ignoto di fenomeni nuovi che anelano di uscire dall'anonimo naturale. È per questo che lavoriamo!"]

[171] Boccioni, letter to Severini, dated January 25, 1913; in Boccioni, *Lettere futuriste*, 2009, 62 and 244–45.

[172] Boccioni, letter to Ardengo Soffici, March 24, 1913; reprinted in "Umberto Boccioni ad Ardengo Soffici: 13 letterre + 2 cartoline," Fabio Vittucci, ed., *L'uomo nero* 3, no. 4–5 (Dec. 2006), 517.

[173] Boccioni, "What Divides Us from Cubism," in Coen, *Umberto Boccioni*, 244.

7. Color-Burst

> It is necessary to respond seriously [to cubism] and to return, enriched as we are by French contact, to our great strength: the wild joy of color!
>
> —Umberto Boccioni, letter to Soffici, July 1913[1]

Intense coloration in early futurist visual works expressed irrepressible psychic, physical, and social forces, and this formal innovation grew from a rhetorical stance found in their early writings. In its founding manifesto, the crowd constitutes an overflowing abundance of sensory data, described as "the multicolored and polyphonic tides of revolution in the modern capitals."[2] What had been an amorphous object of fascination and a source of fear for earlier generations, the crowd signaled a more specific, incipient role in society. The general populace became, for the Italian avant-garde, a more visible and audible element in the spectrum of social possibility, no longer cloaked in the shadows of social and historical obscurity. As suggested by this phrase from the manifesto, chromatic innovation within futurist painting would come to be closely associated with radical social change, as well as with crowd. This chapter investigates the specific qualities of futurist chromatism that distinguished it from the approaches to color found in the work of other early twentieth-century artists. Their principles of chromatism marked a historical shift from a lineage that had emerged, scientifically and artistically, during the nineteenth century around the theory and application of color in painting.[3] Throughout that century, dominant chromatic ideas had been rooted in the optical effects generated by strong contrasts, or complementariness.[4] Such ideas of color harmony and contrast spurred impressionist and postimpressionist painters alike to dramatically rethink naturalistic techniques for applying color, and they would follow strict systems advocating the diffusion of local color into vibrant, contiguous hues. By the 1890s, the Italian school of postimpressionism, termed divisionism, adopted a similarly strict system for

composing paintings by way of contrasting hues and diffuse local color, and their techniques demonstrated a strong association with social justice and humanitarianism. The divisionists in Italy correlated the formal principle of equality among hues, evident in complementariness, with a kind of social equality that depicted those classes and social types not typically shown in academic genres and traditions. This utopian intertwining of aesthetic and social issues would carry over to futurist use of color, even as the premise for expressing chromatic variation changed radically.

By the early twentieth century, the futurists, like many other vanguard painters around Europe, continued to explore alternatives to naturalistic color, but they did not want to abide by formulaic divisionist rules for applying and diffusing hues. To invigorate painting at this time meant to discover, through experiment and theory, chromatic systems that could revise a naturalistic analogy in which hues and tones corresponded with reflective surfaces and light. Resistance to divisionist principles and the search for alternate modes of color motivated such painters as Henri Matisse, František Kupka, Umberto Boccioni, Wassily Kandinsky, and Robert and Sonia Delaunay.[5] The chromatic systems explored in this chapter created different analogies linking colored pigments with psychic and spiritual forces, for instance, as well as with music and temporality even. For artists as different as Matisse and Boccioni, for instance, the specific issue of chromatic intensity was central. While Matisse observed that "light is not suppressed, but is expressed by a harmony of intensely colored surfaces," Boccioni later claimed, "To get color you have to increase the [amount of] color … the strict application of Divisionist ideas about complementary colors leads to a decrease in intensity down to gray."[6] For both artists, the qualities of light were manifested in the chromatic intensity of pigments, rather than in the mixing or blending colors, either physically or optically. Other futurists treated color as a sensory and intuitive force, and made psychological claims for color and its correspondence with immaterial meanings. Painters Gino Severini and Carlo Carrà, for instance, proposed an approach to color as a poetic medium of analogy, and this approach

inspired their highly abstracted images of energetic and bodily emanations. Futurist chromatism also developed a concept of dynamic physiological processes that worked in tandem with metaphysical content, and Boccioni's innovations will provide an exemplary case. His works would evolve from divisionist brushwork to planar arrangements from 1910 to 1912, and his efforts would culminate in the effusive *Dynamism of a Football Player* (1914; Fig. 158). Across a range of formal approaches, futurist painting provided a platform for imagining cultural and sociohistorical changes in terms of color.[7] Even when forging ahead with alternate modes of chromatism, their color systems continually brushed up against tradition and the lingering appeal of naturalistic reflection and tonality. By soliciting an unqualified exuberance of color, the futurists may have resisted earlier divisionist ideas of complementarity and diffusion, but they also sought to distinguish themselves from two other contemporaneous modes of visuality—cinema, on the one hand, and cubism, on the other. As my epigraphic quotation from Boccioni indicates, they embraced "the wild joy of color" as a belief and as a set of formal practices that simultaneously subverted divisionism, responded to cubism, and rejected mechanicized methods of production.

Antitheses

From the beginning, futurist painting was haunted by cinema, and its theories and practices were entwined with mechanical reproduction in unexpected ways. Surprisingly perhaps, Boccioni actually loathed cinema as an expressive medium. This was partly due to the fact that critics, such as Roger Allard and Henri des Pruraux, used the analogy of moving pictures to describe the physical movements depicted in some of the first futurist works.[8] Perhaps mild sounding to contemporary ears, it amounted to a serious accusation at the time given that Boccioni, like many of his contemporaries, thought the automatic process of film diminished the vibrancy of life. In his 1914 text "What Divides Us From Cubism," Boccioni stated that their works did not simply plot the trajectories of physical motion, even though they

depict physical activities. Physical trajectories implied a mechanical mode of seeing that they rejected. Responding vociferously on behalf of the whole group of painters, he countered the charge of cinematic vision more directly: “We, who are accused of seeing things outwardly, of cinematography, are the only ones working our way toward a definitive [construction] which is an intuitive evolving creation.”[9] Rather than imitating cinema, the futurists had a method to trace the trajectories of emotion and intuition, and, by implication, physical movement could be, for them, the pictorial expression of internal forces. By presenting living processes, Boccioni claimed, their images revealed an interrelation between physical and nonphysical dimensions of experience, a correspondence of physical and spiritual forces. And, by refuting the charge of cinematography, the artist lent support to his main point in that text: cubism, not futurism, was allied with analytical and mechanical principles. As distinct from cinema as from cubist analysis, futurism espoused vitalist principles, in order to avoid reducing life to flimsy appearances. According to this logic, the painter rejected cubism and cinema for the same reason that critics had opposed futurism—due to the quality of its seeming lifelessness. Encapsulating a common criticism of cultural forms during this period of intensified industrialization, lifelessness was a quality that was mentioned in some of the earliest published responses to the new medium of film.

“Yesterday I was in the kingdom of shadows,” begins Maxim Gorky’s 1896 article on his first visit to the Cinematographe. “This is not life but the shadow of life and this is not movement but the soundless shadow of movement.”[10] Unlike other vivid early accounts praising cinematic representations of life, Gorky’s text claimed that cinema presented life as a lifeless trajectory. His journalistic account listed its disturbing sensorial qualities: “There are no sounds, no colours. There, everything—the earth, the trees, the people, the water, the air—is tinted in a grey monotone.” This idea of sensory reduction was repeated again for emphasis: “All this is grey, and the sky above is also grey … All this happens is a strange silence.” Lacking color and sound, the cinema presented life deceptively: “a life devoid of words and

shorn of the living spectrum of colours, a grey, silent, bleak and dismal life." The filmic apparatus magically turned the world to ashes, and, in a startling final image (no doubt exaggerated for effect), cinema transformed the theater itself "into fragments and into dust." Cast as a sort of a disaster, film destroyed life. Other critics from this early period similarly condemned the apparent reduction of life—to "a series of ugly and barren sights" and to "a world of all things black and white!"[11] Such negative assessments were by no means universal, but they were common among cultural commentators from different countries. Boccioni's verbal response to cubism resembled early film criticism, but, instead of reiterating this earlier reportage, the painter probably found an impetus to dislike cinema in the vitalist philosophy of Henri Bergson, who not only expressed a suspicion of the medium, but also employed a similar dichotomy between cinema and color.

In several texts written before 1910, Bergson portrayed the negation of intuition and free will in terms strongly associated with cinema. His writing worked on the premise that scientific analysis, and by extension cinema, extracted the vital essence from living processes. When life's essential movements were reduced to immobile sections or "stills," human freedom was not preserved, and continuous, living phenomena were not preserved by slicing them into constituent parts. A recurring example in his writings was Zeno's Paradox, a historical analogy that helped him to explain life's indivisibility by illustrating the opposite—the folly of over-analysis.[12] The analogy went like this: by indefinitely dividing up its trajectory, an arrow can be delayed indefinitely from reaching its target. For Bergson, the Cinematographe manifested this same analytical absurdity, and a sense of the continuity of life would never arrive through a succession of lifeless stills (viz., cinema).[13] In a long dissertation on determinism, the philosopher would explain this lack of vitality using language that was similar to Gorky's: "We are rarely free. The greater part of the time we live outside ourselves, hardly perceiving anything of ourselves but our own ghost, a colourless shadow."[14] Life appeared ghostly when time was conceived mechanically. The inverse likewise held true for Bergson:

color was an irreducible quality of experience and it symbolized an element of psychic life, as when a feeling revealed "its life and its color."[15] If cinema reduced life to colorless shadow, color signaled life and emotional depth—this same basic duality between cinema and chromatism would migrate from Bergson to Boccioni. In undated notes, the futurist painter directly transcribed key points from the text *Matter and Memory* (1896), including references to the overarching dichotomy between indivisible movement and mechanical images.[16] Using ideas derived from Bergson's philosophy, Boccioni embraced color and rejected cinema.

When critics referred to futurist works as analogs of cinematic motion (as some art historians continue to do), the charge implied aesthetic deficit or lack of vitality—"as if condemned to eternal silence and cruelly punished by being deprived of all life's colours," as Gorky phrased it.[17] To evade this accusation, Boccioni leveled this same charge against the cubists, taking aim at Picasso (of all artists!). Following the familiar argument, he said Picasso's formal approach was "the result of an impassive scientific calibration." Reminiscent of both Bergson and early film criticism, he claimed cubist painting extracted life: "The analysis of an object is always made at the expense of the object: that is, by *killing* it."[18] Later in the same text he stated, "Picasso … by putting a stop to the life in the object kills the *emotion.*"[19] To distinguish the futurists from the cubists, he seized on the already widespread view that cubism was analytical and dispassionate, but his critical intent, rooted in Bergson's dichotomy, reached the level of exaggeration: Picasso smothered life and eradicated emotion. Months earlier, Apollinaire had praised Picasso for having the skill of a surgeon while dissecting a corpse, but here Boccioni depicted his artwork as cadaverous, drained of life, and he added: "Picasso, when he dissects a figure, slices it into bits and pieces, breaks it down into its elements, kills it."[20] The futurist portrayed the cubist painter as being not merely scientific, but almost criminal in his visual analysis. At one point, he cited lack of color as the grounds for entirely dismissing the contributions made by the cubists, since they "have emphasized pure chiaroscuro, seasoning it with French grays and cold tones … lacking all vitality."[21] Because

cubism extracted color from its subjects like black-and-white cinema, Boccioni proceeded to proclaim it lifeless, even depraved. Shadows, ghosts, cadavers, and murder—these rhetorical devices shared the common belief that too much analysis destroyed life. Fortunately, alongside his hollow criticism of Picasso's formal reduction, Boccioni also argued the affirmative—in favor of chromatic intensity.

Intensities

Chromatic principles infused the futurist painters' writings, published in some cases before their works were even exhibited together. In "The Technical Manifesto of Futurist Painting" (1910), alongside their appeals to artistic rebellion, the futurists declared their love of color. After the eye was "freed from its veil of atavism and culture," they claimed, a polychromatic world would be revealed, defying muddy coloration and revealing a fount of passion: "It will be readily admitted that brown tints have never coursed beneath our skin; it will be discovered that yellow shines forth in our flesh, that red blazes, and that green, blue and violet dance upon it with untold charms, voluptuous and caressing."[22] At first, their colorizing credo followed the anatomical analogies of skin and blood, and then it colonized the face: "How is it possible still to see the human face pink, now that our life … has multiplied our perceptions as colourists? The human face is yellow, red, green, blue, violet. The pallor of a woman gazing in a jeweller's window is more intensely iridescent than the prismatic fires of the jewels that fascinate her like a lark."[23] No longer a single hue, the face of the woman was recast in the bright colors of a radiant jewel that emitted polychromatic desires for the objects in the jewelry display, and her passionate gaze secured the correspondence of internal desire and external objects.

Boccioni depicted this same scene at the shop window in *Modern Idol* (1911; Fig. 132), which, unlike the text, projects a rather frightening image of desire run amok. Judging from other images made by him during this same period, the woman represents a prostitute

drawn to the lively commercial setting. Like the text, the painting correlates woman with jewelry, and, as an object of desire, the figure fascinates the artist. This mirroring of desire produces an uncomfortable correlation of the figure's material desire with the artist's sexual desire, both of which revolved around possession. Yet, something is clearly awry: the image is repulsive and not a typical image of feminine beauty or attractiveness. While his bright palette apparently aimed to express vitality, in keeping with the manifesto, the obsessive lust exhibited by the woman signifies a kind of disorder, outside the scope of the conventional display of passion. In suppressing the signs of woman's beauty, which are so clearly evident in preparatory sketches, he constructed a social satire, undermining visual desire by offering an unsatisfactory substitute—the very image of obsession. While the figure is gem-like in the text, the vibrant hues in the painting appear in her flamboyant hat, belying her deathly pallor and hypnotic stare. A paralytic gaze from a repulsive Medusa-like figure—perhaps caught by her reflection in the window—simultaneously freezes out the artist's erotic impulse and frustrates the viewer's desire for visual pleasure. Boccioni's depiction debases the object of his own sexual desire, a debasement that, following a Freudian interpretation, would have served to circumvent a psychological prohibition against taboo sexual relations or to counteract a sense of sexual impotence.[24] This debased figure is uncomfortably revealed to the viewer. If crowd psychology ascribed to the general population detrimental qualities associated with women, Boccioni reinscribed the fear associated with the crowd onto the face of a woman in two guises of unchecked desire—the impulsive female shopper and the prostitute.[25] A recurrent figure in his work, the consumer-prostitute symbolized dysfunctional desire, but Boccioni, playing the role of modern-day Perseus and trying to defeat materialistic exuberance, unmasked an uncanny object of his own conflicted desire. Conflating commercial seduction with sexual promiscuity, *Modern Idol* displaced the artist's anxiety about sexual performance onto the immobilized female face and reflected his own obsession.

The same technical manifesto of futurist painting from 1910 also addressed the subject of aesthetic intensity: the futurists wanted their vivid sensations "to sing and re-echo upon our canvases in deafening and triumphant flourishes." Whereas colors were previously anatomical, here they were dematerialized into light:

> Your eyes, accustomed to semi-darkness, will soon open to more radiant visions of light. The shadows which we paint shall be more luminous than the high-lights of our predecessors, and our pictures, next to those of the museums, will shine like blinding daylight compared with deepest night.[26]

This futurist principle of vitalist intensity arrived as a revelatory flash, and, triggered by audacious colors, an aesthetic-cum-spiritual conversion greeted a new day of modernized perception. Even their painted shadows were to be more vivid than all previous hues. They claimed these profound chromatic effects were derived in painterly practice from the principle of *innate complementarity*, a reference to the divisionist doctrine for applying contrasting colors in close proximity.[27] The futurist version of complementary colors at once honored those Italian painters working in this vein, such as Giovanni Segantini and Geatano Previati, and it also signaled the up-dated application of that method through increased chromatic intensity. Instead of pursuing the "democratist mechanics" of Previati or Paul Signac, which dampened overall color intensity, the futurists sought something more intense, more passionate, more sensational.[28] In 1911, Boccioni succinctly summarized the prevailing response to divisionism in the early twentieth century: "the strict application of Divisionist ideas about complementary colors leads to a decrease in intensity down to gray."[29] His problem was not with the divisionist palette per se, which used intense colors, but rather with their application in small quantities of pigment that would blend together at the moment of visual perception. The futurists realized that only gray resulted from color mixing, whether perceptual or physical. As with cinematic lifelessness, these colorless ghosts of divisionism needed to be dispelled by a chromatic intensity that emerges from flesh or that "shines like blinding day-light," according to their manifesto. As divisionist techniques were revised, its basic aesthetic premise was remade into

a faith in contrasting elements: “We believe complementarism to be an attitude of the spirit.”[30] The idea of conflicting brushstrokes had been remade into a mode of unrestrained spiritual intensity.

In its blinding, sensorial intensity, the futurist description of colored light resembled the colorist conversion of Matisse, who, recalling his 1898 honeymoon to Corsica, said he found the midday to be “frightening” and to have a “brilliance, which is intolerable.”[31] With this luminous experience in mind, Matisse noted, “The search for color did not come from studying paintings, but from the outside—that is, from the revelation of light in nature.”[32] Without feeling compelled to make naturalistic or anatomically correct images, he would be led by his experience of sensation: “I want to reach that state of condensation of sensations which constitutes a picture.”[33] According to Yve-Alain Bois, Matisse repeatedly experimented with divisionism prior to 1906, developing varied results before finally arriving at his own homeostatic theory of proportional coloration.[34] Since the theory of complementary colors had been incorrect, according to the artist, fauvism was a “reaction against the diffusion of local tone in light. Light is not suppressed, but is expressed by a harmony of intensely colored surfaces.”[35] Matisse moved away from applying color in individual dots and strokes, as in *Luxe, Calme, et Volupté* (1904–1905), to using unmodulated planes of color spread across larger areas, as in *Madame Matisse*, or *The Green Line* (1905; Fig. 133) and *Le bonheur de vivre* (1905–1906). The planarity of hue worked to intensify chromatic contrasts, thus counteracting the divisionist descent into gray. Like Boccioni after him, Matisse craved chromatic intensity and he also took a negative view of photography, as when he said, “Movement seized while it is going on is meaningful to us only if we do not isolate the present sensation either from that which precedes it or that which follows it.”[36] Resembling Bergson’s indivisible vitality and, later, Boccioni’s anti-cinematography, Matisse’s premise of intuitive chromatism counteracted mechanical processes and analytical formulae: “The expressive aspect of color imposes itself on me in a purely instinctive way.”[37] For Matisse, color was

manifested through the painter, but it was dictated by the composition, thus taking to an extreme the long-standing premise of the artist's responsiveness to coloration: color become a demand for intensification coming from the artwork itself.[38] Despite manifesting vastly different styles of painting, both Matisse and Boccioni shared a prolonged engagement with divisionism and a distain for photography, as well as exhibiting similar approaches to color based on a sense of overwhelming intensity. Futurist chromatism extended what was an ongoing reaction against divisionism in fauvism, and Boccioni even briefly imitated Matisse's application of color at a crucial moment of uncertainty, as we will see.

As far back as 1903, Boccioni began painting in a divisionist style that carried over into his initial involvement with futurism in 1910. The long, consistent brushstrokes in *The City Rises* (1910–11; Fig. 7) produce the effects of dazzling sunlight and its atmospheric diffusion, and its complementary colors create the effect of highlight and shadow, as when blue strokes stipple orange and yellow areas to resolve visually as shaded, undulating fabrics. The divisionist technique of chromatic contrasts brought a sense of spatial depth that make the figures of worker, animal, and building stand apart from their ground. Following this work, Boccioni's techniques showed more inconsistency and even a bit of hesitancy. Depicting his mother on a balcony overlooking a Milanese construction site, *The Street Enters the House* (1911; Fig. 134) uses several competing methods within the congested composition. For instance, the main maternal figure emerges from a technical profusion: frenzied dabs abutting well-defined strokes, while blended areas and rectilinear designs overlay more erratic passages—all on just her blouse. The invigilating woman glances leftward at laboring men and horses, some of which become hopelessly entangled in the balcony railing, as another horse appears to leap over her backside. This intertwining of far and near demonstrates the merging of domestic setting and the street, and it also conveys a sense of empathy for the rough goings-on below. Her observant gaze revises the nineteenth-century theme of the self-assured man surveying the city, as in Gustave Caillebotte's *The Man on the Balcony* (1880;

Fig. 135). In Boccioni's image, the female spectator monitors the ongoing work, so she is perceptually active. Mimicking her inquisitive posture, the surrounding apartment buildings lean toward the construction pit. Formally, the composition divides and subdivides into progressively smaller and smaller parts, each competing with its neighbors. Not only is each visual element in the worksite articulated, such as workers, tools, and building materials, but also each figure has been segmented into contrasting components, including pants, shirt, arms, face, hair. These minute subdivisions, elicited by abrupt chromatic and tonal shifts, transcribe urban congestion visually, and they slow the reception of the painting, since reading across this jammed pictorial surface requires the perceptual equivalent of the labor depicted. As far and near commingle, the visual space becomes even more congested, and the artist's idea of utopian productivity loses its flavor of overflowing energy. Both *The City Rises* and *The Street* share a bright palette of contrasting hues, however, whereas the earlier work presented energetic and visual circulation, the later work employed incompatible techniques and disconnected elements, characteristic of his turbulent search for guidance beyond divisionist-inspired complementarity.

Made later that same year, *Simultaneous Visions* (1911; Fig. 136) shifted away from miniscule divisions and mixed techniques to a more consistent style in which disparate elements were harmonized. In a similar vein, this painting shows a woman (this time not his mother) watching the street from an elevated position on a balcony. The figure's empathetic link to urban activity manifests as an anatomical doubling, in which far and near are joined together in an image of supernatural spectatorship. Similar in conceptualization to Hyacinthe Rigaud's *Double Portrait of Mary Serre, the Artist's Mother* (1695; Fig. 137), Boccioni's figural multiplication instead reoriented the image of the multiplied woman toward her participatory relation to street life.[39] As a viewer who is also viewed, the woman occupies a reversible visual field, akin to the shot–reverse shot of the film camera that blurs the boundary between subject and object. Moreover, her observant activity assumes sexual connotations both through an

odd condensation of symbols—her mouth is obscured by a horse—and through an erotic dimension attributed to female sight. Her intense gaze from the balcony implies a fantasy of illicit sexual activity that was explicitly revealed in a short theatrical skit the artist later penned, called *The Body Rises*. In that short text, a male lover is carried from the street to a woman's fifth-floor apartment merely by the force of her telekinetic gaze, and this superhuman action is part of a plan to avoid the landlord's watchful eye.[40] Sexual promiscuity finds its expression pictorially in the formal fusion of far and near. Oscillating between affectionate and sensual love—between maternal oversight and sexual freedom—the figure of the invigilating woman composes a flexible model of female spectatorship in his work from this period.[41]

The distinct visual rhythm of the double-head motif in *Simultaneous Visions* adds to a sense of compositional balance that is missing from the earlier *The Street Enters the House*. For instance, the upper left area of buildings balances the lower right area of her dress, while the street scene from the lower left carries into the upper right. In this later work, single tones dominate well-delineated areas: green denotes trees, red-orange signals skin, and blue maps the dress intersecting with a still-life of pitcher and bowl. Also, each distant figure is monochrome, presenting the crowd with an effect of urban anonymity. The buildings in the upper left show contrasts of hue and pattern that encourage an interplay of chromatic elements: burnt-orange roofing extends horizontally, while yellow and purple façades flank each side, a yellow-blue pattern creeps down from above, and a lightning flash of yellow traces the shape of a pitched roof. Instead of being divided into progressively smaller colored parts, each well-delineated section retains a consistency of color and application, as well as an orderly visual framework, even as a few lively strokes or incidental disruptions have their place. This shift in chromatic approach in Boccioni's work, from visual confusion to more coherence, is further evidenced by his writings from 1912, in which an accident terminological substitution held surprising significance.

Used for the first time in Boccioni's "Technical Manifesto of Futurist Sculpture," the term *interpenetration of planes* appeared in the context of the statement that futurist painting had achieved its aim of interpenetration of planes, as proposed a few years earlier in "The Technical Manifesto of Futurist Painting."[42] Except, that phrase was not mentioned in the earlier text, which instead named as its central aesthetic principle *innate complementarity*, an updated version of divisionist chromatism.[43] The artist replaced one term for the other, but this substitution appears to have been unintentional. Given Boccioni was careful with citations in other parts of this and other texts, the change is unlikely to have been an effort to revise the historical record, yet it signifies a notable conceptual shift all the same. This substitution occurred in a text about sculpture, in which he tried to characterize aesthetic problems in a more general way, applying to various artistic mediums (i.e., painting and sculpture) and to diverse materials (i.e., wood, metal, glass, etc.).[44] No longer specific to paint and brushstrokes, the newer concept instead encompassed diverse practices, including the application of paint among them.[45] I propose that, during the time between texts, the futurist version of complementarity was assimilated to the more inclusive principle related to both color and form. So, when he referred in 1912 to the earlier text, the conceptual change had already occurred, and the phonetic and syllabic similarities of the terms either directly triggered the mistake or else disguised the error once it had been made.[46] In effect, the success he attributed to futurist painting was originally expressed as a more restrictive type of interpenetration (formerly known as *innate complementarity*) that had been expanded. This lengthy explanation is meant to highlight a change with respect to Boccioni's approach to chromatism: his shift away from a concept specific to painting to a more generalized formal concept manifested in Boccioni's different treatment of chromatic contrasts *within* painting—from interwoven brushstrokes of *The City Rises* to the interlocking planes of *Simultaneous Visions*. His substitution of terms marked an important shift in his technical application of paint—to planarity.

Two muted works by Boccioni from 1912 translated the concept of planar interpenetration into visual terms and demonstrate his formal development from complementary contrasts to interpenetrating planes quite clearly. *Horizontal Construction* (1912; Fig. 138) and *Materia* (1912; Fig. 139) both depict the artist's mother, now facing towards the viewer, with an urban scene unfolding behind and around her. If color signaled for Boccioni sensory intensity and passion in both his texts and his paintings from 1911, then a lack of color in these works from the following year functioned as exceptions to the rule of chromatic vitalism. A long-standing dichotomy in his work between intense and subdued coloration provides some context for understanding his process. In two earlier portraits of women—*Portrait of a Young Woman* (1908–1909) and *Portrait of an Old Woman* (1908–1909)—bright and muted palettes were correlated with young and elderly sitters. Since his mother was advanced in years when he made *Horizontal Construction* and *Materia*, his avoidance of intensified coloration could have reflected a preference for rendering a more diffuse passion when depicting older women, especially his mother. However, *The Street Enters the House* used lively colors to inscribe his mother observing the city; so, the maternal figure could be, evidently, both lively and subdued, chromatically speaking. The critical difference was that the displaced maternal attention allowed him to express chromatic intensity, yet when she turned around and returned his own gaze, his palette became noticeably muted. Associated with libidinal drive, his chromatic intensity was apparently inhibited when his mother directly attended to his actions. In addition, they demonstrated planar interpenetration with its major implication for coloration, as suggested above. In *Horizontal Construction*, architectural features intersect the woman's portrait. A predominantly blue-gray palette facilitates an invasion of her body by the urban landscape, most aggressively in the case of her head assuming the planar forms of a building. Even as architectural forms hover around her head in *Materia*, the streaming rays of light are the main cause of formal interpenetration, repeatedly piercing her contour, rendering her a kind of martyr to luminosity.

As interrelated instances of planar interpenetration, these techniques of architectural and luminescent fractures were recurrent features of many of his mature works (not only those depicting his mother), and these two modes of figural disruption through planarity played an important role in the artist's chromatic development the previous year.

A work from 1911 reveals the basic formal problems Boccioni faced when he initially attempted to express chromatic vitality in terms of interpenetrating planes. *Decomposition of the Head of a Woman* (1911; Fig. 140) sketches in bright colors the portrait of Ines, a young Milanese woman with whom the artist was evidently sexually involved and to whom he remained close. This composition closely resembled the drawing *Controluce* (*Contre-Jour*, 1910; Fig. 143), showing the same model in front of a window with light raking across her head and shoulders. This drawing was the artist's first attempt to complicate the figural contour based on luminous backlighting, and this window–figure combination remained a significant motif throughout his oeuvre.[47] Similar to this seminal drawing, *Decomposition* places the figure at the window, but with some minor adjustments: it is oriented vertically rather than horizontally; light enters the windows from directly overhead, rather than from the left; the thick vertical window casing has shifted to the right and is bisected into narrower strips, signifying an open window; and a building in the background, only faintly visible in *Controluce*, has become a forceful presence in the upper right corner. By extending the interior view to the outdoors and by utilizing a combination of bold secondary hues—dark green, bright orange, fuchsia, and lavender—*Decomposition* owes much to Matisse's *Open Window* (1905; Fig. 133). But, the Matisse painting to which Boccioni's work most aspires is *Madame Matisse* (1905), given the treatment of the face as contiguous facets that eschew tonality and depth. The patchwork face of *Decomposition* conveys luminescent vitality, corresponding to those "deafening and triumphant flourishes" announced in the manifesto and so strangely contrived in *Modern Idol*. Unlike the dysfunctional *Modern Idol*, this picture traces the contours of a gracefully posed model, at ease and responsive. This buoyant figure—with

bare neck and joyous demeanor, with her relaxed, smiling mouth—differs from the apprehensive figure in *Controluce*, but it contrasts most strikingly with *Nocturne* (1911–12; Fig. 142), another work from this same period that shows the same model in an awkward pose and staring coldly at the viewer. Unlike the frozen passion of women in both *Nocturne* and *Modern Idol*, the undeveloped eyes in *Decomposition* seems to soften the artist's anxiety about the reciprocal gaze of the sitter. With differing modes of coloration across these three Boccioni canvases, *Decomposition* alone aligns his project of chromatic intensity with emotional stability and erotic satisfaction. Signifying a change in his portrayal of women, the painting chronicles the formal shift from complementarity to interpenetration, and, in the process, reveals some of the hazards.

The head and neck area of the figure in *Decomposition* demonstrates clear evidence of a technical shift in his application of color, in that Boccioni used interwoven brushstrokes in some areas and adjacent planes of color in others (Fig. 141). The color red, for instance, traces bright lips and dark hair, as well as marking the contours of the neck, nose, and eyebrow. The color green hugs the right side of the face, and, representing the darkest color, it contrasts both with its complement red and with yellow and white-lavender highlights. Instead of continuing down the right side of the neck, as one might expect based on shading, this dark green jumps to the left side, while bright yellow defines both edges of the neck. This oscillation of green and yellow hues creates a pattern that carries onto the face—the yellow of the neck inflects the upper lip and the right eyebrow, while green pins down a nostril and slides across the left cheekbone. This patterning of red, green, and yellow strokes gives way to the effect of interlocking planes on the chin and cheeks. As gem-like facets, these more distinct areas of color comprise several strokes of roughly equal length, such as the red-orange on the left cheek, the off-white area left of the nose, and the red centered on the chin. Adjacent purple and peach patches on the chin retain a planar quality through their separation from surrounding areas. Occupying broad chromatic and tonal ranges, these multicolored planes

and strokes, according to Boccioni (and echoing Matisse), were intended to trace an internal process: “If objects appear colored more or less according to the emotion that invests them, why not paint the *sensation* these variations arouse?”[48] Based on this premise of emotional investment, it is reasonable to suppose that the chromatism in *Decomposition* manifests a libidinal investment by the artist, since “the human eye will see colors as feelings materialized.”[49] Linking sensation, emotion, and color, Boccioni’s paintings located chromatism at the confluence of figuration, sensation, and erotic desire.

Alternating between complementarity and interpenetration, *Decomposition* also yields some visual confusion. One problem stems from the general futurist insistence on chromatic intensity. Although its luminous color seems to satisfy the aim of uniting perception and emotion, the chromatic planes remain disconnected and do not cohere—while some planes fuse together, others float free, indicating that it may have been left unfinished. In later works, Boccioni solved this problem of chromatic cohesion by using neutral hues (such as gray and taupe) amid bright colors in order to tie together the composition, but he did not use a neutral pigment to unify different areas in *Decomposition*. This problem of coherence among adjacent elements derives from the question: how can a painter preserve the luminosity of colors and the emotional intensities it reveals? Boccioni actually formulated this problem in writing as well: “To put mixed colors on the canvas means to lose 75 percent in luminosity. Now, an artist cannot be indifferent to that loss, feeling the imperious need within himself to make his own work come alive in perfect response to his own time.”[50] Clearly, he was not indifferent to a sense of lost vitality, because color luminosity was a measure of aliveness for him. If a neutral pigment amounts to a loss (both chromatically and emotionally), then preserving luminosity despite the consequences would be consistent with “the imperious need.” Given such a demand for aesthetic vitality, the idea of creating visual cohesion among the planar elements would have threatened the *raison d’être* of *Decomposition*, since it challenged the underlying premise of chromatic intensification. This is why chromatism—a quality closely associated with

his desire and sexual prowess—could not be diminished for the sake of cohesion, at least not in this particular work. For Boccioni, at this moment of his artistic development, the desire to preserve chromatic exuberance appears to have entailed leaving unfinished this painting that otherwise succeeded in reorienting his color sensibility from individual strokes to planar forms.

Another difficulty in *Decomposition* pertains to the application of a specific hue—lavender. Following the visual premise of complicating the figural contour through *contre-jour* lighting, parallel streaks extend downward from three white areas to denote light rays erupting from the bright sky and to partially obscure the figure. As the rays descend, the light hue varies according to the surrounding areas they pass through—distant background, hair, and forehead. These streaks mirror local hues in two instances (i.e., purple background and rosy forehead), however, in the third instance, the orange-ochre hair prompts the contrasting hue of lavender. A very similar shade appears nearby, indicating indirect light on the forehead that moves horizontally and coalesces around the figure's left eye socket (on the right for the viewer). Together the two lavender areas are problematic, because they serve dual purposes: to indicate both modulated light rays and an indirectly lit surface. Where the vertical streaks of light cross the horizontal lines on the forehead, the two uses for the single hue literally work at cross-purposes, intersecting in a lavender cross. This visual confusion in color between registering energetic emanation and registering surface reflections is one instance of a widespread technical problem faced by many painters—making a distinction among hues dedicated to different pictorial aims. Boccioni's failure to make and to retain this distinction helpfully illustrates the danger of having a dual purpose: using the same hue to refer to both light and surface. His technical shift from complementarity to planarity was slowed because of these separate aims for color, and his desire to depict chromatic intensity, in turn, begged the question of how to achieve spatial and visual coherence. Perhaps inspired by Matisse, Boccioni had applied saturated colors evenly and without regard to the tonality that typically gave surfaces an appearance of depth and shadow. He had confronted a seeming

incompatibility between reflective color and luminous color. When Boccioni chose luminosity, he had undermined the principle of rendering surfaces through tonal modeling. Another way of stating his aesthetic problem is that the difficulties he encountered with *Decomposition* stemmed from divergent chromatic principles in which pigments offered different chromatic analogies—for physical phenomena, psychological processes, and metaphysical forces. These formal analogies are principles embedded at the heart of painting, and they reveal some of the high stakes encountered in avant-garde visual practices of the early twentieth century.

Analogies

Although a common historical account of the emergence of visual abstraction implicates technological reproducibility, the more fundamental issues for avant-garde experimentation in painting was chromatism and the competition to define chromatic analogies. It was not simply a matter of discovering bright, nonnaturalistic coloration in contrast with gray, naturalistic photographic images, but it involved the complicated process of artists determining anew how and why colors create visual meaning. Investigating color in Paris, František Kupka attempted to directly render his sense impressions in the mediums of pastel and paint. In the vein of Matisse and the futurists, Kupka based his colorful images on sensations and their intensities, yet his approach had a strongly holistic dimension, through which he became attuned to color. He described his approach during the prewar years: “I have discovered for myself the sensations of splendid sensitivity to color ... The principle of harmonized forces is the best answer to all questions as to enrich and grasp the picturesque of the colorist.”[51] Gaining this chromatic sensitivity through daily exercise in his garden associated with his mystical beliefs (probably a form of yoga), he wanted to convey a sense of ever-changing vitalist activity. In his notebook from 1911–12, he noted: “In order to give the impression of movement through the use of static agents ... one must evoke a sequence of

presences; to do so in the visual arts, one must indicate different intensities of impressions."[52] Instead of mimicking a fauvist system of homeostatic color, Kupka envisioned the unfolding moment as a sequence of vertical segments. A much earlier experiment with movement, the ink drawing *The Horsemen* (c. 1900–02; Fig. 144), constructing a linear sequence associated with time, using contiguous vertical divisions of the pictorial surface. Based on Emile Reynaud's Praxinoscope, the image has the peculiar visual effect of a hunting party trotting through a mirrored hallway.[53] Following this basic structure for depicting motion, he later invented a mode of presenting unfolding sensory impulses by correlating motion and time with color.[54]

Kupka's series of pastels titled *Woman Picking Flowers* (1909–10) offered numerous versions of the same basic composition, showing the eponymous act performed in a succession of colorized segments. These works were based on one or more time-lapse photographs of his wife in the garden, which served both as his private domain of chromatic sensitivity and cosmic interconnection and as the site of many of his artistic experiments.[55] Considering movement in a more metaphysical light, the images trace the path from internal desire to actualized fulfillment. Curiously, on an untitled sketch from around 1910, the artist observed: "to capture a gesture, a movement on the space of the canvas, capture several consecutive movements."[56] A notebook entry from 1912–13 reiterated this eminently positivist point: "Movement is no more than a series of different positions in space."[57] Based on this rationale, it would be tempting to describe his approach, as well as these images, as rendering figural movement cinematically, but this film analogy does really not account for the artist's method of transcribing motion into a single, static image.[58] A more plausible analogy would perhaps be to Étienne-Jules Marey's chronophotography, which comprises a succession of figural positions superimposed within a single frame.[59] Both analogies read his works in terms of mechanical and rationalist processes, but do not really explain the artist's unusual correlation of color with temporality. Take, for example, *Woman Picking Flowers, No. 1* (1909–

10; Fig. 145), which follows a linear trajectory, from right to left, by which a figure rises from a chair and proceeds through successive silhouettes by isolating discrete moments her activity. Although these pictorial slices are arranged spatially, the sequence is also mapped chromatically: a seated green figure against a ground of yellow-orange rises into blue, steps forward through iridescent striations of pink, red, and violent, then reaches for a flower in orange-yellow, fusing with a yellow-white ground. When the artist transcribed the subjective, sensorial experience (albeit his wife's) into the colorized logic of movement, he based the succession of hues on the prismatic arrangement of colors—beginning with yellow, passing through the spectrum of refracted light, and ending with yellow again. The sequence of movement entailed colored slices that registered time chromatically, not cinematically. This visual sensibility manifested entwined principles of spatial, temporal, and chromatic progression, and an ostensibly scientific purpose buttressed his broader claim to visually render spiritual interrelation, which he termed *conpenetration* (a variant of *interpenetration*).[60] His correlation of scientific and spiritual principles arrived as an inscription of chromatic intensities—from perception to pigment.

A prismatic palette also appears in Kupka's painting *Disks of Newton* (1911–12; Fig. 146), which bends the rectilinear arrangement of color in *Woman Picking Flowers* into a radiating pattern. Since the curved shapes and concentric bands create more contact with adjoining areas than do the vertical slices, the curvilinear trajectory creates more complicated visual combinations. This increased adjacency translates into increased complementarity, and strong color contrasts appear to visually propel each hue toward its more amicable supplementary hues. For instance, the central red area is contained by blue above, and it seems to be pushed by its green complement towards adjacent areas of orange and yellow. While the yellow succumbs to green below, it engages more actively with nearby oranges and harmonious white. Further down, a slice of magenta begins at the divergence of green and blue, widening into concentric bands that blend naturally into acquiescent white. The loosely

prismatic sequencing of the colors wends through a curved, discontinuous path that matches supplementary hues, while mediating complementary relations. If he spoke of chromatism as an intuitive harmony, an inherent disorder could likewise transpire on any painter's palette: "already, with each artist, this disorder possesses its character and its language."[61] For Kupka, this chromatic disorder was controlled using the logic of optics and the prismatic sequence of hues. Since mysticism and empiricism were at the core of his thinking, his chromatic system was calibrated to register a range of qualitative changes—sensorial, corporeal, and temporal—onto the painting surface.

Another aesthetic system linking color with time and motion originated with futurist Giacomo Balla, who, like Kupka, found physical activity to be a source for visual experimentation. Unlike his well-known image of temporal progression, *Dynamism of a Dog on a Leash* (1912)—a transcription of the motion of a dog and its handler in time and space—Balla invented a method to register movement according to patterns of colored tesserae on a flat plane. *Girl Running on a Balcony* (1912; Fig. 147), for example, shows his daughter running after a ball left to right across the visual field. Unblended areas of color are applied throughout an all-encompassing grid structure that calibrates the temporal fractions of her movement to the vertical lines of the balcony railing. Weaving a procession of figural traces across a flat picture plane, the rhythmic pattern downplays the effects of local tonality, contour, and perspectival depth. Dark hues associated with hair and shoes stand apart from their light ground, while a soft peach hue recurs in horizontal bands associated with the girl's face, hand (at waist height), and knee. While the colors of her socks follow the repetitive pattern of her moving limbs, the blues making up her dress flatten into a rather abstract mosaic pattern of contiguous or overlain marks. Reminiscent of Kupka's *Study after Girl with a Ball* drawings (1908–09) and *Study for Amorpha, Fugue in Two Colors* (1910–11), Balla's *Girl Running* takes as its inspiration the artist's daughter playing with a ball. While Kupka's sweeping curves insinuate the motion of spindly limbs around a fixed core, Balla evenly distributes the figural

elements across the full pictorial plane. Balla's systematic transcription of movement into colorful marks creates a rich visual texture, in which figural elements merge with the surrounding atmosphere. As tonal and other figural traces fuse together on the flat surface, the temporal sequence nearly dissolves into chromatic patterning. His basic formal reduction to grid-like patterns comprises a system of colorized movement that underlies the language of visual abstraction he developed around the same time. With numerous interlocking chromatic planes, *Iridescent Interpenetration No. 4* (1913; Fig. 148) no longer corresponds to observable, referential phenomena, yet the same basic grid structure remains, as does his proportional treatment of interposing hues. The precision with which the artist measured the shifts in hue and tonality is reminiscent of his renderings of dog and girl, though absent any obviously indexical qualities. Balla's chromatic grid and patterning initially mapped figural traces along vectors of motion parallel to the picture plane, akin to weaving, and then culminated in geometric patterns of color, akin to industrial textile designs. Kupka's chromatic system, by contrast, created visual progressions according to vectors of prismatic ordering. Overall, both Balla and Kupka treated physical activity according to modes of colorized time, and both extended their respective color systems toward nonreferential patterning, ultimately suppressing bodily traces and temporal cues altogether.

During this period, Robert and Sonia Delaunay similarly addressed questions of chromatic analogy in relation to naturalism. In 1912, Sonia made a coverlet for their baby, which purportedly inspired them to use solid color in regular shapes. For instance, the works in Robert Delaunay's *Windows* series (1912–13) present an abstract, quilt-like pattern of chromatic planes, many of which obviously correspond with the hues of natural elements (e.g., sky, greenery, and sunlight). One such work from 1912, *Windows in Three Parts* (Fig. 149), gives a wide range of prismatic colors in isolated, geometric facets, assembled into three views onto the city under different light, in accord with the times of the day or the seasons. Moving toward nonreferential color, his works in the series *Circular Forms* arrange

luminescent hues in concentric and radial patterns, aligned loosely with the planetary symbolism found in his earlier *Passage with Disc* (1906). Showing comparable perceptual intensity are paintings and illustrations by Sonia Delaunay, such as *Simultaneous Contrasts* (1912; Fig. 150), which similarly emphasizes chromatic contrasts through contiguous geometric planes. At this time, she also tailored bright clothing for herself and her husband following the patchwork strategy of the blanket and their painted works. Sonia Delaunay's colorful fabric and clothing designs compare to the designs of Giacomo Balla, who developed a modern style of clothing beginning in 1913.[62] Chromatic vitality found one of its most exuberant expressions in the avant-garde clothes made to distinguish the modernists from their traditionalist peers and from their general social enivornment. Their formal investigations constituted rigorous efforts to isolate coloration from its analogical associations, such as with chiaroscuro, physiology, and psychology.

Curiously, a refusal of shading and perspectival depth did not lead the Delaunays to espouse pictorial flatness, but rather led them to the idea that depth is a function of color contrasts. In a letter to Franz Marc in 1912, Robert claimed: "My visual perception makes me aware of the depth of the universe."[63] But, depth was not merely a physical or visual property, and he repeatedly explained the cosmic dimension of depth inherent in color: "I want representation—simultaneous continuity of forms ... Depth through an adequate craft, through relationships between color contrasts—form that is depth. (Depth that is *color and not chiaroscuro*.)"[64] His emphasis on material craft was perhaps an attempt to remain apart from those who proclaimed the metaphysical implications of color, such as Kandinsky and Marc, but this concept of craft also yielded the effects of cosmic depth: "Everyone speaks about simultaneity as a metaphysical thing instead of *the craft itself*. *The constructive period of the new laws of color-form*."[65] Yet, this effort to disengage from the spiritual dimension of color is not entirely convincing. For instance, he responded favorably to the work of Kandinsky and Marc, stating in a letter to Macke: "I love to dance in the light, and I love particularly the spirit

that is freed in this act, because I love synchronized movement, which is the image of the drama of the universe."[66] By second-guessing the spiritual rhetoric of color and by instead focusing on material process, Robert Delaunay opened an important avenue for abstract painting, by treating color as nonrepresentational and nonanalogical, but also as precisely crafted—an avenue that would lead to even more radical steps for modernist practices in the 1950s and 1960s.

While the artworks of Robert and Sonia Delaunay provide salient comparisons with futurist examples of chromatism, Robert's prose conveyed a strong dislike for futurist thought. Most famously, he disagreed in print with Boccioni over the term *simultaneity*, which each artist had used to characterize his own work. For the futurist, this word connoted a frenzy of physical activity in a modern world, sometimes intertwined with memories. Robert Delaunay's more specific usage pertained to light and color contrasts, modeled on Chevreul's theory of simultaneous contrasts (though with spiritual and cosmic overtones added). He plainly spelled out his aversion in 1913: "The simultaneous vision of the futurists is of a completely different kind ... Sequential dynamism is the mechanical in painting and that is the scope of the manifestos. Futurism is a machinist movement. It is not vital."[67] Again, the previously discussed epithet associated with mechanism was here aimed at the Italian approach. Yet, this argument over simultaneity is significant to the extent it highlights their different conceptual approaches to painting: physical activity versus spiritual depth. For Delaunay, one precluded the other; this was not so for the futurists. In another text, Delaunay again railed against futurism as being cinematic and mechanical and, finally, he pronounced its eventual demise: "You are really marching toward death."[68] In the letter to Marc, he reiterated his distaste for cinematic succession, which he equated with futurism:

> If the cinema had been a sentient creation, a true simultaneity of images, it would have meant the downfall of Art. But instead it only reinforced human beliefs in other objectives. This successor is doomed to die. The crowds of people who rush off to the cinema emerge finally without conviction.[69]

Doomed to mindless repetition, mechanical imagery extracted the passion from those hoards it attracted. Such criticism resembles Boccioni's reproach of both cubism and cinema. While cinema was colorless for the futurist, it signified mass insensitivity for Robert Delaunay. In 1917, he wrote retrospectively about the heady prewar years: "all these hoaxes, futurists, cubists, all those so-called aesthetic meditations" has not expressed lucidity and spirit, but rather led audiences astray.[70] While the futurists celebrated the multicolored crowd clothed in bright colors, Delaunay pictured the crowd as a threat to elevated sensibility, which, in keeping with his more esoteric pursuit, perceived color in its spiritual depth and as a more refined material process.[71]

Robert Delaunay's opposition to futurism was considerably more charitable (or less hostile) when, in a letter to Kandinsky, he described an ongoing search for "pure painting" among Europeans: "The futurists are more successful ... but perhaps they will disappear when we have found the right means."[72] His dislike of the futurists may have been fueled by the fact that they had followed a different route to arrive at a similar conclusion regarding intense coloration, or "pure painting."[73] An appeal to purity informed Delaunay's subsequent claims about the essential qualities of color—as depth and as craft. Despite a stated ideal of purity, his works from 1912 to 1914 utilized various referential elements, interspersed amid the luminous patterns. For instance, both the *Tour d'Eiffel* series (1910–11) and the *Windows* images (1912–13) explore the effects of light amid recognizable fragments of the urban landscape. In *Sun, Tower, Airplane* (1913; Fig. 151) and *Homage to Blériot* (1914), the artist absorbed into his visual language a plane motif, thereby associating its freedom in flight with a sense of liberation provided by color.[74] According to the artist, his works manifested color-movement—associated with chromatic contrast rather than physical motion. He told Franz Marc, "I am not speaking of a mechanical, but of a harmonic movement." In the same letter he claimed, "In Art I am the enemy of disorder. The word *art* means harmony for me."[75] In the

end, futurism signified, for Robert Delaunay, a kind of caricature against which to define and elevate his work.

During the same period, Fernand Léger pursued a style of chromatic variation linked to a method of formal reduction. Adorning his geometric volumes, colors would occupy strictly defined contours. In *Stairs* of 1913 (Fig. 152), for instance, simplified figures are caught amid the clutter of multiple staircases, and primary colors yield a basic scheme of volumetric identification—red and blue figures separated by yellow stairs. In a May 1913 lecture, the artist discussed his volumetric clarity as forming a necessary supplement to the emphasis placed on chromatic intensity by other artists.[76] His own "architectural art," he wrote, investigates "the relationships between lines and the equilibrium of large volumes: the decorative part is itself becoming plastic and architectural."[77] Around the same time, his *Contrast of Forms* series (1912–14) employs solid colors to mark the surfaces of nonfigurative three-dimensional volumes. The colors are constrained within geometric contours that occupy an increasingly congested visual field as the series progresses, and each hue neither mixes with other hues, nor seeps into surrounding areas. As a sort of afterthought to his techniques of formal reduction, color was treated a secondary compositional principle. While using tonal and chromatic principles in a unified formal approach, the French artist accomplished this by overtly resisting the challenges of color, such as luminosity, surface reflection, and the analogies with immaterial forces. Unlike Léger, Kupka thought volumetric techniques—contour and perspectival depth—culminated in mechanical rendering of naturalistic perception (or photography, metaphorically speaking) that undermined vitalist processes.[78] Even though, in some works, Kupka used contour lines to mark objects and to signify forces and trajectories, his linear elements were much less pronounced than those found in Léger's work. Suspicious of the naturalistic connotations of tonality, both Kupka and Balla developed visual analogies for spatial displacement that employed color as a method for signaling temporal progression. By contrast, Léger's innovative graphical style obeyed a demand for volumetric rendering and

organizational clarity, deriving a color-coding system that mostly avoided the complexities associated with new chromatic analogies.

Colorized Time

Besides spatial analogies for time and motion, there was also a long tradition of using color to inscribe the temporal phenomena of sound and music, as well as the other nonvisible sensory data (akin to synesthesia). The futurists were among those vanguard artists who considered other conceptual analogs for chromatic intensity in time. For instance, Boccioni voiced a theory of evanescent, musical color in 1911: "The human eye will see colors as feelings materialized. Colors, now multiplied, will not need forms to be understood, and pictorial works will become whirling musical compositions of enormous colored gases."[79] Luigi Russolo likewise explored the chromatic inscription of music and sound in his painting *Music* of 1911 (Fig. 153). The painting envisioned the mental images of a pianist who, facing toward the viewer, plays a keyboard that stretches along the bottom of the canvas. The blurred silhouette with its multiple limbs stands out against a bluish atmosphere, radiating in concentric circles from the musician's head. Converging onto a central point are numerous monochromatic faces, whose formal simplicity mimics the masks of Greek comedy and tragedy. These facial expressions are threaded together with a serpentine line that meanders through the imagined space as the whimsy of this score or perhaps this unique performance. As visual symbols of dramatic mood that rhyme with the moods in musical composition, these mask elements offer flourishes of color to the image, though unfortunately delivering minimal pleasure due to their schematic treatment and the regimented palette. Predating his manifesto "The Art of Noises" by two years, *Music* represents a precursor to his ideas on sound that culminate in the first public concerts of noisemakers in 1914, which transcribed the chaotic patterns of urban life into jarringly dissonant sonic patterns.[80] If this painting represented a crude impression of the productive analogy between music and painting, the artist's

interpretation of divergent acoustic moods eventually found more convincing expression in his exploration of literal noise production.

Around this time, Kandinsky considered music to be a useful analogy for painting. He wrote in *Concerning the Spiritual in Art* (1911): “A painter, ... in his longing to express his inner life, cannot but envy the ease with which music, the most non-material of the arts today, achieves this end. He naturally seeks to apply the methods of music to his own art.”[81] Understanding a long lineage that correlated colors with sound and music, Kandinsky did not presume a direct translation of notes or moods into symbols, because what was most important was that music had an abstract language. Given that nonmaterial forces produce nonrepresentational meaning, Kandinsky reasoned, colors are closely associated with deeper feelings, analogous to sonic vibrations: “The effect of colours is deeper and intensely moving ... They produce a corresponding spiritual vibration.”[82] This chromatic music analogy depended on a sensitive, internal medium to perfectly transpose from one medium to another. Since chromatic music generated immediate psychological effects, this process was likened to musical instrumentation, which could be learned and mastered: “Colour is a power which directly influences the soul. Colour is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul.”[83] The pathway linking the external sensations to the internal machinations of the soul passed through percussive eyes, but otherwise bypassed the physical body of the viewer. The remaining anatomical trace was the divine hand (symbolizing the artist), on which the production of spiritual music ultimately depended. Amid this resonance among color, music, and spirit, Kandinsky did permit the physical body to serve as an analogy of physical movement: “The spirit, like the body, can be strengthened and developed by frequent exercise. Just as the body, if neglected, grows weaker and finally impotent, so the spirit perishes if untended. And for this reason it is necessary for the artist to know the starting point for the exercise of his spirit. / The starting point is the study of colour

and its effects on men."[84] If physical exertion symbolized the spirit's acquisition of a chromatic sensibility, Kandinsky's color theory was a form of spiritual gymnastics. Quite removed from the futurist belief that the body could be a source of chromatic intensities, his spiritual analogy of color-music assimilated the unruly body to spiritual development.

Another painting from this period to overtly correlate the visible sphere with music was Kupka's *Piano Keys: The Lake* (1912; Fig. 154). The keys are arrayed along the bottom of the painting, and a hand trails off the edge, suggesting that the painter or perhaps the viewer sits at the piano facing the image. Like Kandinsky's divine hand, the mere remnant of physical body triggers the chromatic exercise. As it moves to the left, the linear arrangement of keys turn into an upsurge of white, black, and green vertical planes, ascending toward an abstracted view of a lake with boaters and lush green surroundings. Distinct keys and solid verticals at the bottom stand out against the lake, but other verticals merge with the shimmering patterns of light reflecting on water. Kupka wrote in his own book, completed in 1913: "I experience magnificent moments, bathed by hues flowing from the titanic keyboard of color."[85] Signifying perception and spiritual communion, the mystical "keyboard of color" became somewhat literal in *Piano Keys*. Blending into the idyllic landscape in the upper half of his painting are colorful vertical planes that hover midway between abstraction and naturalistic representation. Compared with Russolo's schema linking color, music, and psychic mood, Kupka filled his imaginary landscape of visual music with a rich spectrum of symbolic and abstracted elements, rendered with technical sophistication. In other works from this period, such as *Arrangement of Verticals* (1910–11) and *Nocturne* (1911; Fig. 155), Kupka achieved a similar balance between abstract patterning and pictorial depth but in abstract compositions that create visual depth through an interstitial unveiling of referential forms. These auditory analogies, especially in *Piano Keys*, suggest that Kupka's move to visual abstraction was linked to his attempts to correlate color and music within a broader spiritual program.

Inventing another analogy between color and music, futurist Bruno Corra penned a work called “Abstract Cinema—Chromatic Music,” appearing in a 1912 collection of texts by him and his brother Arnaldo Ginna.[86] From the start of the piece, Corra grounded his thinking in the effects of painting, reiterating what was, at that time, a truism of futurist visual art: “The only display of the art of colours currently in use today is the painting.”[87] After vaguely describing the pleasurable visual effect of colorful images as “chromatic harmony,” he offered a bit more historical substance: the remainder of the text documents his and his associates’ experiments premised on the analogy of color and music. In the vein of Kandinsky, Corra saw colors as nonrepresentational elements to combine into chords and, eventually, to compose symphonies. Their specific experiments purportedly included constructing a “chromatic piano” (an actual keyboard, now lost or destroyed, for controlling painted electric bulbs) that ended up being unsatisfactory to his group, because it produced only a limited amount of luminosity. Immediately thereafter, Corra defined the key aim of the experimenters—to produce grand visual effects:

> We felt very clearly that, in order to obtain the large orchestral effects, which alone can convince the masses, we needed to have a truly stupefying intensity of light at our disposition—only then could we emerge from the restricted field of scientific experiment to enter directly into its practice.[88]

Their projects were expected to create chromatic effects for large audiences. This desire for “stupefying intensity” with mass appeal precipitated their gravitation to cinema, a medium of mass audiences: the musical analogy for color thus ended up being an analog for cinema.

Disregarding the camera and its photosensitive medium, the Ravenna group instead put the film projector at the center of their ongoing experiments by running hand-painted strips in front of its powerful bulb to generate colored light. Before settling on this straightforward technique of projecting hand-painted films, they inquisitively altered the device:

> We had removed the rotating switch and had managed to get rid of the shutter action, too; but this was exactly the reason for the failure of the experiment, and meant that in place of the expected marvelous harmony there exploded over the screen a cataclysm of incomprehensible colors.[89]

After glimpsing this catastrophic chromatism, they repaired the projector and continued with their quest for dumbfounding color by creating an empty, white projection room, in which they all wore white clothing.[90] To conclude his text, he described two films they actually made (though not preserved today), and he proposed three more "colour symphonies"—all five descriptions map out specific temporal sequences of chromatic abstraction. Concerning their film *The Rainbow* (now lost), he wrote, "The colors of the rainbow constitute the dominant theme, which appears occasionally in different forms and with ever-increasing intensity until it finally explodes with dazzling violence." Elaborating more of this same handmade film, he described a final epic battle between the forces of gray and chromatism: "In an unexpected dusty disintegration, the grey crumbles and the spectrum triumphs in a whirling catherine-wheels which disappear in turn, buried under an avalanche of colors."[91] In a fitting summation of their chromatic exploration of cinema, after reengineering the film projector and altering the viewing conditions, they generated explosive color and, finally, vanquished gray under a barrage of luminescent hues.[92]

Corra's chromatic cinema illuminated a key fault-line within futurism as the artists from Ravenna were gradually assimilated into the movement in 1913. Greeting a modern aesthetic sensibility, his idea of cinematic abstraction unleashed intense coloration unfolding in time and calibrating perception to new historical conditions, a belief similar to the futurist painters. Convinced that chromatic intensity inspired new social configurations, the experiments of the Ravenna group arrived at formal abstraction by mechanical means. For Corra and his cohorts, the film projector replaced the painter, figuratively speaking, while the blank canvas was even used at one point as a projection screen for their works.[93] Their approach to chromatism became a source of conflict among the early futurists, who eventually convinced the brothers to abandon their radical form of cinematic abstraction in favor of the elliptical narrative style (in black and white) preferred by Marinetti.[94] Presupposing an erosion of the painter's authority

over chromatic variations, their mode of chromatic cinema represented a diminishment of futurist painter's capacity to render the vibrations of the soul and to function as a type of cultural timekeeper. Through an expanded notion of chromatic time, the futurist painters directly contested the mechanical system of cinematic representation.

Perhaps the most vivid conceptualization of chromatic transcription, Enrico Prampolini's text "Chromophony—the Color of Sounds" (1913) extended the idea that color was a medium of modern perception. The optical sensitivity of humans, he claimed, supported a capacity "to express in chromatic terms the sound waves and the vibrations of all movements within the atmosphere."[95] Based on synesthesia, in which one stimulus triggers multiple senses, this specifically chromatic version supported the musical analogy, but the medium of color could register a huge range of different sonic and environmental data. By identifying "the latent chromatic sources with which the atmosphere is saturated," Prampolini supposed the physical world was filled with invisible information that had not yet been made visible. The pervasive sources of color for the futurist were not just external, however, since "intuitive chromatic stimulus" resided in the artistic imagination.[96] In effect, he positioned chromatism as a theory of universal translation—from diverse types of internal and external stimuli into the visible color spectrum. Although beyond the scope of technical possibility in his era, Prampolini's supposition anticipates contemporary practices of visualizing complex data through color graphics, in which the narrow field of visual perception registers infinite, nonvisible sources of data. Its exuberance for the creative transposition of various forms of data is akin to a manifesto by Carrà, the title of which captures the transcriptional intent: "Painting of Sounds, Noises, and Smells" (Aug. 1913). For Prampolini, artists are the specialists who perceived the newly colorized world, whereas those without this sensitivity are called "living corpses, cold souls, those beings dedicated to competence and hard work."[97] Unlike Corra's manifesto, Prampolini's text made no references to cinema—though his "living corpses, cold souls" are reminiscent of Gorky's lifeless filmic shadows. In effect, hard work

was the enemy of chromatic liberation, and the colorless world of the factory apparently contributed to that sense of lifelessness. This program of exuberant color resisted the conditions of rationalized labor, such as those inspired by Taylor's techniques for shop management. For the futurist visual artists, chromatism had amounted to an imagined realm free from the material constraints of social class.

Almost apologetically, Prampolini explains in his text why music was selected as the operative analogy for chromatism: it had the most advanced system of classification. In essence, music provided the futurist with a ready-made model for relating differences. Not musical in the sense imagined by Russolo or by the Ravenna group, as a literal source of inspiration, such a mode of chromatic variation instead borrowed its conceptual structure from music—as a medium for registering difference in order to imagine a mode of spectral analysis that translates, analyzes, and arranges various types of data. At the same time, it is clear his system of color analysis was not scientific per se, since it was meant to function as a compositional system. Prampolini transformed a musical analogy for color into a poetic medium not merely for interpreting data, but also for engendering difference. Like Corra, this text moved futurism beyond the limits of what was considered cinema; it was an investigation of chromatism as a medium of translation. Embedded in this fantasy about decoding invisible, inscrutable sources was a type of aesthetic mysticism that would prefigure scientific imaging at the service of compositional practices. Concluding with something of a riddle, he claimed his text was intended for those who cannot yet perceive chromatically—"for those suffering from blindness of the mind and dumbness of the eyes."[98] Tucked at the end of the text, the unseeing reader was thereby initiated into a mystical pursuit of translating infinite, invisible sources.

Compared to Ricciotto Canudo's advocacy of film as an art form—from 1907 onward—futurism approached the idea of cinema as an artistic medium very slowly.[99] Except for the manifestos mentioned and a 1913 article by Marinetti claiming film had "futurist

conceptions and intentions," there is little evidence that the futurists considered the cinema to be an inherently futurist medium before 1915.[100] When Aldo Molinari directed an avant-garde film in 1914, based on Aldo Palazzeschi's futurist text "Il controdolore" (1913), Boccioni and Marinetti both rejected Molinari's work for not being sufficiently futurist.[101] This rejection may have stemmed from Boccioni's opposition to mechanical visuality, or it could have related to Molinari's unauthorized use of futurist principles.[102] Conceivably, the painter's vociferous reproach of film could have convinced Marinetti (if only temporarily) to not fully embrace the new medium, while a lack of authorization would appear to be merely an excuse invented to disguise the painter's belief that a mechanical medium was supplanting painting. In more general terms, futurist acceptance of cinema only arrived as a result of a gradual shift away from Boccioni's outspoken opposition.[103] By 1915 Balla declared that "watching a cinematographic performance we find ourselves in front of a painting in movement."[104] The first film to be directed by futurists, as well as officially authorized by them, was made only in late 1916. The now lost black and white film, *Vita futuriste* (dir. Arnaldo Gina, 1916) closely matched Marinetti's views on variety theater, in which cinema was cast in the role of disrupting unified narrative in the style of futurist performance.[105] Producing a sense of ongoing physical and spatiotemporal displacement without any dramatic narrative, Ginna's film strings together scenes from a typical futurist day (e.g., gymnastics, fighting, eating, racing, etc.). This montage seems to have been an attempt to create a sense of perpetual activity that manifested Marinetti's idea of "synthetic theater," invented as a way to demystify theatrical illusion.[106] Begun the same month Boccioni died (August 1916), the film was quickly completed and projected for the first time publicly in December of that year in Rome.[107]

While Ginna's feverish production schedule might have related to Boccioni's death on August 17th, the timing of the manifesto "The Futurist Cinema" is more conclusive: signed and dated September 11th, less than a month after the tragedy. The text declared the priority of cinema over the arts, even as the condolence letters addressed to Marinetti continued to pour

in.[108] The manifesto read in part: “We see in it [cinema] the possibility of an eminently Futurist art and *the expressive medium most adapted to the complex sensibility of a Futurist artist*.”[109] Given Boccioni’s commitment to the traditional mediums, it seems inconceivable that he would have signed it, if had been alive, and it is almost difficult to imagine him remaining affiliated with the movement after an endorsement of ideas so blatantly contradicting his view on the role of painting and sculpture. Elsewhere the text reads: “Cinema is an autonomous art ... The cinema, being essentially visual, must above all fulfill the evolution of painting.”[110] With Boccioni’s death, futurist cinema began in earnest. Nurturing a belief in theatrical disruption and demystification, futurist films shifted away from musical and chromatic analogies to presenting vibrant activities and overflowing passion in black and white.[111]

Although Boccioni treated color and cinema as opposites amid his desire to inscribe chromatic intensities, it is notably that a large amount of effort and resources were expended on color research in photography and early cinema throughout Europe before World War I. As one example, representing life in full color was the main scientific ambition for Louis Lumière, who was pursuing this goal when he was sidetracked with research that led to the invention of the Cinematographe.[112] After his family’s company sold the rights to the Cinematographe’s patents to Pathé in 1902, he returned to his pursuit of naturalistic color reproduction. Success arrived in 1903, and the Lumière autochrome went onto the market in 1907. The inventor was reported to have said that color photography, not cinema, was the greatest invention of his career.[113] Around the same time, other inventors moved from film research to still photography in order to tackle the vexing problem of naturalistic color. Charles Urban convinced George Albert Smith to abandon filmmaking in order to pursue color processes, and their efforts culminated in the introduction of color photo plates in 1906, the year before Lumière did the same.[114] Instead of negating the chromatic principles of the futurists and other avant-garde artists, this scientific and technical research served to reinforce claims about the inherent vitality of color, and this research provides additional context for understanding both the

general backlash against cinema and the derogatory use of the term *cinematic* in painting circles.

Well-preserved Lumière autochromes from those years, made by the inventor's family, retain a range of naturalistic tones that appear especially luminescent due to the light refracted through their glass plates. As one example, *Nature Morte* (c. 1907–1908; Fig. 156) shows the vibrant hues of Nature's bounty, set against a neutral backdrop. In addition to demonstrating its scientific ingenuity, the image shows its expressive capacity by imitating traditional still-life painting. This concerted effort to infuse the new material with aesthetic virtue apparently persuaded critics; one writer summarized the innovation using the very common analogy: "What the artist's brush achieves, the autochrome plate can do automatically."[115] Another critic, however, extended this analogy by specifically evoking Italian divisionist painting: "The effect produced on the eye by an autochrome, which is even more obvious when it is projected, is the same as that, for example, one perceives when looking at a painting by Segantini, Previati or Divisionists in general."[116] While the artistic value of the new invention surely enhanced the public's perception of it, the direct correlation of color photography and chromatic painting also signaled the contestation of long-standing artistic expertise in coloration. For that critic, the photograph no longer opened to a lifeless gray world, but it replaced the painting, and the mechanical device replaced the painter.

Researchers in cinema, like those working in the field of photography, likewise pursued the ideal of the panchromatic, naturalistic medium with some notable scientific results, but lacking any commercial success prior to the 1920s.[117] This complex technical and commercial aim—to index colors to match normative visual perception and to give perceptual immediacy—propelled photographic and film research for several decades.[118] Some artists of that era embraced the analogy between the machine and the artist, such as the Bragaglias, Balla, Duchamp, and Picabia, as discussed in chapters 2, 3, and 4. These artists investigated visual consequences and possibilities of mechanized vision and machine aesthetics, as if to

better understand the implications of artistic displacement by the machine. In 1913 Léger said color photography replaced the "sentimental" visual traditions of painting: "A few years ago, it could still be argued, at the very least, these new inventions lacked color: but then the color photograph was invented. Paintings with subjects no longer even have that resource."[119] Léger increasingly focused his own artistic efforts on composing abstract volumetric renderings, which, as he said, supplemented artistic and scientific innovations in color. He solved the difficulties associated with analogical color and the role of tonality in color by steering clear of them. While the development of mechanical forms was accepted (though mocked as well) by some avant-garde artists, the incursion into the visual arts by industrial technologies was vigorously resisted by others—Severini, Carrà, and Boccioni, among them. But this opposition between painting and machines gives only a rudimentary understanding of the stakes involved in efforts to rethink the theory and the application of color.

Thermal Intensity

One of the overarching premises of modern chromatism in painting, film, and other cultural forms was its capacity to mark a sociohistorical change. Writing in 1900, German critic Waldemar von Seidlitz expressed the idea that a historical period could be signaled by color: "Whichever way we look a decisive striving for colouristic fulness is emerging everywhere at the end of the nineteenth century."[120] An intensifying dimension of sensible experience, color transformed the physical environment—affecting fashions, furnishings, and designs as much as styles of painting and methods of reproduction.[121] In a text from early 1913, Apollinaire wrote about one contemporary form of chromatism visible in the streets—electric signs: "Perhaps pure painting signifies pure light, and those illuminated ads that ennoble our streets at the same time that they industrialize them are to my mind an imperfect yet clear image of the most significant kind of painting, one towards which the efforts of our young artists are currently directed. / But let's not get ahead of ourselves; these new methods are not yet those

of painters."[122] For him, this commercial profusion of light provided an idealized, industrial image for colorist painting, to which artists aspired but had not yet achieved. Later, Wassily Kandinsky found color perception to be an expression of the modern era, though indicating spiritual development: "For a harmonization on the basis of individual colours our age is especially unsuitable.... The combination of two colours is a logical outcome of modern conditions."[123] Corresponding with sociohistorical change, chromatic intensification served as a key principle by which society became more fully modern: the intensity of that historical present was marked by an outbreak of color. Boccioni captured this idea succinctly when he said, "Everything in modern consciousness aspires to luminosity," recalling the blinding sensation of colored light of the painting manifesto.[124]

Parallel to Boccioni's chromatic intensification from 1911 to 1913, futurists Gino Severini and Carlo Carrà developed a theory of chromatic analogy that expanded beyond rendering the visible spectrum to include a nearly limitless range of transcribed sensations and information. In a manifesto from 1914, Severini described the replacement of chiaroscuro lighting with "spherical expansion of light in space."[125] His idea was to describe visual phenomena according to radiating forces, but these forces permeated all objects in the environment, which also generated an "expansive action ... *simultaneously* in us [the viewers]."[126] Exemplifying this idea, Severini's *Spherical Expansion of Light (Centrifugal)* (1914; Fig. 157) presents an abstract volumetric ensemble, pushing outward through a spectral sequence modulated by tone. From the hot yellow center to the cool blue and black at the edges, this prismatic vortex of planes uses a thermal principle that combines tonal and chromatic variations. His idea of chromatic variation incorporated an expansive range of sensations, such as "speed, heat, smell, noise, etc."[127] The transcription of multiple forces constituted what he called *plastic analogies* or *color analogies*, like when he stated: "*Using color analogies one can obtain the greatest luminous intensity, heat, musicality, optical and constructional dynamism*."[128] Capturing material and immaterial forces in a universal form of

transcription, these color analogies triggered corresponding associations in the viewer: he claimed they could "render *simultaneously* the *subject* and the will at their most intensive and expansive."[129] Along with Severini, Carrà followed the theory of spherical expansion by producing various abstracted figural works on this theme between 1912 and 1914 (many have been lost), such as *Centrifugal Forces* (1912) and *Spherical Expansion of Prisms: Centers of Force of a Boxer* (c.1912).[130] Given the limited quality of reproductions for lost works, it is difficult to assess the chromatic analogy in Carrà's practice, including the relationship between color and tonality. Like Severini, he described an expansive concept of color analogies in manifestos, such "Plastic Planes as Spherical Expansions in Space" (Mar. 1913) and "Painting of Sounds, Noises, and Smells" (Aug. 1913).[131] Working vigorously to expand the analogical concept of painting, Severini and Carrà sought a poetic medium for presenting internal and cosmic variations and for transposing various sources—thermal, olfactory, musical, temporal, etc.—into visual form. Such a universal chromatic language resembled Prampolini's medium of infinite transformation, as well as Kandinsky's idea that color was "a power which directly influences the soul." This conceptual expansion of chromatic analogy by Severini and Carrà neutralized some of the complexities associated with color by positing a veritable explosion of potential meanings. Those earlier issues such as the analogical principle of colors and the difficult correlation of hue and tonality were consumed within a vast multiplicity of meanings—in which all communicable experiences were absorbed into the interpenetrating forces of color.

Alongside its measure of historical time, the color spectrum enabled the translatability of experience, connoting social diversity—such as different peoples, races, cultures, and nations. Treating color as a type of perceptual lingua franca, Robert Delaunay wrote in a letter to Franz Marc: "People of different countries get to like one another by seeing ... The exhibition of beautiful paintings [in Germany] was not incomprehensible to me. The color I saw there is the same that I use. It is not abstract, limited, or reducible to *black and white*."[132] Chromatism, for him, was "universal representation," synonymous with a form of expanded

consciousness, “which already goes beyond Europe, which extends from man to the Universe.”[133] The comprehensibility of color supported the claim that it provided a common medium of translation among different peoples. In 1913, Apollinaire took a different tack when he described the transitoriness of pleasure, listing in order—the rainbow, the seasons, crowds, changing images, and “the parades of colours, smells and sounds.”[134] The poet’s sequence shuttles among sensorial and social registers, stabilized only metaphorically by visual art, while chromatic intensity provides images of both urban population density and fleeting temporality. Elsewhere, conflict was embedded within the essential make-up of colors in Kandinsky’s *Concerning the Spiritual in Art* (1911): “The strife of colours, the sense of balance we have lost, tottering principles, unexpected assaults, great questions, apparently useless striving, storm and tempest, broken chains, antitheses and contradictions, these make up our harmony.”[135] Distinct from most other avant-garde artists, the futurists extended their chromatic principles to include an explicitly social agenda. If Matisse saw chromatism as a type of freedom from aesthetic and academic prescriptions, the futurists recognized in it a means for actively reorganizing social relations.[136] Transposing the chromatic principles of social inclusiveness espoused by divisionist “democratism,” the futurist painters employed color to transcribe sociohistorical conflict.

With spontaneous passion and irrepressible vitality, the multicolored futurist crowd produced visual confusion and courted violent confrontation. Boccioni declared that “the multicolored and febrile crowds are monstrous” to traditional Italian society, but, for the futurist, mass society presented a set of challenges associated with a modern, industrial era.[137] In “Futurist Manifesto of Men’s Clothing” (1913), Balla railed against “colourless, funereal” clothes of the past, demanding instead “daring clothes with brilliant colours and dynamic lines.”[138] According to Balla, a futurist should be luminescent: “Everything will begin to sparkle like the glorious prism of a jeweller’s gigantic glass-front, and all around us we shall find acrobatic blocks of colour.”[139] Referring back to the jewelry shop window, in which Boccioni

saw the reflected image of dysfunctional desire, Balla unveiled a prismatic refraction of light that invaded the streetscape with its carnival acrobats. However, this color transformation of attire symbolized an invigorated nation in a later version of this text titled “The Anti-Neutral Suit” (1914): “We want to color Italy with Futurist audacity and danger, and at long last, give the Italians aggressive and cheerful clothes.”[140] A dangerous possibility arose from this contrast between violence and celebration, a volatile polarity endemic to a futurist chromatism mobilized to dress the nation. Comprising gleaming jewels in modern attire, Italian patriotism manifested historical change chromatically, echoed in his paintings of interventionist demonstrations. Although his patriotic crowds rallied to a unified cause (Figs. 23–27), Balla employed different undulating, swooshing shapes of color to inscribe the social diversity of the crowd, and his images of national renewal refracted through the prismatic jewel of commercialism. Beyond its basic chromatic analogy to boisterous crowds, futurism aimed to inscribe social differences, thus implicitly responding to the problems of “gray” democracy by preserving and generating social and political contrasts—through intensified color. Futurist color would be a principle for negotiating social difference, not simply for signaling a mob. Referring to the applicability of futurist principles, Severini reiterated the concept of translatability in a social context, “which can also be found among artists belonging to different races.”[141] Differences are not absorbed within a single, totalizing order, but rather they indicate diversity. While the ideal of chromatic translatability encoded all sorts of variations, its lack of clearly defined analogical principles engendered uncontrolled associations, verging toward a sort of semiotic catastrophe.

Espousing revolutionary social and aesthetic aims, futurist chromatism yielded a destructive dimension, endemic to its expansive color analogies. Alongside the disruptive impulse of the multicolored crowd in their agitated crowd imagery, futurist painters announced another type of destructive potential for color: “movement and light destroy the materiality of bodies.”[142] Similarly, an unstable combination of vitality and decay infuses Severini’s image of

spherical expansion, which the artist described as “a complex form of realism which *totally* destroys the integrity of the subject-matter—henceforth taken by us only *at its greatest vitality*.”[143] The immaterial forces of movement and light extended beyond any isolated physical body, making inconceivable and unsupportable an entity living apart from the world: the concept of the isolated figure had been dissolved. A destructive connotation informed the titles of works by Severini and Carrà, and their theory of cosmic expansive color generated an explosive quality.[144] Beyond the field of painting, the futurists acknowledged a violent side of luminescent radicalism. For example, Bruno Corra described a film called *The Rainbow*, in which colorful abstract forms burst forth: “The colors of the rainbow constitute the dominant theme, which appears occasionally in different forms and with ever-increasing intensity until it finally explodes with dazzling violence.”[145] This abstract film purportedly depicted the triumph of explosive colors over the grim world of gray and black, surely associated with the historical past. Also, Corra described the mechanical alteration to the film projector: “there exploded over the screen a cataclysm of incomprehensible colors.”[146] Aside from these incidental or conceptual forms of violence, Prampolini’s text closes with a call for a radical transition to a modern, colorized era: “Destroy, destroy, in order to rebuild consciousness and opinion, culture and the genius of art.”[147] Elsewhere, Boccioni inserted this surprising proposition into his 1911 lecture on the vitality of futurist painting: “Everything moves towards catastrophe! And one must have the courage to surpass oneself until death.”[148] Neither predicting his own demise, nor anticipating military conflict, his statement actually worked as a type of confirmation of vitalist chromatic principles through the affirmation of death—in that the idea of mortality celebrates the notion of fleeting sensorial intensity, and both emerged from experiential intensity.

Extending his earlier efforts involving chromatic intensification, Boccioni continued to emphasize figuration in his search for a historically pertinent analogy for color. His chromatic system was aligned with an ideology of action, in which bodies are deformed by the forces of

physical exertions and saturated with the energies of productive labor. His tonal structure, his prismatic arrangement, and his sense of unfolding temporality—all derived from bodily sources. The artist stated, “The true modern artist can only paint the invisible, cloaking it in the lights and shadows that emanate from its own soul.”[149] His style of chromatism tracked internal, corporeal forces into an externalized, visible spectrum. He presented these invisible forces as emerging from the body in diverse prismatic hues: “We want physical forces to be diffused into the environment and to superpose and flood over one the other like vibrations, caught in the vortex of those vibrations that together intensify the overall light in a painting.”[150] Thus, by harnessing exertions and desires of a living body, Boccioni’s chromatic system implied a basic structure of energetic release through the luminous vortex, and this translation of bodies into “light’s colored vibrations” rendered a light-sensitive medium in motion.[151] A culmination of his ideas and techniques, *Dynamism of a Football Player* (1913; Fig. 158) founded its chromatic principles on a complex registration of internal sensations, perceptions, and physiological changes. While Severini and Carrà proposed one of most extreme versions of futurist chromatism, based on an infinite translation into color, Boccioni chromatically rendered the physiological exertions and psychic desires of the futurist body. Based on the principle of planar interpenetration, his ambitious resolution expressed vitalist chromatism, consistent with his texts and the group’s manifestos, yet he held the explosive analogical power of color in check.

Boccioni’s *Football Player* solved aesthetic problems encountered elsewhere—it rethought bodily contour and the relation of tonality and color, and it preserved chromatic luminosity, while maintaining cohesion among diverse areas. The palette of *Football Player* utilizes mainly primary colors, plus orange, white, and gray—a notable shift from his saturated secondary hues in *Decomposition*. Considering the overall level of luminosity in *Football Player*, it is perhaps surprising to find an abundance of gray and brown strokes filling the interstices among bright patches. The neutral strokes, most noticeable around the leg and foot

regions, soften the edges of luminous sections and facilitate transitions among colors and from darks to lights, thereby solving the problem posed by *Decomposition of the Head of a Woman* of how to preserve luminance, while unifying adjacent areas of color. At a thematic level, Boccioni's image endorses the game of football, which, like the emergence of sport in the late nineteenth century, yielded an acceptable cultural form for competitive, even aggressive, forces to be directed and released for both those participating and those watching. Also, an agitated intensity exhibited in his earlier crowd images, found a sublimated form of physical exertion consistent with futurist vitality, while also symbolizing conflicting social and political forces. The artist circumvented the dysfunctional erotic obsession apparent in his images of women by shifting his libidinal energy to a male figure engaged in sport. At the visual level, his chromatic structure rejected chiaroscuro and naturalism by following the logic of sensorial and psychophysical intensities. Luminous bands of color traverse the figure, as if visually echoing the lines of the French poet Jules Romains: "Circular emanations move out from my body ... They spread my best energy ... They are a harmony in flames and running."[152] Likewise, Boccioni envisioned a range of psychic and physical processes using a chromatic principle that depicted the emanations of an inflamed, animated core, reverberating through the urban environment.

Boccioni's painting thematically relates to Robert Delaunay's *The Cardiff Team* series (1912–13; Fig. 159), which was itself inspired by Henri Rousseau's *Football Players* (1908; Fig. 160). In a composition repeated across several versions, Delaunay employed a type of figuration in which his colors typically retained a close visual analogy with the players' bodies and uniforms. In one work, however, concentric rings of color emanate from abstracted figures, signaling a nonassociative chromatic principle.[153] Acting as a precursor to his more abstract *Circular Forms* series of 1913, Delaunay's painting of the football match equates the athletes with astronomical forms (e.g., the sun and moon), translating their bodies into a form of extra-physical luminescence. A solid black circle near the center of gravity of the

outstretched main figure creates an indelible contrast with a nearby white circle, as well as the surrounding colors. Understood through the artist's color-movement system, this black spot provides an essential point of intensification around which the other hues and tones congregate, and the contrast delineates the forces of competition in the visual field, as well as on the playing field. The spot recurs in his work *Circular Forms* (such as Fig. 161), in which a burst of black appears at the center of the chromatic arrangement. The Boccioni painting of the football player renders the activity of the figure with a similarly reliance on tonal contrast located near the figure's center of gravity. Boccioni's image performs a fantasy of colorized vitality, in which corporeal intensities present a mode of chromatic analogy that balances between figural modeling and explosive color.

Boccioni's *Football Player* followed an intensive period of formal experimentation during 1912–13, during which he rendered the same type of isolated, active figure in numerous works, including drawings and other works on paper, oil on canvas, and gesso sculptures. The drawings and works on paper, in particular, have a comparable tonal structure as is found in the painting. The ink and watercolor work *Study for Dynamism of a Football Player* (1913; Fig. 162) shows a figure extended mid-stride to fill the horizontal frame diagonally. This study uses a grisaille technique to plot the light and dark values of a figural anatomy that is interwoven with geometric architectural elements from the background. In this work on paper, dark areas overwhelm the figure and lead the viewer's eye past the edge of the frame, and it contrasts with another study (1913; Fig. 80), oriented vertically and depicting a more distinct figure against a simplified background. The darks in this vertically oriented work are less prominent, and the light areas are more developed—light strokes cover dark areas, dark dabs stipple light areas, pale hues (white, purple, blue) are used for highlights, and the paper shows through in some areas. These lighter areas balance the darker ones to convey a figure with more levity and a greater sense of vitality, and this study offers a good illustration of the tonal structure in the football painting. Tonal differentiation is most

pronounced in the Boccioni's plaster sculptures, in which the light-dark dichotomy has been correlated with the separation between sculpted material and its absence. As with the more tonally balanced study, the *Football Player* painting uses a range of lights and darks to indicate a basic figural pattern, acting a tonal key for the work's chromatic development. A digitally enhanced image of *Football Player* (Fig. 163) isolates the darkest areas from the other values and colors, giving a clear sense of tonal structure of the figure. The artist's strategy to reconcile tonality and hue, resolved clumsily in *Decomposition of a Head*, found more success in *Football Player* by isolating tone and hue into two separate compositional layers: initially, the problem of tonality was resolved, then the variation of hue was integrated in the resulting structure of tonal variation. Following the radiating tonal diagram of corporeal intensity, the prismatic application of color in *Football Player* served to expand the tonal range between white and black.

Boccioni's strategy of tonal expansiveness works from the same basic premise as Kandinsky's theory of color—both of which draw from Goethe's notion of polarity within the color spectrum, such that hue overlays tonal gradation.[154] In his writings, Kandinsky diagrammed the relationship among light and dark colors within a spectrum of tonality—from white to black.[155] This stylized form of grisaille—in which tonality is augmented by color—expanded the degree of gradation available between white and black. This polar arrangement of hue responded to a challenge confronting those painters—from Cézanne and Matisse to Kandinsky and Boccioni—who sought a method for integrating tonality and color, especially after the traditional rules of perspective and chiaroscuro no longer provided useful guides. For instance, Matisse faced this difficult problem, which art historian Yve-Alain Bois has described: "In following the prescribed rules to the letter [for Signac's book] Matisse soon found himself faced with a conflict in his painting between the representation of depth and chromatic order, a conflict that, for the novice in modern art that he then was, proved even more terrifying than the dazzling southern sunshine."[156] This difficulty centered around tonality, the source of

shading and depth, but it also revealed the general problem of chromatic analogy—to what do colors correspond, if not reflective surfaces? Like Matisse, Kupka noted in the margin of *Study after Girl with a Ball* that a figure-ground relationship based on tonality and contour effectuates the visual modeling that leads to dissection and photography.[157] Inventing a method to correlate hue and tonality based on his grisaille mapping of figural intensities, Boccioni produced a system of color in which luminosity was linked to intensity and, specifically, to the heat emanating from a bodily source. This thermal principle can be most clearly discerned when the artist was describing the opposite condition: what he perceived to be a loss of figural heat in cubism. He claimed cubism was "the result of an impassive scientific calibration that destroys all dynamic heat, all violence, and all incidental variety of forms."[158] The artist helpfully explained: "But precisely this dynamic heat, violence, and incidental variety make the forms have a life outside of intelligence and project them into the infinite. And this is the result of creative emotion, delirious sensation, intuition."[159] In his visual works, the heat of the body—indicative of both physiological exertion and internal passion—had been derived through light and dark studies and then integrated into a luminous structure of painting that could map a range of nonvisible emanations. Through this innovative solution, his concept of chromatic variation developed the potential for augmented tonality.

Football Player also employs bright hues in the airy atmosphere around the figure to give an effect of visual circulation around the central masses. This effect of atmospheric flow originates from highlights of white and yellow interwoven with blue areas in the background. The luminous rays pierce the figural contour from different angles, but, instead of constricting the figure, these optical variations perforate the body, opening it to the exterior surroundings. By contrast, the painting *Dynamism of Human Body* (1913; Fig. 164) uses a more congested tonal structure, in which a running figure appears almost indistinguishable from the landscape. While both works have a palette with a similar range of colors, the combinations in *Dynamism* appear more tonally congested—green passages rub uneasily against red and orange, while

deep fuchsia is crowded by orange and yellow. Lacking contrast, the hues have a similar level of saturation, so the chromatic differences become muted. As the colors blend together instead of creating visual flow, the figure recedes into the ground. His formal interpenetration generates a flattening of the visual plane rather than bringing it into sharp relief. If the *Dynamism* canvas yields chromatic variation in terms of visual congestion, *Football Player* projects a expression of fluid motion through its more harmonious, prismatic palette. In addition to the dark figural core mentioned, bright yellow and white areas in the chest area signify a luminescent core of energy, while bright emissions of red and orange contrast with more subdued bands of blue and purple. Through the thermal principle, its tonal structure extends into coloration. As with Kupka's *Disks* (Fig. 146), Boccioni's *Football Player* applied a prismatic progression to contiguous hues, in which the logical succession of supplementary colors modulates the effects of complementarity. Within the futurist figure, for instance, yellow and red-orange hues reinforce the visual effect of orange, which plays against blue, while also mediating between a vital yellow–magenta contrast. This prismatic progression unfolds in a colorful vortex of thermal intensity that lends fluidity to the composition by adhering to a basic tonal structure. The thermal intensity of *Football Player* is one of Boccioni's most significant contributions to painting of the early twentieth century. By distinguishing futurist painting from cinematic processes, on the one hand, and cubism, on the other, Boccioni opened up a form of chromatic intensity that characterized a sociohistorical moment, saturated with a sense of anticipation, and the artist was able to hold an effusive chromatic intensity within a coherent tonal structure of graduated intensities.

"Bursters"

During World War I, the French military officer Guirand de Scévola pioneered camouflage when he consciously imitated cubist works in order to conceal artillery installations from enemy aircraft.[160] Like cubism, camouflage made figures and objects blend with their

surrounding environments by mitigating color intensity and by diffusing color contrasts behind a veil of beige and brown hues. Boccioni characterized the visual austerity cubism as "pure chiaroscuro, seasoning it with French grays and cold tones… lacking all vitality."[161] Futurist painters devised visual strategies to counter the concealment of chromatic contrasts and, by contrast, to show the intensification of color rather than its diminution. Basking in the vivid impressions associated with diverse (typically urban) experiences, and in opposition to cubist camouflage, the futurists extended the project launched by the French impressionists, who Jehan Georges Vibert satirically termed "*éclatistes*" ("bursters").[162] Like Vibert's humorous label from nearly twenty years earlier, the futurists might be said to have pioneered another mode of *éclatage*—the bursting forth of color. Futurist *éclatage* traversed the complicated intersection of luminosity and sociohistorical change, fueling such aesthetic tendencies as the motif of the multicolored crowd, the idea of general translatability, and the concept of complementarity (which Boccioni called "an attitude of the spirit").[163] This explosive chromatism aimed to translate into visual forms the modernizing forces, unfolding in artistic, scientific, and commercial fields and across a spectrum of physical and metaphysical activities—physical, psychic, social, and spiritual. The futurists did not present figuration to the exclusion of spiritual concerns (i.e., they did not depict mechanized movements), but rather they developed a perceptual and physical approach that included immaterial forces as well. At times, the explosion of luminosity was analogous to the unleashing of unifying social forces (often with political undertones), presented, for example, in the various types of futurist crowd imagery, as well as the jovial, but aggressive, clothing of Balla. Rather than remaining restricted to initiates of aesthetic and spiritual concerns, *éclatage* amounted to making images of irrepressible social and physical forces that would try to bring visual art into closer proximity to mass visual culture.[164]

Futurist painters insisted that expressive color had a vitalist dimension, implying, sometimes overtly, a resistance to mechanical forms of reproduction. This position remained

remarkably consistent throughout the visual works and texts of Boccioni, Severini, and Carrà. Boccioni even argued that artistic forms provided the measure of different epochs:

> The artist is the translator of the chaos that entangles things. People see colors, hear harmonies, weep, laugh, or hate in life just as artists have demonstrated in art. We wouldn't be able to imagine life in the past epoch without art's translation, for historical dates are meaningless in themselves.[165]

In addition to marking the modern epoch and its rejuvenated perception, futurist chromatism aimed to express an unfolding temporality of awareness and action. During this same period, filmmakers explored ways of adding color to their film (through tinting and toning of black-and-white images) in order to prompt an experience of more intense sensation, and these methods were loosely analogous to futurist chromatism—in that both film and futurism sought to represent perceptual vitality, and both used principles beyond naturalistic color. In spite of futurist resistance to technological reproduction, mechanical forms were not so distinct from the chromatic principle in vanguard painting before World War I. The question is not whether one technical medium or one mode of expression conveyed sensual intensity better than another, but rather, in light of a pervasive interest of color, how expressive visual languages adapted to technological innovations. Against this background of experiential intensities and technical developments, it is possible to reorient the relation between futurist painting and its contemporary modes of mechanical reproduction based on their different possibilities for representing chromatic variation. The transition from representational to nonrepresentational painting was not based on the realization in the visual arts that the camera could replace the artist with its capacity to reproduce reflective, naturalistic images. Rather, photographic and cinematic mediums intensified an ongoing search among artists for chromatic principles that convincingly answered long-standing questions—what and how do colors mean?

Notes

[1] Dated between July 15 and 22, 1913, Boccioni's letter to Soffici reads: "[Cubismo] È una reazione all'impressionismo fino alla completa dimenticanza della sua profonda rivoluzione. Bisogna incominciare a reagire seriamente e ritornare arricchiti come siamo dal contatto francese alla nostra grande forza: la gioia selvaggia del colore!" (Boccioni, *Lettere futuriste*, ed. F. Rovati, 77 and 258; my translation).

[2] F.-T. Marinetti writes in "The Founding and Manifesto of Futurism" (1909): "We will sing of great crowds excited by work, by pleasure, and by riot; we will sing of the multicolored, polyphonic tides of revolution in the modern capitals" (in Apollonio, *Futurist Manifestos*, 22).

[3] Influential treatises on color from the nineteenth century include Michel Eugène Chevreul, *De la loi du contraste simultané des couleurs et de l'assortiment des objets colorés* (1839), which was published in English as *The principles of harmony and contrast of colours* (1854); Ogden Rood, *Modern Chromatics, with Applications to Art and Industry* (1879); Charles Henry, *Introduction à une esthétique scientifique* (1885) and *Cercle cromatique* (1888); and Paul Signac, *D'Eugene Delacroix au neo-impressionisme* (1899 and 1911).

[4] Michel Eugène Chevreul, *The Laws of Contrast of Colour*, 1857, 62: "*In the harmony of contrasts, the complementary assortment is superior to every other*."

[5] Yve-Alain Bois describes Matisse's desire to escape the "suffocating" divisionist system, and cites Matisse's description of divisionism as an impersonal system, in which "everything is treated in the same way." Bois, "On Matisse: The Blinding; for Leo Steinberg," trans. by Greg Sims, in *October* 68 (Spring 1994), 93.

[6] Matisse, "Statement to Teriade: On Fauvism and Color" (1929); reprinted in Henri Matisse, *Matisse on Art*, ed. Jack Flam, 84. Boccioni's quotation comes from the transcription of his lecture delivered at the Civico Artistico, Rome, May 29, 1911; printed in translation in Ester Coen, *Umberto Boccioni*, 1988, 239.

[7] F.-T. Marinetti, “Founding and Manifesto of Futurism” (1909), in Apollonio, ed., *Futurist Manifestos*, 22.

[8] Roger Allard, “Les Beaux Arts,” *La Revue indépendente* (Aug. 1911), 134; and Henri des Pruraux, “Il sogetto nella pittura,” *La Voce* (October 31, 1912), 13. Excerpts of these texts may also be found in chapter 3 note 67.

[9] Umberto Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni*, 1988, 248. The phrase “a definitive” seems to be an abbreviated version of his often-repeated desire to synthesize different aesthetic tendencies into a unified, material object. For clarity, I have added “construction” to reflect his use of the phrase “definitive construction” in his letter to A. Nino Barbantini, Feb. 12, 1912 (published in Boccioni, *Gli scritti editi e inediti*, 1971, 347).

[10] Maxim Gorky, “The Lumière Cinematographe (Extracts),” 1896; reprinted in Richard Taylor and Ian Christie, eds., *The Film Factory: Russian and Soviet Cinema in Documents*, 1988, 25. The immediately proceeding quotations in this same paragraph refer to the same author, source, and page.

[11] Three examples include Leonid Andreyev (Nov. 1911), Terry Ramsaye (March 1919), and Pier Antonio Gariazzo (1919). Leonid Andreyev writes, “By its very essence cinema continues to remain the same old unfamiliar stranger, licentious and somewhat repellent to people who have had an aesthetic and academic education” (Andreyev, “First Letter on Theatre,” Nov. 1911; republished in Taylor and Christie, eds., *Film Factory*, 27); Ramsaye says, “Think of a world of all things black and white! A black sea and a white beach—a white chorus in black flummeries, or per contra—black and white sunsets—black trees and black hills. But that is the way the world looks to the motion picture camera. That is the way, speaking broadly and generally, that the camera makes its reports to us on the screen” (Ramsaye, “Color Photography and the Motion Picture,” *Photoplay,* 84 and 86; cited in Robert Nowotny, *The Way of All Flesh Tones*, 1983); Gariazzo claims, “Quite brutally, the merciless, cold,

destructive medium photography proposed to us, from time to time, a series of ugly and barren sights, and it removed us from a vague dream filled with colors and beautiful forms to take us into a monotony of grey mountains, waters, and cities, all of them resembling one another, inhabited by people just like us, small and petty little towns" (Gariazzo, *Il teatro muto*, 1919, 100; cited in Angela Dalle Vacche, *Diva*, 2008, 238–40).

[12] Zeno's Paradox is mentioned in *Time and Free Will*, 2001, 112–15; in Bergson, *Matter and Memory*, 2004, 250–53; and in Bergson, *Creative Evolution*, 2005, 335–40.

[13] Bergson uses the terms *cinematograph* and *cinematographical* to describe a mechanistic perspective concerning time and experience (such as in *Creative Evolution*, 331–33), corresponding closely to his treatment of the same theme of mechanical thinking in his works published prior to 1895, prior to when the Lumière Bros. invention is made public. Even as his reference to the cinematograph connotes a specific technology and the general cultural phenomenon, he primarily employs the terms in an elaborate, ongoing analogy to determinism and mechanistic philosophy.

[14] Henri Bergson, *Time and Free Will*, 231.

[15] Ibid., 133. References to color are numerous in Bergson, *Time and Free Will* (see ibid., 54, 57, 133–35, 160–61, 186, and 196). Occasionally, Bergson employed the terms *color* and *colorless* as metaphors to describe the key dichotomy between vitalism and mechanism.

[16] Boccioni, Umberto. Notes on Henri Bergson's *Matière et memoire* [*Matter and Memory*], J. Paul Getty Research Institute, Special Collections, Boccioni papers, 1899–1986, Accession no. 880380, Box 3, folder 29. Without mentioning cinema or color in his notes, Boccioni does summarize aspects of Bergson's work (in French, but lacking many of the proper accents), pertaining to mechanism: "Le passé se survit sous deux forme distinctes: Iº dans des mecanismes moteurs; IIº dans des souvenirs independants" and "*De la delimitation et de la fixation des images / Perception et matière / Ame et corps*". It is also clear from various of his

published writings that he had read Bergson, adopting his terminology and several of his concepts.

[17] Gorky, “The Lumière Cinematographe (Extracts),” 1896; in Richard Taylor and Ian Christie, eds., *The Film Factory*, 25. Describing futurism in terms of cinema, Marianne Martin writes: “The continuous motion of the cinematic form ... underlies the entire Futurist aesthetic” (Martin, “The Ballet Parade: A Dialogue between Cubism and Futurism,” *Art Quarterly* 1, no. 2, 1978, 110). A more recent example can be found in Foster et al, *Art Since 1900*, which reads: “Futurism tried to construct an analogue between pictorial signification and existing technologies of vision and representation, such as those being developed by photography—particularly in its extended forms such as chronophotography—and by early cinema” (90–92).

[18] Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni,* 243.

[19] Ibid., 244.

[20] Ibid., 247. Also, the artist wrote in this text, “It is scientific analysis that studies life in a cadaver” (ibid., 244). Apollinaire noted, “Picasso studies an object like a surgeon dissecting a corpse” (Apollinaire, *The Cubist Painters*, 2004, 13), and elsewhere in this text he described the transformation of the modern artist that clearly implied Picasso (given the chapter is about him): “The artist had to assassinate himself as scientifically and methodically as a great surgeon” (ibid., 38).

[21] Umberto Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni*, 1988, 246. Boccioni portrays cubism as a step backwards from Impressionism and Cézanne, placing Picasso in the tradition of Jean-Baptiste-Camille Corot, whose work he admired. Picasso’s pre–World War I works resemble various Corot works both in terms of the palette and the severe diminishment of the variation and luminosity of hues, as with Corot’s *Agostina* (c. 1866) and Picasso’s *Girl with a Mandolin* (1910).

[22] Boccioni, Carrà, Russolo, Balla, and Severini, “Futurist Painting: Technical Manifesto” (1910), in Apollonio, ed., *Futurist Manifestos*, 29.

[23] Ibid., 29.

[24] Sigmund Freud, “On the Universal Tendency to Debasement in the Sphere of Love” (1912), in Freud, *Standard Edition*, Vol. 11, 179–90.

[25] In his book *After the Great Divide*, 1986, historian Andreas Huyssen documents the common thematic correlation between women and mass culture in the nineteenth and twentieth centuries.

[26] Boccioni, Carrà, Russolo, Balla, and Severini, “Futurist Painting: Technical Manifesto,” (1910), in Apollonio, ed., *Futurist Manifestos*, 29.

[27] Ibid., 29; I have altered the translation reading “innate complementariness” from the original Italian *complementarismo congenito*, in order to reflect an accepted art historical usage of the term *complementarity*. See John Gage, *Color and Culture*, 1993, 171 and 205.

[28] This notion of divisionism as “democratist mechanics” comes from Yve-Alain Bois, “On Matisse,” which reads “democratic—or rather ‘democratist’—divisionist mechanics” (92). It is likely that Bois is referring to Matisse’s remark on the impersonal divisionist system, “everything is treated in the same way” (ibid.).

[29] In a lecture in Rome, May 29, 1911, Boccioni says: “To get color you have to increase the [amount of] color … the strict application of Divisionist ideas about complementary colors leads to a decrease in intensity down to gray” (translated and reprinted in Coen, *Umberto Boccioni*, 239).

[30] From Boccioni’s 1911 lecture; printed in translation in Coen, *Umberto Boccioni*, 235. While Coen uses the term *complementarism*, I have opted for the term *complementarity* in my translation of the same Italian word (as mentioned in note 27).

[31] Bois, “On Matisse,” 85.

[32] Ibid.

[33] Henri Matisse, “Notes of a Painter” (1908), in Matisse, *Matisse on Art*, ed. Jack Flam, 1995, 38.

[34] Bois, “On Matisse,” 64–65 and 91–94. Matisse refers to harmony as “an equilibrium of forces” (ibid., 64); regarding Matisse’s desire for expansive force in his paintings, Bois writes “this expansive force is above all a function of the painting’s internal relations of scale, which, as we shall see, are also necessarily color relations” (ibid., 64–65)

[35] Matisse, from “Statement to Teriade: On Fauvism and Color” (1929), in Matisse, *Matisse on Art*, 84; also cited in Bois, “On Matisse,” 94.

[36] Matisse, “Notes of a Painter,” in Matisee, *Matisse on Art*, 39.

[37] Ibid., 41.

[38] John Gage describes Matisse’s approach as “radical perceptualism,” through which the artist fulfills an obligation to the image, which Gage refers to as that painter’s “bondage to colour.” Gage, *Color and Culture*, 211–12. On Matisse’s innovation in the perceptual theory of color, Gage noted (ibid.): “the act of painting moved through a series of psychological adjustments which characterized the new art of process ... it has been perhaps the most lasting contribution of the psychological theory of colour to the practice of art.”

[39] Unlike the aim of the Hyacinthe Rigaud painting, titled *Madame Rigaud, Mother of the Artist, in Two Different Positions* (1695), which is to convey a likeness of his model from different perspectives, Boccioni’s *Simultaneous Visions* does not capture likeness, at least not in the sense that would make his image meet the traditional aims of portraiture.

[40] Umberto Boccioni, “The Body Rises” (c. 1914–15) was performed at various futurist variety shows; it is published in translation in Kirby and Kirby, *Futurist Performance*, 1971, 236–37. However, Kirby and Kirby’s translation of Boccioni’s title “Il corpo che sale” as “The Body That

Ascends" does not follow form of the now-accepted translation of the title of his painting *La città che sale* (*The City Rises*).

[41] Freud discusses the different currents of love in his text "On the Universal Tendency to Debasement in the Sphere of Love" (1912); republished in Freud, *Standard Edition*, Vol. 11, 1957, 179–90.

[42] Boccioni, "Technical Manifesto of Futurist Sculpture" (April 1912), in Apollonio, ed., *Futurist Manifestos*, 52. The Italian term used is *compenetrazione dei piani*. It should be noted that Bergson employs the term *interpenetration* to describe time as a continuous duration, indivisible and not broken into separate parts. Contrary to Bergson, the futurists wanted to discover the material consequences of interpenetration, leading them to make formal, practical pronouncements, such as on painting, while maintaining the basic metaphysical premises, such as to express freedom and spirit and to oppose mechanistic analysis.

[43] Ibid., 29.

[44] Boccioni suggested the use of mixed materials in his futurist manifesto of sculpture; ibid., 64–65. This subject was examined more closely in chapter 6.

[45] Boccioni, "Technical Manifesto of Futurist Sculpture" (April 1912), in Apollonio, ed., *Futurist Manifestos*, 52. A few months earlier, "The Exhibitors to the Public" (Feb. 1912) has the word *planes* to discuss how compositional parts relate to others in "a real competition of lines … a real conflict of planes," implying a more formal conception of visual space, no doubt inspired by the cubists.

[46] In Italian, the phonetic and syllabic similarities are more pronounced between the earlier *complementarismo congenito* and later *compenetrazione dei piani*. These similarities suggest a possible cause for the mistake—an inadvertent lexical substitution of words beginning with the same prefix—however, this is also not a random substitution error, since the terms are also very similar conceptually.

[47] As the most extreme version of this recurrent motif, his sculpture *Fusion of a Head and a Window* (1912–13) shifts from basic visual contiguity to a violent condensation of the two elements. The correlation of the human body with architecture takes less shocking form in other of his sculptural works, such as *Muscles in Speed* (1913) and *Unique Forms of Continuity in Space* (1913).

[48] Boccioni lecture in Rome, 1911, printed in translation in Coen, *Umberto Boccioni*, 239.

[49] Ibid., 231.

[50] Ibid., 235.

[51] Kupka's book *Tvořeni v uměni vytvarnem* [*La Création dans les arts plastiques*/*Creation in the Visual Arts*], 1923, had been written completely by 1913. This translated quotation from that text appears in Meda Mladek, "Central European Influences," *František Kupka, 1871–1957: A Retrospective*, 1975, 25–26.

[52] The quotation originates from one of Kupka's manuscripts (1912–13), and is cited by Margit Rowell, "František Kupka: A Metaphysics of Abstraction" in *František Kupka, 1871–1957: A Retrospective*, 1975, 60–61. Kupka's manuscripts (1912–13) have been catalogued by Rowell in ibid., 60–61 note 19.

[53] See Rowell, 54. The work is often titled in other sources as *Study of Decomposition of Cinematic Movement: The Horsemen*.

[54] The idea that unfolding temporality can be registered as chromatic variation can also be termed *chronochromatism*. Originally used by philosopher Gilles Deleuze to describe Francis Bacon's methods of figuration, chronochromatism is linked to that British artist's search beyond the figural contour for "a new type of relief through color." Gilles Deleuze, *Francis Bacon: Logic of Sensation* (2003), 96–7. The philosopher stated: "There is a great force of time in Bacon; time itself is being painted. The variation of texture and color on a body, a head, or a back … is actually a temporal variation regulated down to a tenth of a second.

Hence the chromatic treatment of the body, which is very different from the treatment of the fields of color: the chronochromatism of the body is opposed to the monochromatism of the flat fields" (ibid., 42). This ruptured contour, Deleuze observed, derives from "an involuntary irruption" that releases uncontainable energies and requires visual deformations and chromatic disruptions to reveal the "violence of sensation." Ibid., 96 and xxxii. Deleuze describes the violent energy in Bacon's work that passes through the painted figures.

[55] Rowell, "František Kupka," 1975, 62. For further discussion, see *František Kupka, 1871–*1957, 138–39.

[56] Kupka, *Untitled Sketch* (c. 1910; Collection Karl Flinker); reproduced and discussed in Rowell, "František Kupka," 1975, 65–66.

[57] Ibid., 66.

[58] Christopher Green, *The Thyssen-Bornemisza Collection. The European Avant-Gardes: Art in France and Western Europe, 1904–c.1945*, 247–48.

[59] This analogy of chronophotography is preferred by Margit Rowell; Rowell, 60. It should also be noted that Marey was expressly opposed to cinematic illusionism, stating in *La photographe animée* (1899): "Cinema produces only what the eye can see in any case. It adds nothing to the power of our sight, nor does it remove its illusions, and the real character of a scientific method is to supplant the insufficiency of our senses and correct their errors. To get to this point, chronophotography should renounce the representation of phenomena as they are seen by the eye." Cited in Marta Braun, *Picturing Time*, 1992, 255.

[60] Kupka uses the obscure French word *conpenetration* in the margin of one of his drawings *Study after Girl with a Ball*, 1908–1909. Given that the French Kupka used in his manuscripts contains numerous grammatical errors (as per Rowell, "František Kupka," 1975, 60–61), I propose he intended this word to be a form of the familiar French term *compenetration*, translating into English as *interpenetration*.

[61] Kupka, the second of four manuscripts (1912–13); cited in Green, *The Thyssen-Bornemisza Collection*, 248 (with revised dating as per Rowell, "František Kupka," 1975, 60–61).

[62] In "Futurist Manifesto of Men's Clothing" (1913), Balla gave this mandate for donning stylish attire: "We must abolish: wish-washy, pretty-pretty, gloomy, and neutral colours." Apollonio, ed., *Futurist Manifestos*, 132.

[63] Robert Delaunay, letter to Franz Marc (1912), published in translation in Delaunay and Delaunay, *The New Art of Color,* 1978, 116.

[64] Delaunay, letter to Joan Sacs (1917), published in translation in Delaunay and Delaunay, *The New Art of Color,* 71 (original emphasis). The concept of chromatic depth is also treated by Michel Eugène Chevreul to mean the tonal range of a given color, whereas Delaunay meant the quality of a single color or the contrast among colors; see Chevreul, *The Laws of Contrast of Colour*, 1857, 8.

[65] Ibid., 69.

[66] Robert Delaunay, letter to August Macke, 1912; published in translation in Delaunay and Delaunay, *The New Art of Color,* 114.

[67] Robert Delaunay, "Simultaneism in Contemporary Modern Art, Painting, Poetry" (October 1913), appearing in Delaunay and Delaunay, *The New Art of Color,* 48. Later, Delaunay wrote, "Simultaneity—say certain painters oriented to a dynamic sense—is but a word which has no representative value and they end (futurism) presently in their fatal position: geometry, mechanics, geometric dance, etc." ("Image and Craft," in *The New Art of Color,* 54); Sherry Buckberrough dates this text to late 1913–early 1914, while Cohen believes it is from the late 1930s; see Buckberrough, *Robert Delaunay: The Discovery of Simultaneity*, 1978, 365; and see Delaunay and Delaunay, *The New Art of Color,* 54.

[68] This rebuttal is found in Delaunay's notes, unpublished during his life, which use an oscillation among poetic voices to express the differences among avant-garde schools in the

pre–World War I period. The first voice describes a sensibility (perhaps cubist) that claims to digest the object of vision and to produce a new geometry. The second voice (clearly futurist) analogizes overflowing images to a love of new technologies and to "the tumult of the Universe." The first responds with this withering criticism: "Your future is already past! ... You are really marching toward death" (Delaunay and Delaunay, *The New Art of Color,* 78). This respondent then shifts to an anatomical allegory, in which "the corpse reflected and appeared incessantly in the prism / Useless now—that psychology. / Death is no more?" (ibid., 79). According to this allegory for futurism, the corpse is gilded in gold and then cut up to produce "golden slices." In an apparent reference to the commercial strategies used by the futurists, this critic concludes sarcastically: "All the pieces of the corpse are golden. What wealth!" (ibid.). Different transcriptions of these notes, and widely varying dates of attribution (c. 1912 or c. 1933), appear in various sources: see ibid., 77–80, Robert Delaunay, *Du cubisme à l'art abstrait*, ed. Pierre Francastel (Paris, 1958), and Gambillo and Fiori, eds., *Archivi del futurismo, Vol. 2*, 255–57.

[69] Robert Delaunay, letter to Franz Marc, Jan, 11, 1913; *The New Art of Color,* 122.

[70] Delaunay and Delaunay, *The New Art of Color,* 70. This ungracious reference to Apollinaire's *Aesthetic Meditations*, the subtitle of his book *The Cubist Painters* (1913), perhaps indicates some lingering resentment over Apollinaire's support for the futurists, especially in light of the poet's siding with Boccioni in their dispute over simultaneity. In a letter to Joan Sacs in Dec. 1917, he wrote: "This is what the masses forget or to what they remain insensible: life, observation, vision, eye, evolve and the only evolution in painting is that of craft, which renews itself in balance with our faculties."

[71] Art historian Sherry Buckberrough also notes: "In opposition to that of the Futurists, Delaunay's art was consciously elegant and elitist" (Buckberrough, *Robert Delaunay: The Discovery of Simultaneity*, 1978, 216).

[72] Delaunay and Delaunay, *The New Art of Color,* 113. Earlier in his letter when he says, "This inquiry into pure painting is the actual problem. I do not know any painters in Paris who are truly seeking this ideal world" (112). The term *pure painting* also appears around this time in Apollinaire's writings, likely growing out of discussions with Delaunay among others; see Apollinaire, "Reality, Pure Painting" (published in German translation in *Der Sturm*, December 1912), comprising one section in a larger two-part text, published in *Le Temps* (October 1912).

[73] Mark Cheetham explains the development of the concept of purity in modernist painting, though he does not address the works of either Robert or Sonia Delaunay, or the texts of Robert. Mark Cheetham, *The Rhetoric of Purity*, 1991.

[74] A contradiction arises from these images and the artist's objection to the futurists' embrace of new technologies, such as mechanical forms of transportation. Delaunay eventually embraced speed and modernity even more fully in a text about his wife's fabric patterns, in which he stated (139): "The [fabric] colors are 'simultaneous,' i.e., they obey new laws of color contrast and of color surface, which ... produce simultaneously, right before our eyes, new and original effects ... future design, because they are responsive to the painting, to the architecture of modern life, to the bodies of cars, to the beautiful and original forms of airplanes—in short, to the aspirations of this active, modern age, which has forged a style intimately related to its incredibly fast and intense life." Robert Delaunay, "The 'Simultaneous' Fabrics of Sonia Delaunay," (1938); reprinted in Delaunay and Delaunay, *The New Art of Color,* 137–39.

[75] Delaunay and Delaunay, *The New Art of Color,* 115 and 116 for the quotation following this one. This letter has also been the source of some confusion for historians: some presume that Delaunay says "I'm mad about color, but I don't look for their scholastic explanation," but he is actually quoting directly from Marc's letter to him; see for example, Virginia Spate, *Orphism*, 179 and Gage, *Color and Culture*, 263.

[76] Fernand Léger, “Les origines de la peinture et sa valeur représentative,” *Montjoie!* (29 May 1913), 7 and 14–29 and (June 1913), 9–10; reprinted in English in Antliff and Leighten, *A Cubism Reader*, 535–43. Léger characterizes the impressionists: “they considered painting only for its color, almost neglecting all form and line in their efforts” (536).

[77] Ibid., 542.

[78] Kupka wrote along the margin of his drawing *Study after Girl with a Ball* (1908–09): “here it is only dissection of surfaces / the concept of atmospheric interpenetration is yet to be found / As long as there is a distinction in color between ground and flesh, I will fall back into the postcard photo.” As I mentioned in note 60 of this text, the obscure French term *conpenetration* perhaps appeared in place of *compenetration*, so I have translated it into English as *interpenetration*, in order to preserve the conceptual associations with both Bergsonian philosophy and various futurist texts from the same period. An alternate translation by Margit Rowell appears in the Guggenheim catalog as: “here, only the surfaces are dissected; the concept of atmospheric conpenetration is still to be found. As long as there is a difference between ground colors and the flesh, I will fall once again into photographic post card imagery” (Rowell, “František Kupka,” 1975, 70–71).

[79] Boccioni lecture (1911) in Coen, *Umberto Boccioni*, 231.

[80] The manifesto is dated March 11, 1913, though it was not published until July 1 that same year. Russolo’s first performance was at Teatro Dal Verme in Milan on 21 April 1914; see Hulten, *Futurismo e futuristi*, 565. Called *intonarumore*, literally meaning “sound-noises,” these sonic instruments were designed and fabricated c. 1913–14 by Russolo and Ugo Piatti, for the purpose of producing various noises, such as whining, clanging, rumbling, crackling, ringing, pulsating, etc. Ibid., 492.

[81] Kandinsky, *Concerning the Spiritual in Art*, 2006, 41.

[82] Ibid., 49.

[83] Ibid., 52.

[84] Ibid., 65.

[85] From Kupka's *Tvořeni v uměni vytvarnem* (1923); cited in Meda Mladek, "Central European Influences," 1975, 25–26.

[86] The collection is Bruno Corra and Arnaldo Ginna, *Il pastore, il gregge e la zampogna* (Bologna: Libreria Beltrami, 1912). The text used for this research is a translated version, which has been reprinted in Apollonio, ed., *Futurist Manifestos*, 66–70. It is also important to note that Bruno Corra and Arnaldo Ginna were pseudonyms used by brothers Arnaldo and Bruno Ginanni-Corradini; see Giovanni Lista, *Cinema e fotografia futurista*, 2001, 19. While "Abstract Cinema—Chromatic Music" pertains to the history of Italian futurism, it was actually the product of the short-lived cerebralist movement in Ravenna, prior to the authors' affiliation with the Milan futurists. See Lista, *Cinema e fotografia futurista*, 2001, 37.

[87] Bruno Corra, "Abstract Cinema—Chromatic Music," reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 66.

[88] Ibid., 67.

[89] Ibid., 68.

[90] The mechanical experiment that resulted in "cataclysm" contrasts with the vehicular disaster that marks beginning of the futurist movement, and Marinetti's maternal, muddy ditch in "The Founding and Manifesto of Futurism" (Feb. 1909) has been transformed into the sanitary white room.

[91] Bruno Corra, "Abstract Cinema—Chromatic Music," reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 70.

[92] Ibid., 69.

[93] Corra mentions how they projected their films onto white canvas before deciding to remake the room in white, so his overarching analogy between painting and chromatic harmony is

manifested briefly as this direct substitution. Significantly, Lista calls these chromatic experiments *cinepittura* ("cine-painting"), which captures a sense of the threat posed to painters by these technological methods; see Lista, *Cinema e fotografia futurista*, 2001, 26.

[94] Ibid.

[95] Enrico Prampolini, "Chromophony—the Color of Sounds," in Apollonio, ed., *Futurist Manifestos*, 115.

[96] Ibid., 118

[97] Ibid., 117.

[98] Ibid., 118.

[99] Ricciotto Canudo, "Naissance d'un sixième art," in *Les Entretiens idéalistes* (1911), translated as "The Birth of a Sixth Art" and reprinted in Richard Abel, *French Film Theory and Criticism, Vol. 1*, 1988. Canudo's interest in film as a distinct art form dates to lectures and symposia he organized in Paris during the first decade of the century.

[100] Marinetti wrote: "Sto lavorando per il cinematografo, e naturalemente con concezioni e intenzioni assolumente futuriste" (cited in Giovanni Lista, *Cinema e fotografia futurista*, 2001, 30). Lista tries to make the case that cinema is inherently futurist, referring to Italian popular cinema at that time as "futurism without a vanguard" ("il futurismo senza avanguardia"); see Lista, *Cinema e fotografia futurista*, 2001, 26. There is an abundance of material dating to the period before 1916 that suggests futurist resistance to film.

[101] The film is *Mondo Baldoria* (dir. Aldo Molinari; Feb. 1914, Vera Films, Rome). See ibid., 31. Interestingly, despite the explicit rejection by the futurists, Lista compares the film to Boccioni's paintings *The City Rises* and *Simultaneous Visions* (ibid., 36).

[102] As mentioned earlier in this chapter, Boccioni resisted cinema on philosophical grounds, following from Bergson's distinction between free choice and determinism. See note 13.

[103] Lista describes “the disengagement and estrangement of Boccioni” (“il disimpegno e l’allontanamento di Boccioni”) as key reason for futurism moving toward film in 1914; see Lista, *Cinema e fotografia futurista*, 38. The evidence indicates a continued delay and a prolonged tension through 1916.

[104] Balla, “The Late Balla—Futurist Balla” (1915); in Apollonio, ed., *Futurist Manifestos*, 206.

[105] Marinetti, “The Variety Theater” (1913), in Apollonio, ed., *Futurist Manifestos*, 126.

[106] Lista discusses the incorporation of “teatro sintetico” (synthetic theater) and also “sintesi teatrali” (theatrical syntheses) into futurist film theory; Lista, *Cinema e fotografia futurista*, 2001, 38 and 48. This theatrical strategy of demystification was shared with certain works by Pirandello, such as *Suo Marito* (1911), *Uno, Nessuno e Centomila* (1925–26; begun in 1909) and *Six Characters in Search of an Author* (1921).

[107] Ibid., 45.

[108] F.-T. Marinetti, Bruno Corra, Emilio Sentimelli, Arnaldo Ginna, Giacomo Balla, and Remo Chiti, “The Futurist Cinema” (1916), in Apollonio, ed., *Futurist Manifestos*, 207–208 and 217–219.

[109] Ibid., 207–208 (original emphasis).

[110] Ibid., 208.

[111] The manifesto “The Futurist Cinema” refers only in passing to coloration: “Cinematic musical researches (dissonances, harmonies, symphonies of gestures, events, colors, lines, etc.)” See ibid., 218. Also, film constitutes “Linear, plastic, chromatic equivalences” (ibid.). Another passage uses “colour” metaphorically: “We shall add colour to the dialogue by swiftly, simultaneously showing every image that passes through the actor’s brain” (ibid., 217).

[112] The invention of cinema is also described by Henri Kubnick as “a short episode” [“un court épisode”] in Lumière’s career; Kubnick, *Les Frères Lumière* (Paris: Librarie Plon, 1938), 79.

[113] The report comes from Maurice Trarieux-Lumière, the inventor's grandson, in his preface to Nathalie Boulouch's *Les Autochromes Lumière: la couleur inventée*, 1995 (unpaginated).

[114] Charles Urban, *A Yank in Britain: The Lost Memoirs of Charles Urban, Film Pioneer*, 1999, 78.

[115] A. Personnaz, "L'Esthetique de la plaque Autochrome," paper presented at the 5ième Congres International de Photographie, 1910; cited in Boulouch, *Les Autochromes Lumière*, 1995 (unpaginated).

[116] L. Pellerano, "L'Autochrome et ses applications artistiques,' *La Fotografia Artistica* 8 (1909), 128; cited in Boulouch, *Les Autochromes Lumière*, 1995 (unpaginated).

[117] Following his success with color still photography, George Albert Smith returned to working on panchromatic film within Charles Urban's company. Amazingly, Smith produces the first panchromatic moving picture in 1906, but this medium is not demonstrated until more than two years later in December 1908 and, then, only projected to the general public for the first time in London in February 1909. Charles Urban, *A Yank in Britain*, 1999, 78. Despite the initial success, Smith and Urban could not solve the complex technical and financial issues associated with manufacturing and distributing color film stock for widespread use. For that matter, neither could any of the other color film pioneers prior to Technicolor's public debut in 1922. Technicolor Motion Picture Corporation's first color process was developed in 1916 using additive color, but the results were unsatisfactory; a more successful process, using a subtractive process, was made public in 1922. Both of those processes used a color strip together with a black-and-white strip. Its third process from 1928 was the first fully color process. Scott Higgins, *Harnessing the Technicolor Rainbow*, 2007, 4.

[118] In 1919, one writer succinctly expresses what had been, for over twenty years, a spectatorial desire to see "exact colors" reproduced: "For many years inventors have been dallying with the problem of making the motion picture camera color sensitive, and to bring to

the screen the exact colors of nature. Even now a half a dozen little groups, each with its hopeful inventor, its business promoter and its financial angel, are at work on the yet unsolved problem of motion photography in natural color. Several of these groups have come near to genuine success … But the perfect color picture is yet to be achieved." Terry Ramsaye article "Color Photography and the Motion Picture" in *Photoplay* (March 15, 1919), 84 and 86; cited in Robert Nowotny, *The Way of All Flesh Tones*, 1983, 275–76.

[119] Fernand Léger, "Les origines de la peinture et sa valeur représentative" (May and June 1913); in Antliff and Leighten, eds., *A Cubism Reader*, 2008, 542.

[120] Cited in John Gage, *Color and Culture*, 1993, 247.

[121] On the introduction of color into the design of commercial products in the nineteenth century, Tom Gunning writes: "This surge of color into previously monochrome territories constitutes one of the key perceptual transformations of modernity." Tom Gunning, "Colorful Metaphors: The Attraction of Color in Early Silent Cinema," *Fotogenia*, no. 1 (1994), 250.

[122] Delaunay and Delaunay, *The New Art of Color,* 1978, 98.

[123] Wassily Kandisnky, *Concerning the Spiritual in Art*, 1911, 75.

[124] Boccioni, lecture in Rome, May 1911; printed in Coen, *Umberto Boccioni*, 1988, 235.

[125] Gino Severini, "The Plastic Analogies of Dynamism" (1913); in Apollonio, ed., *Futurist Manifestos*, 124.

[126] Ibid., 121. See ibid., 121, 122, and 124 for additional references to radiation and irradiation.

[127] Ibid., 121.

[128] Ibid., 123 (original emphasis).

[129] Ibid., 122 (original emphasis).

[130] The work *Spherical Expansion of Prisms: Centers of Force of a Boxer* is listed in Apollonio, ed., *Futurist Manifestos*, 144, and elsewhere listed as *Force Centres of a Boxer* (in Trask and Laurvik, *Catalogue de Luxe*, 1915); and simply *Boxer* (Taylor, *Futurism*, 1961, 79).

[131] These texts appear in Apollonio, ed., *Futurist Manifestos*, 91–92 and 111–15 respectively.

[132] Delaunay, letter to Marc, 1912; in Delaunay and Delaunay, *The New Art of Color,* 1978, 122.

[133] Ibid. Delaunay's concept of "universal" formal translatability makes color ever more specialized and unavailable to collective experience. The visual and linguistic terms associated with Delaunay's work and color theory become increasingly restrictive, thereby deferring or avoiding the notion of generalized social and psychological comprehensibility of color. He sought "purity" in painting, such as was associated with the sterilizing effect of light against microbes, and this purification, like Kandinsky's spiritual coloration, was not available to the general population.

[134] Apollinaire, *The Cubist Painters*, 2004, 5.

[135] Kandinsky, *Concerning the Spiritual in Art*, 2006, 75.

[136] In his "Interview with Gotthard Jedlicka" (1931), Matisse responded: "What we wanted was not to paint like our predecessors, but to free ourselves. A couple of brushstrokes innocent of traditional forms did more for this liberation than the prescriptions of the entire Academy" (reprinted in translation in Matisse, *Matisse on Art*, 101). Among various futurist references to social and aesthetic upheaval, Boccioni says in his 1911 lecture in Rome: "We [futurists] are the artists in this epoch who will be called revolutionaries. We have the duty to wage daily war against the tyrannies of aesthetic reactionism and to remember that if tyrannies have been checked by guillotine and dagger, petrol and bombs can also be used to liberate us from the museums that dishonor us!" (Coen, *Umberto Boccioni*, 1988, 233). In a later text, Boccioni asserted: "We must not forget that the Futurist revolution is leading art towards a new, great, definitive epoch..." (ibid., 244).

[137] Boccioni stated, "The multicolored and febrile crowds are monstrous for the Italian, who in all his noble existence discussed the past grandeur of the country, in the quite streets of his

beloved small town—former capital, no doubt—full of glorious shades of old closed buildings, gardens closed, closed minds." ["Le folle multicolori e febbrili sono mostruose per l'italiano che in tutta la sua nobile esistenza ha discusso sulla grandezza passata della Patria, nelle quite vie della sua cara piccola città—ex capitale, senza dubbio—tutta piena di ombre gloriose, di vecchi palazzi chiusi, di giardini chiusi, di menti chiuse."] Boccioni, *Pittura e scultura futuriste*, 2006, 42.

[138] Balla, "Futurist Manifesto of Men's Clothing" (December 1913); in Apollonio, ed., *Futurist Manifestos*, 132.

[139] "The Futurist Manifesto of Men's Clothing" (1913); in Apollonio, ed., *Futurist Manifestos*, 132.

[140] Giacomo Balla, "The Anti-Neutral Suit" (September 1914); published in Virginia Dortch Dorazio, *Giacomo Balla: An Album of His Life and Work* (New York: Wittenborn, c. 1969). Berghaus suggests that, prior to its publication, Marinetti rewrote Balla's original text to reflect a military interventionist attitude; see Berghaus, *Futurism and Politics*, 76.

[141] Severini, "The Plastic Analogies of Dynamism"; reprinted in Apollonio, ed., *Futurist Manifestos*, 124.

[142] "Futurist Painting: Technical Manifesto" (1910); in ibid., 30.

[143] Severini, "The Plastic Analogies of Dynamism"; in ibid., 122 (original emphasis).

[144] This Severini work is *The Collapse* (1914) is noted in ibid., 189. The Carrà work *The Disintegration of Flesh* (c. 1914) is listed in the 1915 catalog for the Panama-Pacific International Exposition in San Francisco, and it probably arises from a mistranslation of the original title for an unknown or lost work; see John Trask and J. Nilsen Laurvik, eds., *Catalogue de Luxe*, 1915, 274.

[145] Bruno Corra, "Abstract Cinema—Chromatic Music," reprinted in translation in Apollonio, ed., *Futurist Manifestos*, 69.

[146] Ibid., 68.

[147] Enrico Prampolini, “Chromophony—the Colors of Sounds” (1913), in Apollonio, ed., *Futurist Manifestos*, 118.

[148] Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni*, 1988, 244.

[149] Ibid., 237.

[150] Ibid.

[151] “The transfigurations that light brings to solid bodies, all the immateriality that things and animals undergo in light’s colored vibrations” (ibid.).

[152] Jules Romains, *La Vie Unanime, 1904–07*, 1926, 171. “Des effluves en cercle émanant de mon corps ... Ils s’en vont propager ma meilleure énergie ... Ils sont une harmonie en flames et en marche.” (Initially, I found an excerpt of this poem in Sherry Buckberrough, *Robert Delaunay*, 1982, 138.)

[153] This version of Delaunay’s *The Cardiff Team* (1912–13) is housed at the Scottish National Gallery of Modern Art.

[154] John Gage, *Color and Culture*, 202.

[155] Ibid., 207.

[156] Bois, “On Matisse,” 85.

[157] Kupka, *Study after Girl with a Ball* (1908–1909). Also see notes 60 and 78.

[158] Boccioni, “What Divides Us from Cubism,” in Coen, *Umberto Boccioni*, 1988, 243 (translation altered slightly based on the original Italian). In *Pittura e scultura futuriste* (1914), Boccioni claims (64; original emphasis): “The psychological objective analysis of figures has killed *unity*, *heat*, *action*, which are the fundamentals of creating an artwork.” [“L’analisi psicologica oggettiva delle figure uccideva l’*unità*, il *calore*, l’*azione*, che sono le basi fondamentali della creazione nell’opera d’arte.”]

[159] Ibid.

[160] Theda Shapiro, *Painters and Politics: The European Avant-Garde and Society, 1900–1925* (New York: Elsevier, 1976), 510–11; cited in Stephen Kern, *The Culture of Time and Space*, 2003, 302–304 and 361 n. 43.

[161] Boccioni, "What Divides Us from Cubism," in Coen, *Umberto Boccioni*, 1988, 246.

[162] See Jehan Georges Vibert, "The Delights of Art," *Century Magazine* 51, no. 6 (April 1896); cited in John Gage, *Color and Culture*, 223. This term translates as "dazzlers" or, more literally, as "exploders." In the parody of impressionism, a fictional painter is said to belong to "the very latest school, the '*éclatistes*,' who paint only with intense colors and without shading any of the tones."

[163] Boccioni stated: "We believe complementarism to be an attitude of the spirit" (1911 lecture, Coen, *Umberto Boccioni*, 235).

[164] The public reception of futurist painting produced intense public interest and even entailed a certain amount of literal crowding, as exemplified by a photograph from March 1913 (Fig. 165), in which a crowd gathers around the display window of a Roman bookstore in order to view Boccioni's work *Decomposition of Figures at the Table* (1912). This photograph was originally reproduced in Virginia Dortch Dorazio, *Balla: An Album of His Life and Work* (c. 1969) as plate 85. A long caption in that text provides some context for the image: Luciano Folgore says that the image shows the Lux Bookstore (on Via delle Convertite) during the futurist show at Teatro Costanzi, February–March 1913.

[165] Boccioni, lecture in Rome in May 1911; printed in Coen, *Umberto Boccioni*, 1988, 233.

Conclusion

For the early Italian futurists, physical motion represented a modern and modernizing condition of life that informed many of their visual ideas. Many of their most innovative images sought to create a visual space corresponding with the experiences of a new mode of subjectivity, a space capable of sparking social and cultural renewal, even historical changes. In contrast with the types of motion that presented precise linear progressions or mechanical sequences, futurist images of motion often centered on a complex interaction among internal and external forces, generating visual forms that were meant to signify psychic and physical processes. One of the main thematic and conceptual fields situating futurist imagery was psychophysiology—centered in and organized by the human body. This futurist version of the modern body was able to register transformative experiences through a spectrum of literal and conceptual dimensions of mobility. So, while rooted in the visual and material forms, futurist imagery provided a visual structure for depicting the immaterial forces of movement and for constructing what were, effectively, metaphysical propositions. Futurist images of motion created a continuum of visual forms that also extended the visual language of movement to forms not typically associated with the human body, such as spiraling forms and cascading shapes. Associated with ongoing change, these forms were predisposed to showing the effects of mobility. Such visual techniques for presenting motion pointed to what was not fixed, to what overflowed the material limits of an object, making it difficult to discern precisely where the denotation of materiality ended and where the connotation of immaterial forces began.

This generalized visual structure of physical and metaphysical movement imagines the effects of forces rapidly emerging from, around, or through material forms. Inclusive of the element of time that is typically bracketed out of the semiotic frame of analysis, this sign of mobility acts unhinged, or it otherwise becomes predisposed to rendering the effects of change, though it remains materially fixed. The fixed sign of motion—or, in this case, the still

image—points to something beyond itself, something absent or extended, or it denotes forces bearing on it from without, similar to a symbolic representation of a vector that connotes a spatial expanse beyond itself and through which it moves. This expansive type of mobile sign contains movement within its formal properties, signaling the rupture of material boundaries and bringing a sense of precipitancy in the space of the visual. This type of sign is different from the types of semiotic mobility pioneered by other early twentieth-century artists associated with avant-garde practices, such as the physical rearrangement of elements in photomontage and the formal and conceptual displacements in the readymade. The visual structure of explosive force resembles another general form of semiotic mobility employed by the avant-garde: the diagram that indicates fixed or changeable relations among parts or objects.[1] However, while the diagram typically delineates legible relationships among parts (though not always coherently or cohesively), the energetic sign diagrams a kind of illegibility that governs or overtakes the relations among parts or objects. The energetic signifier intentionally defies clear semiotic delineation and extends formal meaning beyond the point of recognition. The visual sign associated with energetic discharge displays qualities that make it appear to fit within different categories of signs at the same time—diagrammatic, indexical, and symbolic. This type of mobility thus shows the tendency to resist semiotic anchorage, becoming conceptually variable, so there is no fixed standard of equivalency between signs and their meanings, and no systematic principle of exchange.[2] Eluding precise calculation, this formal and conceptual structure maps both literal and conceptual discharge—or surplus—that can also symbolize movements that are not yet, or not fully, actualized.[3] While this concept of energetic excess implies certain material limits—by connoting rapid dissolution or destruction, for example—it introduces the effects of variation, uncertainty, and accident into a representational system, thereby opening visual and conceptual spaces that provide a source for productive deviations.

The futurist concept of energetic mobility is exemplified by the spiral motif, a recurrent futurist form that covers a wide range of representational possibilities, including still life, visual abstraction, figural constructions, and even cosmic phenomena. During a period of intense experimentation around 1912–14, Balla and Boccioni were among the artists conceptualizing movement according to the structure of the spiral. Their interpretations of the spiral motif were initiated with drawings of physical objects in the manner of still life—Balla sketched a glass, while Boccioni composed several images of utilitarian objects on a table—and the conceptual significance of their renderings would be far-reaching in terms of the development of their respective visual languages. In Balla's sketch *Vortex + Spatial Forces of a Glass* (c. 1912; Fig. 166), a series of three spirals shows separate horizontal planes stacked up to form the virtual volume of a glass, widening at the top. These curvilinear coils are joined together by two straight diagonal lines that frame the left and right edges of the conical section. While connoting the basic geometric contours of an object, the formal elements indicate movement into the surrounding atmosphere: the spirals curve outwards beyond the interior of the object and the rectilinear lines extend past the lip of the glass. The sense of movement traced by spiraling and straight vectors comes not from the visual effects associated with kinetic energies escaping, but rather from the connotation of interrelation between the interior and the exterior of the object. Balla also uses techniques that denote shaded surfaces to create the effect of light passing in and around the glass, but the schematic quality of the image appears to suspend the object between naturalistic and abstract languages, as if to capture an indeterminate state between physical material and imaginary form.

Around the same time, Boccioni made a similar study of vessels on a table titled *Table + Bottle + House* (1912; Fig. 168). As with Balla's sketch, this drawing combines straight and curved lines to indicate edges and volumes, and this language of material surface is combined with the idea of imagined trajectories fusing the spaces inside and outside of the objects. With more technical precision than Balla's drawing, Boccioni's image translates bottle, glass, and

plate into interlocking parts of a visual puzzle that combines perspective, elevation, and overhead views into a complicated volumetric diagram. The resulting cutaway view of interior and exterior spaces also poses a relatively specific visual problem: how can static visual elements, such as lines and shading, be used to indicate the dynamic transition between vertical and horizontal axes. To set up this problem, the drawing creates the impression of strongly defined right angles with the houses and the window in the background and the table in the foreground. These lines at right angles create the effect of perpendicular planes that will provide the basic framework for the curvilinear passages. The looping diagonal lines of the objects create a spiraling structure threaded across flat vertical and horizontal axes.[4] The imaginary structure of spatial relation gives freedom to the eye to wander in and around the objects. Solving the problem of transition among strictly defined planes, the graceful curving diagonals absorb the demand for spatial calculation (indeed, measurements accompany some of the straight lines), while forming interwoven volumes that defy those visual qualities typically associated with material surfaces. This drawing was a study for a few different three-dimensional forms made in plaster that demonstrate a similar still-life arrangement.

In his sculpture *Force-Forms of a Bottle* (1913; Fig. 167), Boccioni reproduced the congested area of a tabletop occupied by a bottle, a glass, and a shallow bowl (appearing in place of a plate in the drawn version). Probably his first attempt at this composition in three dimensions, the freestanding form is constrained horizontally, and relatively ill-defined forms are clustered around the bottle that twists upward with a lack of certitude.[5] Some damage to this work is also visible in the photograph from 1913–14. In *Development of a Bottle in Space* (1913)—of which one of the two original plaster versions remains (Figs. 170 and 171), along with several bronze casts (Fig. 169)—horizontal elements extend outward to create a more substantial tiered base with right-angled corners and edges defining the full circumference of the work. This configuration of right angles framing the central masses reiterates the formal problem found in the study—to negotiate the relationship among perpendicular planes. The

vertical planes in this work are also more clearly defined than those in the earlier plaster: a smooth, relatively continuous plane wraps the lower part of the bottle, for instance, forming a cylindrical volume against which the curves play. Sweeping diagonals present intersecting and diverging paths of a lyrically interconnected lattice that confidently leads the eye from a smooth, flat horizontal plane through the overlapping planes of a wide, shallow bowl and through multiple ascending volumes of glass and bottle, and, finally, to the pinnacle of neck and opening with its doubly reinforced rim. In Boccioni's still life images, the motif of the spiral blossoms into multidimensional, serpentine displays of commingled volumes and recesses.

After these excursions into still life, Boccioni and Balla expanded their vocabulary of the versatile spiral structure—that is often referred to as a vortex when projected into three dimensions. Whether termed *spiral* or *vortex*, the same essential twisting shape for the early futurists expresses both material and immaterial forces, not simply inert physical surfaces, as poet and critic Ezra Pound characterized futurist works in 1914.[6] This vortical shape—simultaneously wrapping inward and extending outward—relies on a conceptual fusion of various microscopic and macroscopic frames of reference, among its layers of meaning. For example, Boccioni turned the spiraling motif into an abstract architecture for depicting human and animal figures, in his works that also feature the term in their titles—such as the sculpture *Spiral Expansion of Muscles in Movement* (1913; Fig. 93) and the painting *Spiral Construction* (1913–14).[7] In addition, though not identified by the titles, this spiraling visual structure informed many of his earlier works; for instance, in the foreground of *Simultaneous Visions* (1911; Fig. 136), a dish forms an elusive vortical projection, while, at the center of *The City Rises* (1910–11; Fig. 7), the dark fin-like horse collar creates a rotational force in the image. These shapes signal a type of threshold between the physical plane and nonphysical dimensions, as with the imaginary spatial relation of his still lifes or the inspirational quality of his painting of urban construction. In his book *Futurist Painting and Sculpture* (1914), Boccioni makes a general claim about the futurist movement that indicates a type of opening to a virtual

domain: “Only in the simplest and most spontaneously necessary manifestations of modern life, those most stripped of *sublime* and *culture*, we [futurists] can discover and follow the mysterious thread that leads to the source of future aesthetics.”[8] Tracing the winding formal and conceptual paths of this “mysterious thread,” the motif of the spiral follows an approach to movement that is both material and immaterial.

For his part, Balla developed the spiral in the direction of abstraction, composing vortical patterns in numerous works between 1913 and 1915, many of which carry the words *vortex* or *vortices* in their titles. At times, he would also correlate these shapes with sounds or other sensory stimuli emitted across a landscape, as in *Noise Forms of a Motorcycle* (1913–14; Fig. 172) and *Line of Velocity + Forms and Noises* (1913–14; Fig. 52). At other times, he employed the spiraling composition to construct an image of astronomical phenomena, as in *Mercury Passes in front of the Sun* (1914; Fig. 74). For both Balla and Boccioni, the vortex acted as a formal and conceptual trajectory that connected the interior of objects and bodies with expanded, even cosmic, milieux, and it opened the representations of material forms to the effects of a virtual dimension, in which forms and forces are not yet actualized or they are in the process of being preserved in memory.[9] Whether represented in two or three dimensions, the vortical arrangement imagines shapes that indicate the qualities of material or perceptual variation within a nonphysical dimension of reality, and the motif provides a tangible framework for conceptualizing intangible fluctuations related to objects, bodies, or events. As a signpost for things unknown, perhaps unknowable, the spiral signals a type of invisible determination, typically associated with the automatic forces of fate. These trajectories of vortical movement integrate various coextensive fields with a spectrum of possibilities, among which I will briefly outline economic, biological, and aesthetic connotations.

Historically, the spiral offered a powerful metaphor for large-scale structural changes to a society in the context of economic theory. For instance, Marx referred to a spiraling

structure to describe the voracious logic of capitalism: “Accumulation can be resolved into the production of capital on a progressively increasing scale. The cycle of simple reproduction alters its form and, to use [Simonde de] Sismondi’s expression, changes into a spiral.”[10] In this same text, Marx reiterated that accumulation is “the gradual increase of capital by reproduction as it passes from the circular to the spiral form.”[11] Accumulated capital, or surplus, not only reinforced the existing system of production, but it also permitted an ever-expanding process of assimilation into that system. Philosopher Brian Massumi recently revisited the concept of capitalist surplus, finding in it a logic that holds a particular quality of innovation: capital, for him, is “an abstract technology of excess” that shows the inventive capacity in reconstituting castoffs, or, as he puts it, in “extracting surplus-value from uselessness.”[12] So, while the expansive form of capital indicates macroscopic, historical developments for Marx and Simonde de Sismondi, this economic spiral, for Massumi, seeks out underutilized remnants (even at the microscopic level), seizing upon extraneous or damaged materials or incapacitated bodies in order to relocate them within the reach of capitalist production. In what Massumi calls “the vortex of the virtual,” the forces associated with capital travel virtual paths, expanding and burrowing through interstices and marking a transformative quality common to free action, creative turbulence, and even catastrophe.[13] Along with its actualized forms of commodities or exchanges, capital likewise involves virtual movements—such as fluctuations across the spectrum of currency valuations that have cumulative effects beyond the scope of physical transactions, such as inflation and deflation; credit and default; bankruptcy and reallocation. As with the futurist interpretation of the spiral motif, capital constitutes a medium for expressing virtuality—both as the freedom that sparks and seduces the imagination and as a potential source of violence that can distort and destroy. Marking similarly transformative trajectories, the spiral structure of capital stages an endlessly reformulated contest between imagination and materiality that transpires, at least in part, in the domain of the virtual. While it can be understood to signal the perception of

historical economic changes after the turn of the twentieth century, the futurist spiral would also serve as a visual analogy for biological phenomena.

In Boccioni's free-word poem "Small Dress Shoe + Urine" (1913), the spiral structure of its descriptive narration shifts from an experience on a London street into a biochemical phantasmagoria involving genetic material passed during the act of coitus, as if trying to explain an inscrutable, mysterious process: "internal life to pass by unknown chemical function ... bubbling invisible microbes."[14] Another version of this microscopic drama plays out in a poem by Paolo Buzzi from 1915, which literally traces a spiral shape on the page, while alluding, in the short text, to microbes throbbing across a stark physiological landscape likened to a battlefield.[15] In addition to its references to seeds, blood, and eggs, the structure of this text carries the connotation of invisible biochemical processes leading to unpredictable and violent outcomes: the unknown microscopic dimension serves as a metaphor for an equally inscrutable macroscopic dimension. This poetic image of the biological vortex, manifesting unseen conflicting forces, is compatible with Boccioni's notion of the "spiral architectural construction," in which the visible, physical manifestations of living forms constitute only half of an unfolding invisible spiral.[16] Alongside the mentioned artworks that have the term *spiral* in their titles, his works titled *Dynamism of a Human Body* (1913) each picture a figure animated by movement that is both material and immaterial, and these futurist images of biopotentiality compose diagrams of the corporeal imagination outrunning the forces of actuality—a figural mode of energetic expansion that aspires to reveal vitalistic, invisible vectors.

At once burrowing toward a microscopic level, unwinding toward a macroscopic perspective, and moving across a range of biological, economic and cosmic phenomena, the spiral creates a conceptual force field in early futurism, absorbing diverse thematic, formal, and philosophical concerns, as well as bringing together various interrelated visual strategies. In addition, this expansive structure provides a conceptualization of the key trajectories that

inform my research. One trajectory involves the fluctuation in futurist works between individual and collective perspectives, while another oscillates between the aesthetic strategies associated with human to mechanical processes during this period. For instance, I have investigated futurist crowd images that include diverse representations of collective agency and that present an overall sense of the vitality of a generalized mass subject through different visions of crowd movement. Turning from this visual context in which the early futurists depicted the crowd and its potentiality, I analyzed the place of technology and mechanization in the European avant-garde—both in terms of the content of artworks and in terms of the process by which they were produced. For instance, I investigated how the Bragaglias responded to issues of representing bodily motion by integrating expressive forms with the automatic processes of photography to produce a visual system containing different classes of individual and generalized behaviors. It also became apparent that—through personal and professional links, as well as thematic and technical interests—the futurist visual artists had been very aware of the disruptive cultural effects of photographic and film cameras (and their mechanical and chemical processes), which had, for them, complicated the basic conditions for artistic expression, particularly as revealed in images of bodily movement. Resisting his sense of technological encroachment into the visual arts, Boccioni largely focused his efforts on depicting the psychic and physical processes of the human and animal body, using formal strategies (in traditional, nonmechanical mediums) that connoted the interrelation of material forms and immaterial forces. Across painting, sculpture, photography, and drawing, the futurists invented modes of figuration to express a sense of movement that was not only based on physical and psychic release, but that also constituted a social and historical force. Symbolizing their overarching shape of their visual and theoretical efforts between 1910 and 1915, the conceptual structure of the spiral has served as a convenient analogy for my own wide-ranging, art historical exploration of the diverse visual and textual forms of energetic

excess in the works of those artists associated with avant-garde artists in Italy, as well as in other countries.

Expansive Scope

In a letter to the historian and critic Roberto Longhi in early May 1914, Boccioni struck a chord of overflowing ambition and spiritual renewal. At first, he confessed to feeling an overriding sense of struggle, in spite of having a great amount of confidence: “I live in an almost absolute artistic certainty, but in a painful moral discouragement.”[17] This conflicted attitude is apparent a few sentences later when he offered his perspective on his own circumstances within the historical situation: “Life is a wonderful thing and when one loves it as I love it, one suffers to hear it become every day darker, dirtier, heavier, more useless.” In the futurist’s mind, the world was linked, however indirectly, to his artworks, and this sort of hubris was underscored when he went on in this same letter to claim he would not be happy with modest achievements, because he was “fighting for something much larger.” Perhaps better than any of his more dramatic assertions in manifestos and other published articles, this personal statement of belief confirms the expanded scope of his artistic efforts. Despite a few years of intense professional activity, including the production of a large number of works in a variety of mediums, many exhibitions in Italy and abroad, a huge amount of publicity, and securing various platforms to present his ideas, the artist was focused not on his successes, but on the neglect and derision his works received from critics, adding that it was only Longhi who really appreciated them. Having published a book on the Boccioni’s sculptures a few months earlier, Longhi was the one person to understand “the dynamic aspiration,” as Boccioni phrased it.[18] Identifying a general case of aspiration (not just his own), his phrase signals a telling shift from specific to general forms that would exemplify his grand vision of society. After oscillating between certainty and discouragement, discontent and aspiration, the artist offered an unequivocal assessment that communicates a crucial conceit of the early

phase of futurism: “Few feel, like us, that in dynamism is the solution of all modern art.” This remark captures an important quality of the expansive scope of early futurist visual art, which sought to present a sense of metaphysical movement beyond the particulars of material or situated motion and which had sought to discover a general principle capable of transforming the world—a unified “solution,” as he put it to Longhi. Boccioni’s statement to Longhi is one example of the way his formal and conceptual approach developed into a project of seemingly unlimited scope. The shape of the spiral captures this escalating quality of futurist ambition, which could also express a destructive potential.

By pursuing the principles and strategies that were aligned with perceptual and conceptual movement, the early futurists also made numerous appeals to violence in the name of artistic expression. Although they conceptualized cultural renewal in terms of unconventional techniques, methods, concepts, or processes, another aspect of the futurists’ approach was to espouse and engage in types of overtly aggressive action. In May 1909, author and painter Ardengo Soffici referred to futurist painting as “a terror of violent innovations and the disorder that accompanies them.”[19] Their aesthetic strategies included violent language and images of destructive forces, as has been discussed over the course of my research, while many of the futurists would join other interventionists at the outset of World War I to rally against a long-standing Triple Alliance between Austria-Hungary, Germany, and Italy.[20] Likewise, many members of the movement fought and died performing military service after Italy entered that war in May 1915. Disruptive activities and actual situations involving physical violence were, for many of the early futurists, intertwined with their visual program—indeed, fitting into the concept of *art-action*—yet these phenomena are not all equivalent, and they occupy different places within a wide spectrum of violence.[21] However, while political or military actions often demand fairly specific, highly situated responses, the creation of artworks at this time typically involved a range of intellectual and emotional responses, including forms with aggressive content, communicated through visual art, performance, or

texts. Confusion between these different types of violent responses perhaps stems, in part, from the futurists' own willingness to engage in various types of action—performative and demonstrative—to supplement of their visual program. Also, futurist texts contained a large amount of aggressive rhetoric. Another context for understanding the linkage between aesthetic and political violence is psychology from around that same time, in which a generalized principle of aggression was outlined. The Freudian concept of the aggressive instincts describes a source of violence in each person that can be expressed, repressed, or sublimated by the individual ego.[22] If aggression was demonstrated in a variety of ways by the early futurists, it was hardly unique to them, and the concept of violence at the level of psychic agency may well work as a description for authoritarianism—which, it has been argued, reproduces the psychic forms of aggression and repression at the institutional level and across a society.[23]

While my research covers diverse examples of aggressive language and imagery that appears to associate the futurists with the forms that became widespread after the rise of fascism, there are reasons why this historical connection is not always accurate, despite the assertion in psychoanalytical thought of the generalized aggressive instinct. Historically, the rise of fascism came nine years after the start of World War I, and that turbulent nine-year period included events that genuinely influenced the volatile political atmosphere—including the war itself, its outcome, and the Treaty of Versailles; the Cult of the Fallen Soldier; and the occupation of Fiume in 1919 by Gabriele D'Annunzio and his cohorts. Conceptually, the visual arts of early futurism had a different approach to modernization than that of fascism, as I have explored in chapter 6. In contrast to futurist modes of *art-action* and its general rebelliousness, the Fascist Party built a kind of social and political instrument that attempted to eliminate differences within the efficient functioning of the society. Articulating this basic authoritarian schema, Mussolini decreed in January, 1927: "All citizens, and especially those who have the great privilege and honor to be Fascist party members, owe respect and obedience to the

highest political representative of the Fascist regime."[24] A slogan coined by Mussolini in an October 1925 speech carries a similar message of highly determined social and political behaviors: "Everything within the State, nothing outside the State, nothing against the State." The Italian State pursued a narrow agenda of increased economic production that exhibited quite slow development in areas measuring social progress, while pursuing a program of strong cultural repression.[25] For the early phase of futurism, the appeal to violence and renewal was rooted in a program of creative experimentation that remains historically and conceptually distinguishable from the fascist program. The early futurist "dynamic aspiration" for modern art may well have created a sense of cultural disruption, even carrying over into the artists' complicated investments in politics and the military, however, the violence expressed by their visual program is not analogous to the institutionalized violence of the later authoritarian regime.

Futurist images of energetic excess do not fit a lineage of the machine myth—from Marx to Mussolini—that employs a language and structure of technological rationalization to describe large-scale historical processes. Similarly, the machine analogy specifies an overly narrow range of early futurist imagery, constituting a small part of its overall formal and conceptual power. While explosive forces may be mechanically directed (as with a combustion engine), the concept of the expansive structure does not entail fully instrumentalized ends and the systematic elimination of excesses. In the context of futurist visual art, visual strategies for expressing physical and metaphysical movement negotiated various levels of indeterminacy amid of psychic, social, and historical development during the prewar period. The fact that many of these innovative visual effects were absorbed by nationalism, and later fascist politics, does not invalidate their responses to the changing conditions of a modern society. As with the motif of the spiral, the adaptable visual structure of the energetic excess provides a more accurate metaphor than the machine for understanding the futurist ambition to embrace the immaterial forces of a modernizing society.

The difficulty sometimes encountered when trying to make a distinction between bodily expressivity and physical destruction in futurist practices can be illustrated by an image of violence that appears in Paolo Buzzi's brief theatrical sketch "The Futurist Prize" (c. 1914).[26] The scene opens with a jury convening to decide who will win the prize for being the most futurist. One member nominates French aviator Louis Blériot, one suggests the poet who has invented humans with wings (an obvious reference to Marinetti), while another proposes the sculptor who makes spirals in space (clearly meaning Boccioni). As they confer, they are interrupted by the arrival of a late entrant: a man who has been hideously disfigured by an explosion in his chemistry laboratory. Reassembled with found materials, such as rubber, glass, rope, and cork, the deformed man is immediately declared the winner, just before the curtain falls. In Buzzi's comedic piece, the violent effects of modernization are embraced to the point of absurdity, and this energetic motif of chemical reaction stands metaphorically for a process of self-violence through mastery and refashioning, the internal and external violence done to the subject transformed by its own aspiration. Exaggerating the effects of radical change to the point of mutilation, the sketch underscores a premise of psychosocial and historical transformation, through which a modernized subject is permanently altered, unrecognizable. The energetic structure of futurist imagery aimed to address some of the effects of subjective transformation in and through modern art, and the generalized explosive structure provides one type of template for charting the effects of subjective anticipation and adaptability during the early twentieth century.

Notes

[1] David Joselit, “Dada’s Diagrams,” *The Dada Seminars*, 2005, 221–39.

[2] The expansive quality of the visual sign operates tangentially to a principle of general equivalency, identified by political philosopher Jean-Joseph Goux, which reveals symbolic economies of exchange. See Goux, *Symbolic Economies: After Marx and Freud*, 1990. What Goux terms “the general equivalent” emerges from a mode of analysis in which “certain categories of semiotics, linguistics, and structural psychoanalysis overlapped those already in place in the economic domain” (ibid., 3). Since “the semiotic, economic, and psychoanalytical horizons all emphasized the question of substitution and its correlative, value” (ibid., 2), the principle of the general equivalent presents a “mode of symbolizing ... the structural homology among the various registers of exchange” (ibid., 4).

[3] Goux noted (ibid., 131): “What is banished, completely excluded from capitalist sociality is the surplus of meaning arising from an unconscious identification with something else.”

[4] It is notable that Piet Mondrian would later exclude diagonal lines from his compositions, because of their dynamic visual effect—or, one might say, their movement. See Mark Cheetham, *The Rhetoric of Purity*, 1991, 121.

[5] The suggestion that it is first of the bottle sculptures contradicts a version of the chronology offered by Ester Coen in *Umberto Boccioni*, 1988, 215.

[6] Ezra Pound, who in late 1913 coined the word *vorticism* for the group of vanguard artists working in England, held the view that futurist visual art that lacked conceptual depth: “Futurism is descended from impressionism. It is a spreading, or surface art, as opposed to vorticism, which is intensive” (“Vorticism,” *Fortnightly Review*, no. 96, September 1, 1914, 461–71). Pound stated elsewhere: “The principles of Vorticism and Futurism ... are in direct or almost direct opposition” (“Synchromatism,” *The New Age,* February 4, 1915, 389–90). Of course, Pound developed his own version of the concept of the vortex in his poetry and prose.

For instance, in his poem “Vortex” (1914), Pound noted that, “The vortex is the point of maximum energy,” and “All the past is vital, all the past that is capable of living into the future, is pregnant in the vortex, NOW” (in Lewis, ed., *Blast* 1, June 1914, 153).

[7] References to the spiral in Boccioni’s writings, mentioned in chapter 6, mainly date to the period 1913–14, and they generally refer to his conception of the human figure. Examples are found in the following texts: his preface to the exhibition catalog *Première Exposition de Sculpture Futuriste du Peintre et Sculpteur Futuriste Boccioni* [*First Exhibition of Futurist Sculpture of Futurist Painter and Sculptor Boccioni*], June 1913; “Plastic Dynamism,” December 1913; and “Futurist Architecture Manifesto,” 1913–14.

[8] Boccioni, *Pitture e scultura futuriste*, 2006, 23 (original emphasis).

[9] The idea that movement is actualized in matter and preserved in memory comes from Henri Bergson’s vitalist philosophy, particularly as he outlines in his text *Matter and Memory*, 1896.

[10] Karl Marx, *Capital*, Vol. 1, 1976, 727. His reference would likely have been to Simonde de Sismondi’s *Nouveaux d’economie politique*, Vol. 1, 1819, 113 and 119: “The wealth national in its progress, follows a circular motion ... The circle can expand and become a spiral” [“La richesse nationale dans sa progression, suit un mouvement circulaire ... le *cercle* peut s’etendre et devenir une spirale”].

[11] Karl Marx, *Capital*, Vol. 1, 1976, 780.

[12] Brian Massumi, *Parables of the Virtual*, 2002, 219.

[13] Ibid., 98.

[14] Umberto Boccioni, “Scarpetta da società + orina” [“Small Dress Shoe + Urine”]. 1913.

[15] Paolo Buzzi, *L’ellisse e la spirale: Film + parole in libertà*, 1915, 345. This poem appears on the last page of the book, and, while the line tracing the spiral shape is in black, the words are printed in red unwinding from the center: “And if rising into a spiral somewhere clouds are red rreeddd rrreeeedddeestt true sacks of eggs full of blood that clashing eternally in throbs of the

void rain seeds of eternal war everywhere are microbes and microbes to fornicate." ["E se a spirale móntano nuvole da qualche parte sono rosse roooosseee roooosssiissimeee veri sacchi d'uova piene di sangue che cozzando eterne nei palpiti del vuoto piovono i germi della guerra eterna dovunque sono microbi e microbi a fornicare."]

[16] Umberto Boccioni, preface to catalog *Première Exposition de Sculpture Futuriste*, 1913 (my translation).

[17] Umberto Boccioni, *Lettere futuriste*, ed. Federica Rovati, 2009, 121–22 and 302. This undated letter was sent between May 5 and May 15, 1914, according to Rovati.

[18] Ibid. Roberto Longhi, *La scultura futurista di Boccioni* (Florence: Libreria della Voce, 1914); reprinted in Longhi, *Scritti giovanili*, 1961, 133–62.

[19] Ardengo Soffici, "L'impressionismo e la pittura italiana. Conclusione," *La Voce* (May 6, 1909). ["Il genio italiano ha come un terrore delle innovazioni violente e del disordine che le accompagna"]

[20] Boccioni was imprisoned in September 1914, along with several other futurists, for participating in an anti-Austria protest in Milan.

[21] In chapter 1, I discuss Marinetti's term *art-action* to characterize futurism, a term that originally appeared in Marinetti's article in French, titled "Le futurisme" (1911).

[22] Freud's idea of the aggressive instinct, closely related to what he calls the death instincts, is one class of psychic processes involved with manifestations of libidinal forces; see Sigmund Freud, *Beyond the Pleasure Principle*, 1989, chapters 5–7. Later, he refers to the aggressive instinct and the death instinct within the broad extension of his theory in *Civilization and Its Discontents*, 1930. For example, in chapter 6 of that text he writes: "This aggressive instinct is the derivative and main representative of the death instinct which we have found alongside of Eros and which shares world dominion with it." Freud elsewhere refers to aggressiveness in the context of both sadism and masochism; see Freud, "The Economic Problem of

Masochism," 1924; republished in Freud, *Standard Edition of the Complete Psychological Works of Sigmund Freud*. Vol. 19, 1961.

[23] Theodor Adorno is one of the writers most committed to analyzing the instinctually aggressive structure of fascism, as in his 1951 text "Freudian Theory and the Pattern of Fascist Propaganda"; reprinted in *The Culture Industry: Selected Essays on Mass Culture*, 2001. Susan Buck-Morss has proposed pushing this psychoanalytical contextualization of aggressiveness further by interpreting the mirror stage and the formation of the ego as a theory of fascism. Susan Buck-Morss, "Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered," *October* 62 (Autumn 1992), 37. Also she writes, "Fascism is that [Benjaminian] afterimage. In its reflecting mirror we recognize ourselves" (ibid., 40).

[24] Mussolini decree, January 5, 1927; cited in Martin Clark, *Modern Italy*, 235.

[25] Ibid., 232. Clark states, "Mussolini's second promise on 3 January [1925] had been to strengthen the traditional machinery of High Politics." Productive capacity of the Italian engineering sector increased by 50 percent during the 1930s, but the general standard of living increased very slowly, and certain measures of social progress indicated only slow changes. See Vera Zamagni, *The Economic History of Italy*, 1993, 275, 291, 303, and 317.

[26] Michael Kirby and Victoria Nes Kirby, *Futurist Performance*, 1971, 242–43.

Fig. 1. Umberto Boccioni, *Muscles in Speed*, 1913.

Fig. 2. Plinio Nomellini, *The Strike*, 1889.

Fig. 3. Emilio Longoni, *The Orator of the Strike*, 1890–91.

Fig. 4. James Ensor, *Christ's Entry into Brussels*, 1888–89.

Fig. 5. Giuseppe Pellizza da Volpedo, *The Fourth Estate*, 1898–1901.

Fig. 6. Giuseppe Pellizza da Volpedo, *Human Torrent*, 1895–96.

Fig. 7. Umberto Boccioni, *The City Rises*, 1910–11.

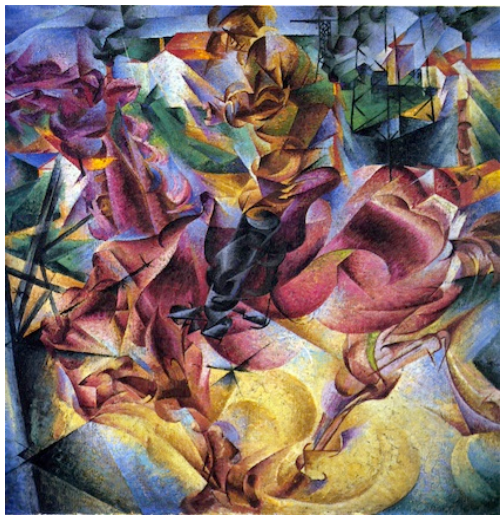

Fig. 8. Umberto Boccioni, *Elasticity*, 1912.

Fig. 9. Umberto Boccioni, *The Street Pavers*, c. 1910–14.

Fig. 10. William Roberts, *The Wiring Party*, 1918.

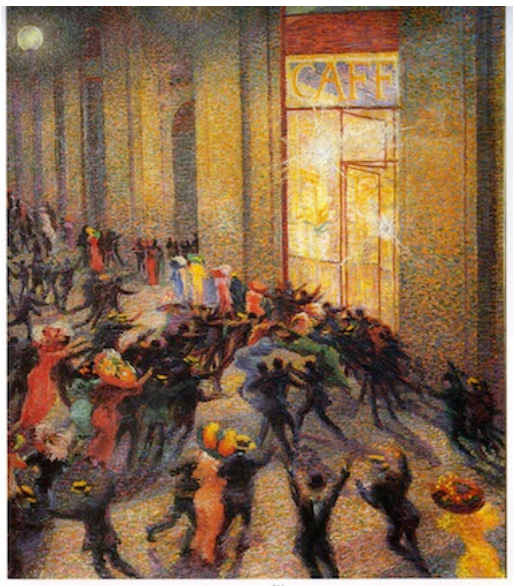

Fig. 11. Umberto Boccioni, *Riot in the Galleria*, 1910.

Fig. 12. Luigi Russolo, *The Revolt*, 1911.

Fig. 13. Carlo Carrà, *The Funeral of Anarchist Galli*, 1911.

Fig. 14. Gino Severini, *Dance at the Pan-Pan*, 1911.

Fig. 15. Gino Severini, *Armored Train in Action*, 1915.

Fig. 16. Aroldo Bonzagni, *Worldliness, or At the Exit of the Ball*, 1910.

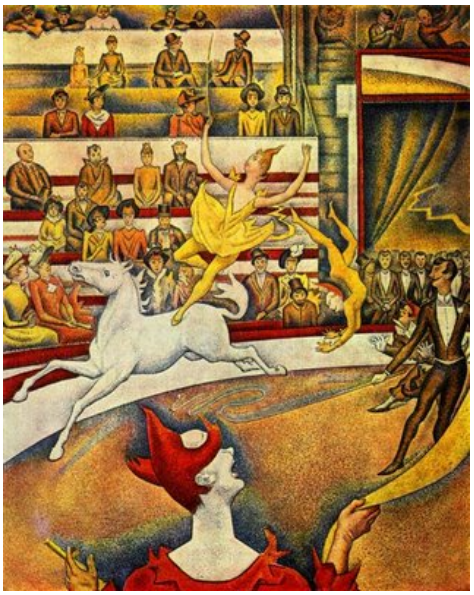

Fig. 17. Georges Seurat, *The Circus*, 1890–91.

Fig. 18. Giacomo Balla, *Speed and Auto in the Street*, 1913.

Fig. 19. Giacomo Balla, studies for futurist clothing, 1914.

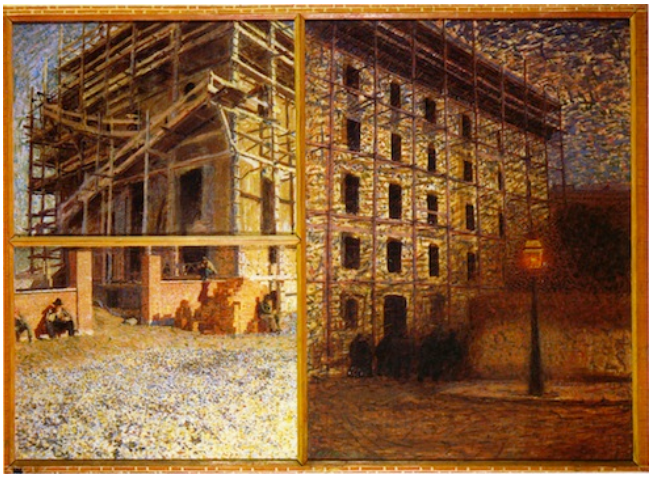

Fig. 20. Giacomo Balla, *The Worker's Day*, 1904.

Fig. 21. Giacomo Balla, lamp design, 1914.

Fig. 22. Carlo Carrà, *Free-Word Painting—Patriotic Festival*, 1914.

Fig. 23. Giacomo Balla, *Parade + Crowd*, 1915.

Fig. 24. Giacomo Balla, *Shout "Viva l'Italia,"* 1915.

Fig. 25. Giacomo Balla, *Patriotic Song*, 1915.

Fig. 26. Giacomo Balla, *Demonstration at the Piazza del Quirinale*, 1915.

Fig. 27. Giacomo Balla, *Flags on the Altar of the Country*, 1915.

Fig. 28. Wyndham Lewis, *The Crowd*, 1915.

Fig. 29. Giacomo Balla, *Abstract Velocity*, 1913.

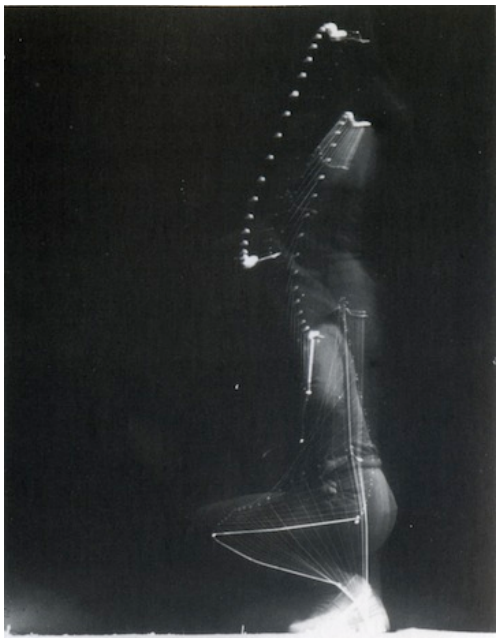

Fig. 30. Étienne-Jules Marey, *Jump in Place*, 1884.

Fig. 31. Étienne-Jules Marey, *Demenÿ Dressed in Black*, 1884.

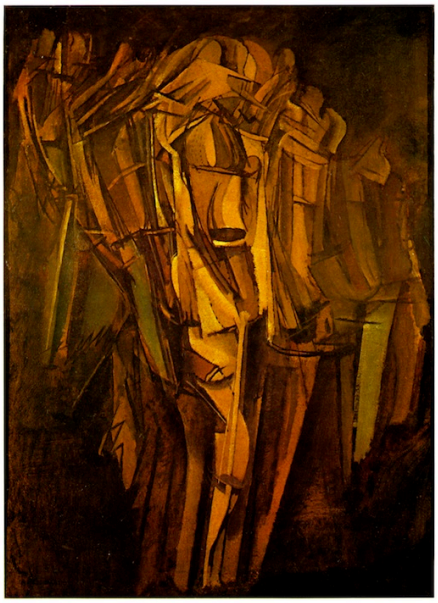

Fig. 32. Marcel Duchamp *Sad Young Man on a Train*, 1911.

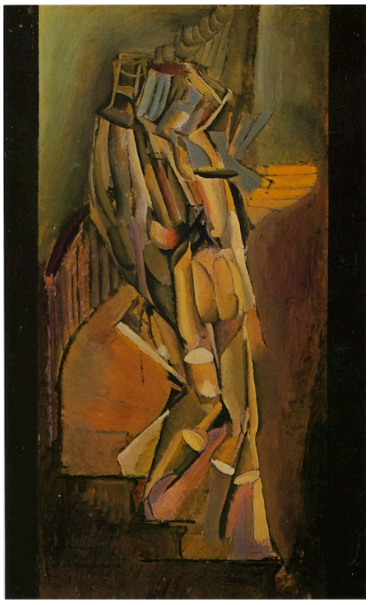

Fig. 33. Marcel Duchamp, *Nude Descending a Staircase, No. 1*, 1911.

Fig. 34. Marcel Duchamp, *Dulcinea*, 1911.

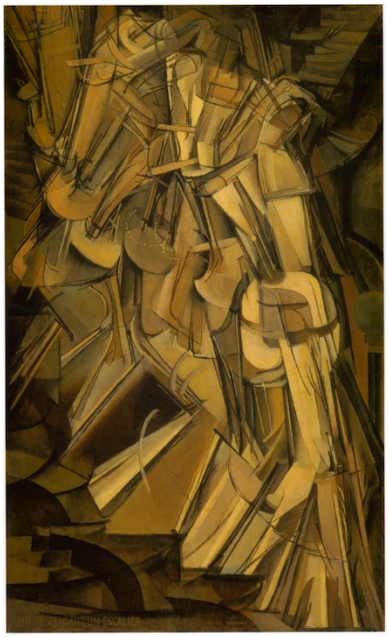

Fig. 35. Marcel Duchamp *Nude Descending a Staircase No. 2*, 1912.

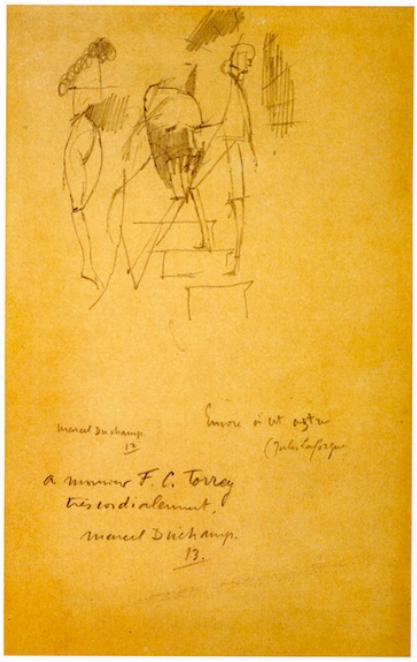

Fig. 36. Marcel Duchamp *Encore à cet astre* (*Once More to this Star*), 1911.

Fig. 37. Étienne-Jules Marey, *Demenÿ in Electrical Harness*, 1888.

Fig. 38. Giacomo Balla, *Dynamism of a Dog on a Leash*, 1912.

Fig. 39. Giacomo Balla, *Dynamic Expansion and Velocity*, 1913.

Fig. 40. Anton Giulio and Arturo Bragaglia, *Greeting*, 1911.

Fig. 41. Anton Giulio and Arturo Bragaglia, *The Bow*, 1911.

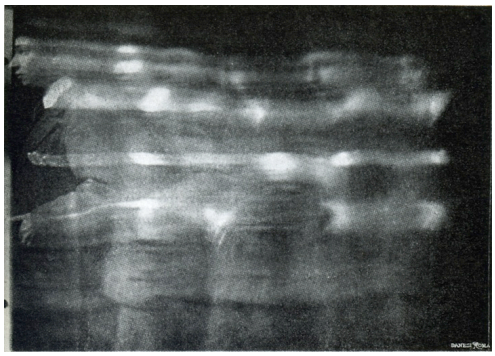

Fig. 42. Anton Giulio and Arturo Bragaglia, *The Walking Man* 1911.

Fig. 43. Anton Giulio and Arturo Bragaglia, *Making a Turn*, 1912.

Fig. 44. Anton Giulio and Arturo Bragaglia, *Changing Position*, 1911.

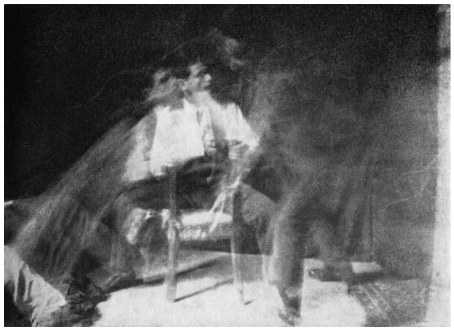

Fig. 45. Anton Giulio and Arturo Bragaglia, *The Slap*, 1912.

Fig. 46. Anton Giulio and Arturo Bragaglia, *Searching*, 1912.

Fig. 47. Pablo Picasso, *Girl with a Mandolin (Fanny Tellier)*, 1910.

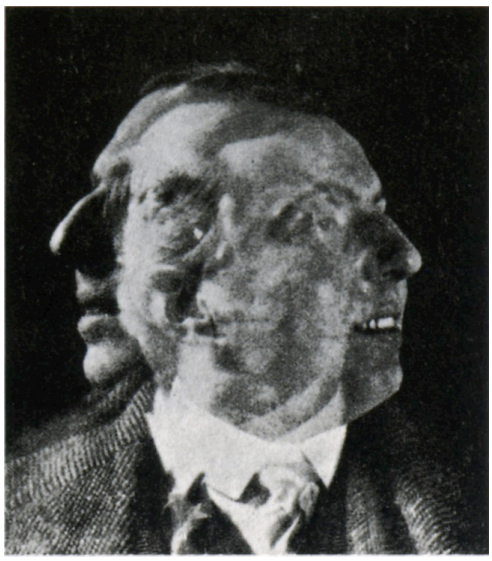

Fig. 48. Anton Giulio and Arturo Bragaglia, *Polyphysiognomic Portrait*, 1913.

Fig. 49. Anton Giulio and Arturo Bragaglia, *Figure under the Stairs*, 1911.

Fig. 50. Anton Giulio and Arturo Bragaglia, *A Gesture of the Head*, 1913.

Fig. 51. Anton Giulio and Arturo Bragaglia, *Polyphysiognomic Portrait of Boccioni*, 1913.

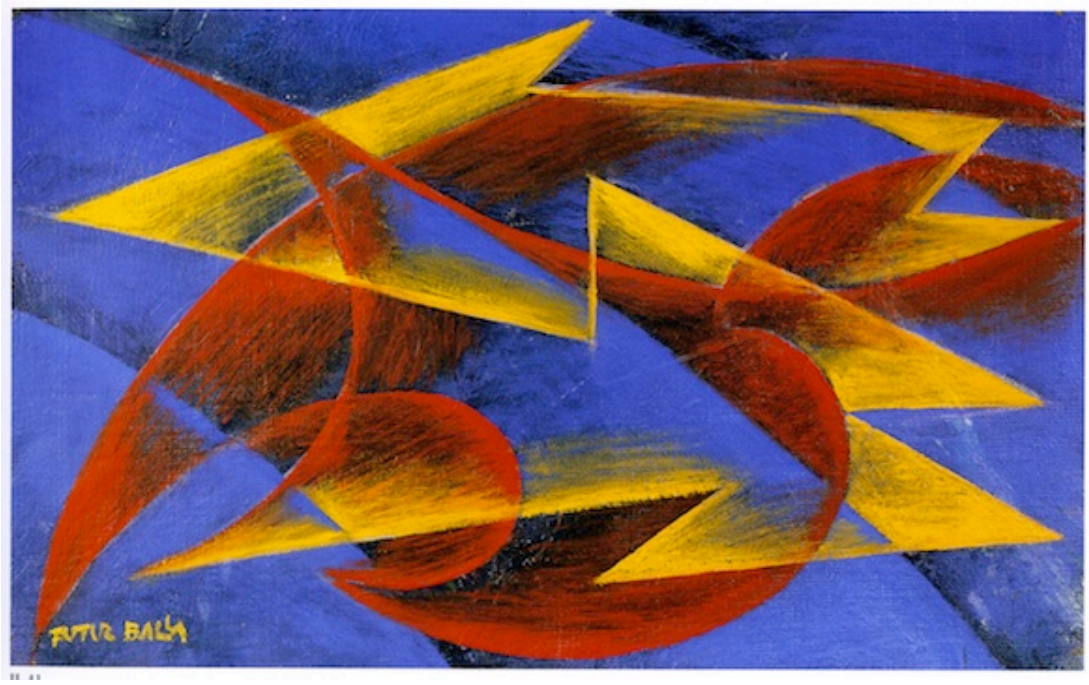

Fig. 52. Giacomo Balla, *Line of Velocity + Forms and Noises*, 1913–14.

Fig. 53. Giacomo Balla, *Abstract Velocity*, 1914.

Fig. 54. Giacomo Balla, *Everything Moves*, 1913–14.

Fig. 55. Anton Giulio and Arturo Bragaglia, *The Typist*, 1911.

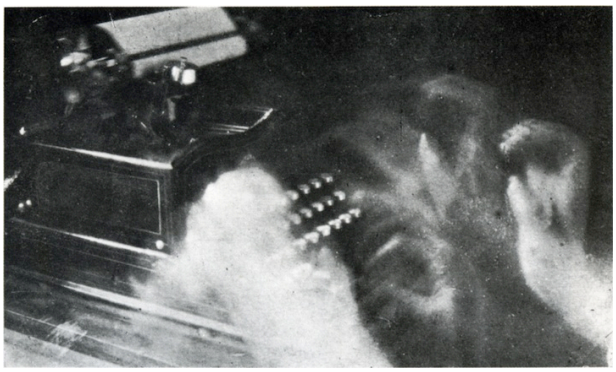

Fig. 56. Anton Giulio and Arturo Bragaglia, *The Typist*, 1911; version without the brand name printed on the side of the machine.

Fig. 57. Anton Giulio and Arturo Bragaglia, *The Two Masterful Notes*, 1911.

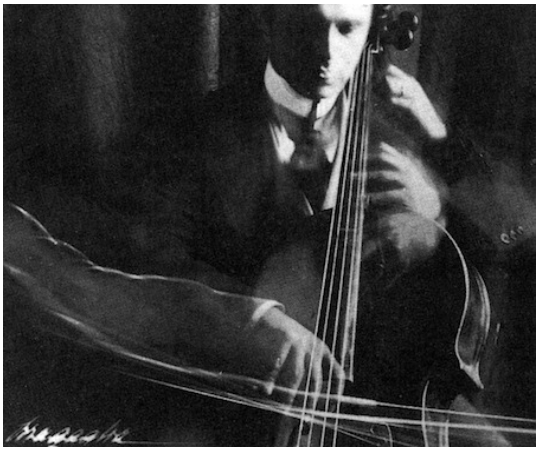

Fig. 58. Anton Giulio and Arturo Bragaglia, *The Cellist*, 1913.

Fig. 59. Giacomo Balla, *The Hands of the Violinist*, 1912.

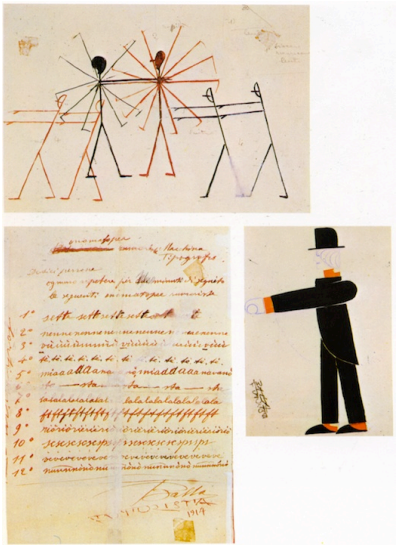

Fig. 60. Giacomo Balla, *Printing Press*, 1914.

Fig. 61. Wyndham Lewis, *The Vorticist*, 1912.

Fig. 62. Wyndham Lewis, *Two Mechanics*, c. 1912.

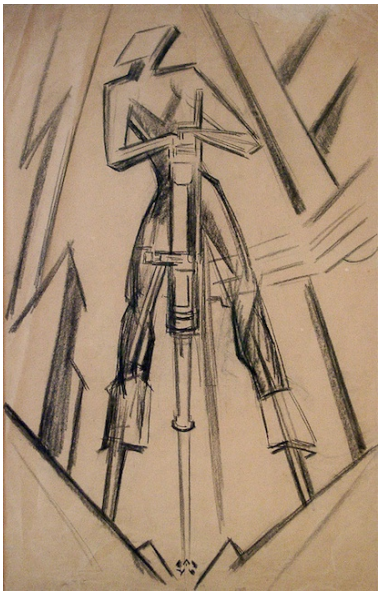

Fig. 63. Jacob Epstein, *Study for The Rock Drill,* c. 1913.

Fig. 64. Jacob Epstein, *The Rock Drill*, c. 1913–15.

Fig. 65. Jacob Epstein, *Torso in Metal from The Rock Drill,* 1913–14.

Fig. 66. Jacob Epstein, *Venus, second version*, c. 1914–16.

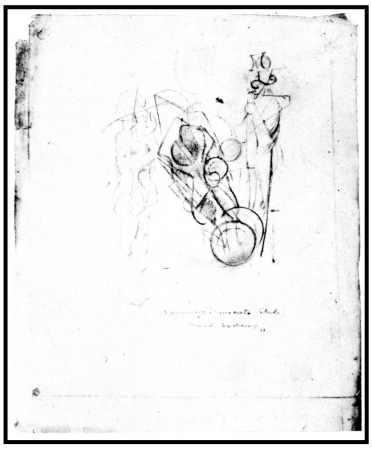

Fig. 67. Marcel Duchamp, *Two Personages and an Auto*, 1912.

Fig. 68. Marcel Duchamp, *King and Queen Traversed by Swift Nudes*, 1912.

Fig. 69. Marcel Duchamp, *Bride*, 1912.

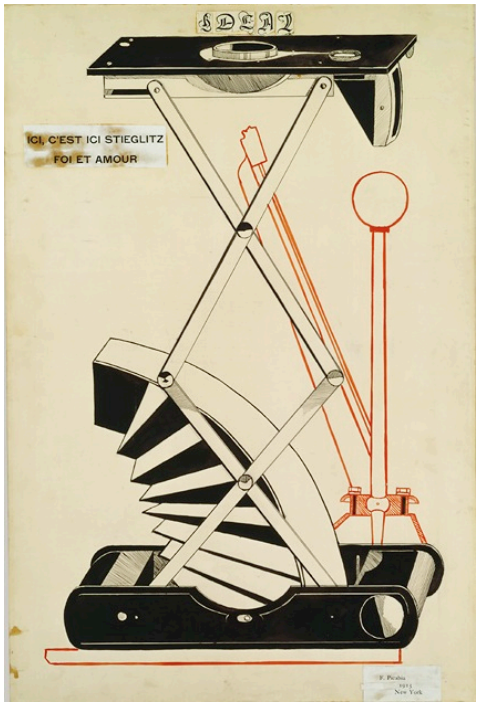

Fig. 70. Francis Picabia, *Here is Stieglitz Here*, 1915.

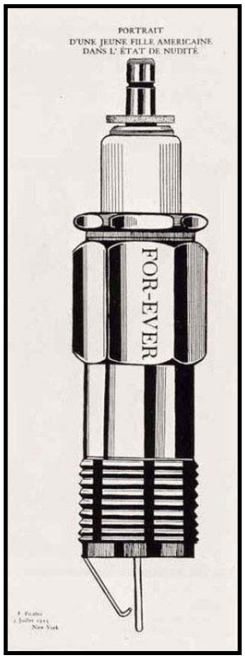

Fig. 71. Francis Picabia, *Portrait of a Young American Girl in a State of Nudity*, 1915.

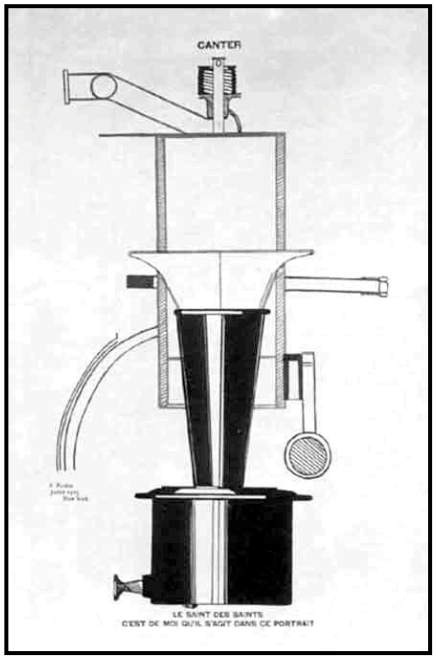

Fig. 72. Francis Picabia, *The Saint of Saints*, 1915.

Fig. 73. Postcard image of Teatro Costanzi, Rome, published by Cecami, 1935.

Fig. 74. Giacomo Balla, *Mercury Passes in front of the Sun*, 1914.

Fig. 75. Still from *Quo Vadis?*, dir. Enrico Guazzoni, 1913.

Fig. 76. Still from *Quo Vadis?*, dir. Enrico Guazzoni, 1913.

Fig. 77. Umberto Boccioni, *States of Mind: The Farewells*, 1911.

Fig. 78. Still from *Quo Vadis?*, dir. Enrico Guazzoni, 1913.

Fig. 79. Still from *Quo Vadis?*, dir. Enrico Guazzoni, 1913.

Fig. 80. Umberto Boccioni, *Dynamism of a Human Body*, 1913; Catalogue Raisonné no. 867.

Fig. 81. Umberto Boccioni, *Dynamism of a Human Body*, 1913; C.R. no. 882.

Fig. 82. Film still from *The Last Days of Pompeii*, dirs. Mario Caserini and Eleuterio Rodolfi, 1913; showing the moment High Priest Arbace is identified by a man in the crowd.

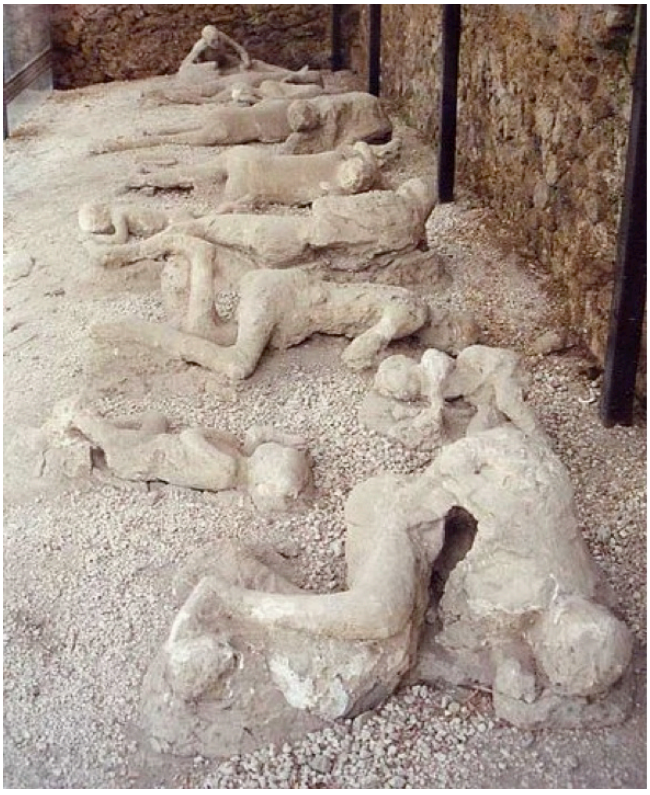

Fig. 83. Plaster casts from archaeological remains, Pompeii. Photo by Lancevortex.

Fig. 84. Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, bronze (cast in 1949).

Fig. 85. Andrea del Verrocchio (with Alessandro Leopardi), Monument to Bartolomeo Colleoni, Venice, c. 1483–1488; cast posthumously 1490–92.

Fig. 86. Detail of Umberto Boccioni's manuscript of poem "Small Dress Shoe + Urine," 1913.

Fig. 87. Umberto Boccioni, *Muscular Dynamism*, 1913; C.R. no. 860.

Fig. 88. Umberto Boccioni, *Dynamism of a Human Body*, 1913; C.R. no. 871.

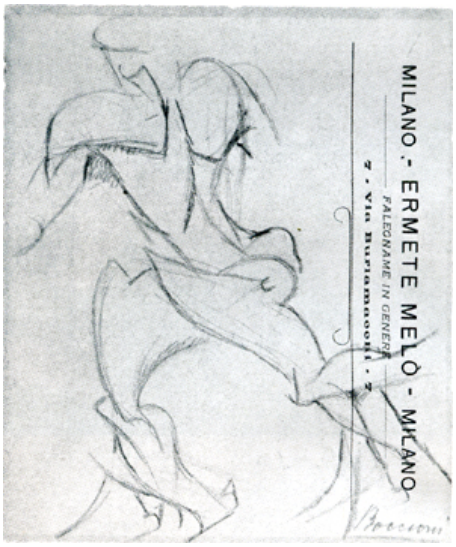

Fig. 89. Umberto Boccioni, *Muscular Dynamism*, 1913; C.R. no. 858.

Fig. 90. Umberto Boccioni, *Study for Dynamism of a Human Body*, 1913; C.R. no. 877.

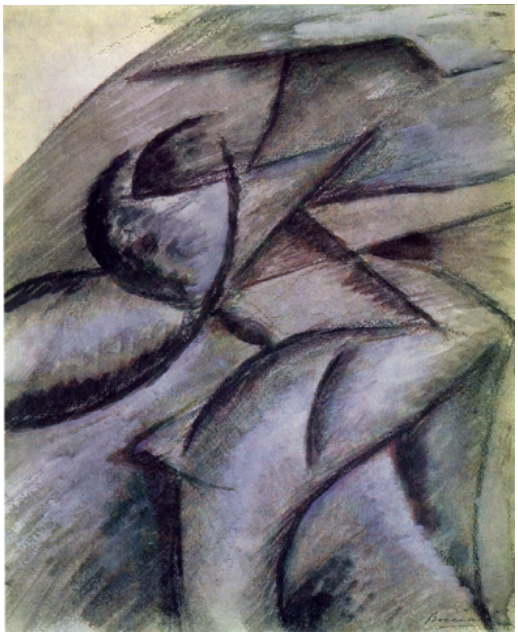

Fig. 91. Umberto Boccioni, *Dynamism of a Human Body*, 1913; C.R. no. 864

Fig. 92. Umberto Boccioni, *Synthesis of Human Dynamism*, 1913, plaster (destroyed).

Fig. 93. Umberto Boccioni, *Spiral Expansion of Muscles in Motion*, 1913, plaster (destroyed).

Fig. 94. Umberto Boccioni, *Muscles in Speed*, 1913, plaster (destroyed).

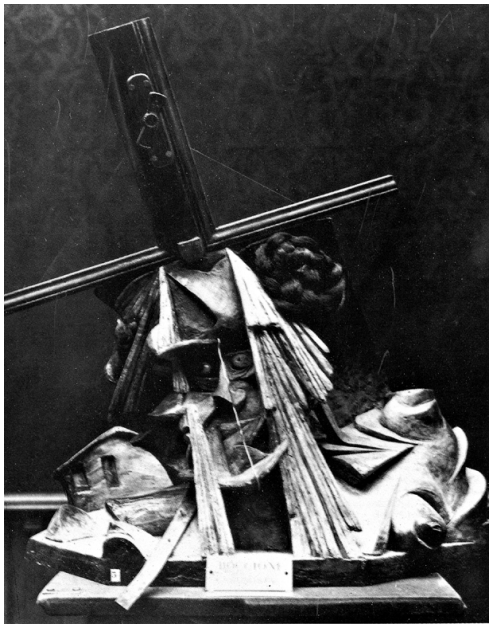

Fig. 95. Umberto Boccioni, *Fusion of a Head and a Window*, 1912–13, plaster (destroyed).

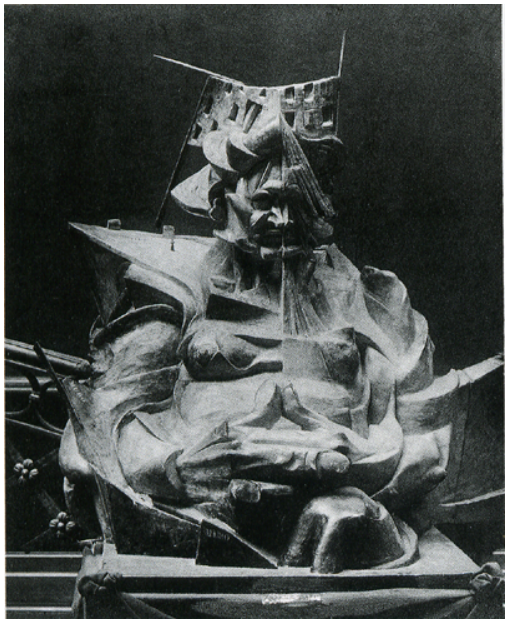

Fig. 96. Umberto Boccioni, *Head + House + Light*, 1912–13, plaster (destroyed).

Fig. 97. *Nike of Samathrace*, 250–180 BC.

Fig. 98. Detail of Auguste Rodin, *L'Homme qui marche*, 1877.

Fig. 99. Eugène Carrière, *Woman Seated*, 1901.

Fig. 100. Medardo Rosso, *Ecco puer*, 1906.

Fig. 101. Giorgio De Chirico, *Andromache*, 1916.

Fig. 102. Umberto Boccioni, *Study for Dynamism of a Human Body*, 1913*;* C.R. no. 878.

Fig. 103. Umberto Boccioni, *Unique Line of Continuity in Space*, 1912–13.

Fig. 104. Umberto Boccioni, *Figure in Movement*, 1913.

Fig. 105. Boris Kustodlev, *The Bolshevik*, 1920.

Fig. 106. Umberto Boccioni, *Anti-Graceful*, 1912–13.

Fig. 107. Aroldo Bonzagni, *The Dregs of Society*, 1917–18.

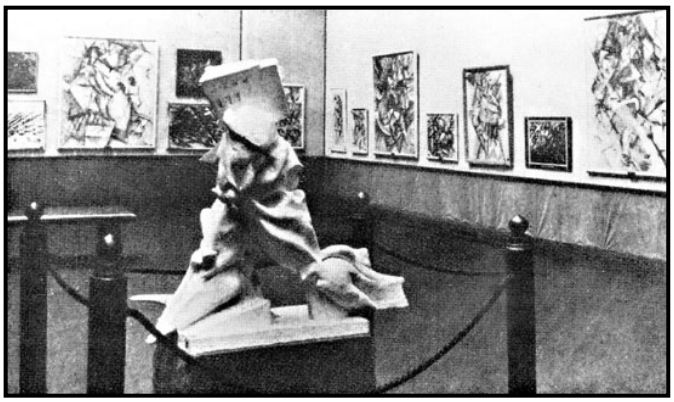

Fig. 108. Italian futurist installation at the Pan-American Exposition in San Francisco, 1915, with Umberto Boccioni, *Muscles in Speed* in foreground.

Fig. 109. Detail of Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 110. Detail of Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 111. Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 112. Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 113. Umberto Boccioni, *Dynamism of a Horse + Houses*, 1914–15.

Fig. 114. Mario Castagneri, *Depero in New York*, 1931.

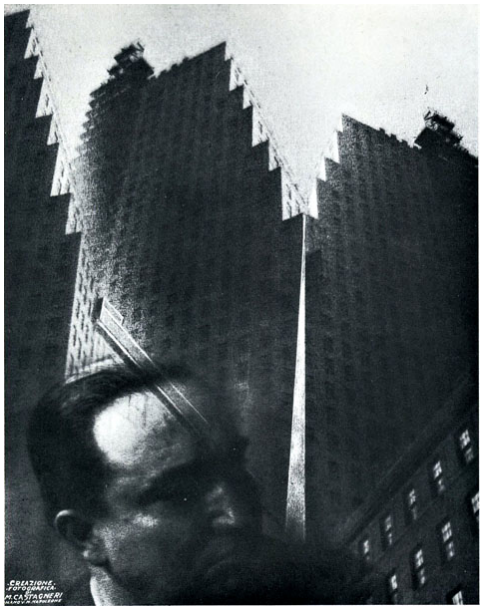

Fig. 115. Mario Castagneri, *Depero among the Skyscrapers,* 1933.

Fig. 116. Quirino De Giorgio, *Self-portrait as an Architect of the City of Raun*, 1932.

Fig. 117. Boris Iofan with Vladimir Shchuko and Vladimir Gelfreikh, *The Palace of the Soviets*, 1931–33.

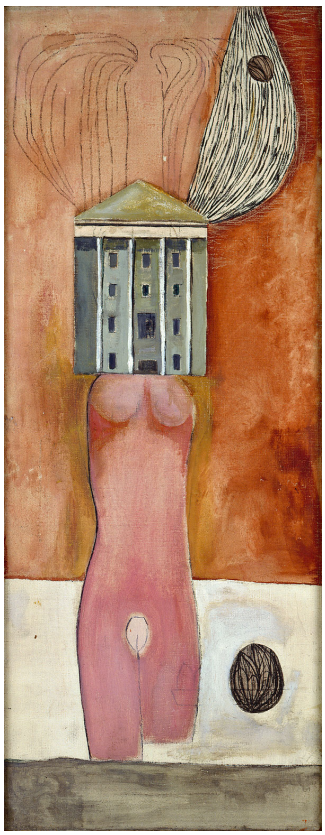

Fig. 118. Louise Bourgeois, *Femme-Maison*, 1946–47.

Fig. 119. Mario Sironi, architectural relief, Piazza Cavour, Milan, c. 1932.

Fig. 120. Mosaic of athletes, indoor swimming pool, Foro Italico, Rome, c. 1928

Fig. 121. Attilio Selva, *Monument to the Fallen*, 1935, Trieste.

Fig. 122. Photograph of a mass rally in Milan, October 1933.

Fig. 123. Engraving modeled after Stefano di Padua's mural of Gian Galeazzo Visconti, c. 1412.

Fig. 124. Renato Giuseppe Bertelli, *Continuous Profile of Mussolini*, 1933.

Fig. 125. Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 126. Umberto Boccioni, *Unique Forms of Continuity in Space*, 1913, plaster.

Fig. 127. Postcard illustration for war bond, Banco di Roma, c. 1917.

Fig. 128. Postcard illustration for war bond, Banco di Roma, c. 1917.

Fig. 129. Athos Casarini, *Vision of the Stock Exchange*, 1914.

Fig. 130. Athos Casarini, *Money*, 1914.

Fig. 131. 20-cent Euro coin, with image of Umberto Boccioni's *Unique Forms of Continuity in Space*, issued 2002.

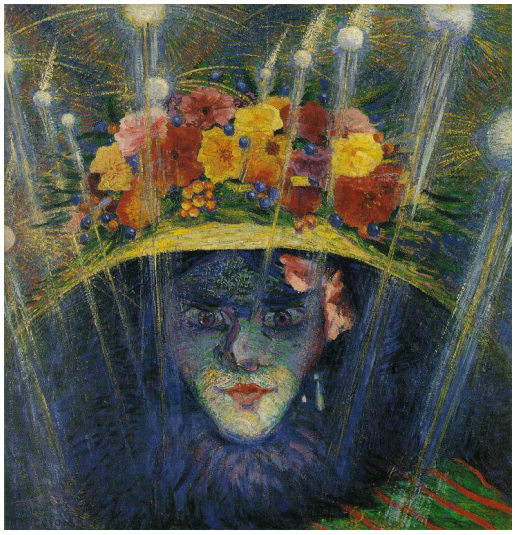

Fig. 132. Umberto Boccioni, *Modern Idol*, 1911.

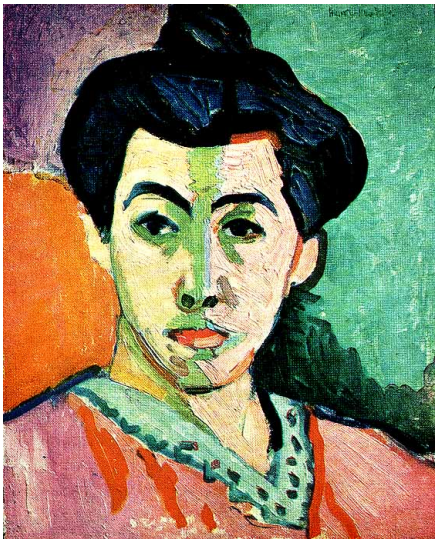

Fig. 133. Henri Matisse, *Madame Matisse*, 1905.

Fig. 134. Umberto Boccioni, *The Street Enters the House*, 1911.

Fig. 135. Gustave Caillebotte, *The Man on the Balcony*, 1880.

Fig. 136. Umberto Boccioni, *Simultaneous Visions*, 1911.

Fig. 137. Hyacinthe Rigaud, *Double Portrait of Mary Serre, the Artist's Mother*, 1695, Louvre, Paris.

Fig. 138. Umberto Boccioni, *Horizontal Construction*, 1912.

Fig. 139. Umberto Boccioni, *Materia*, 1912.

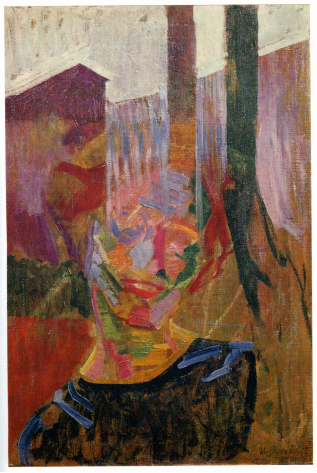

Fig. 140. Umberto Boccioni, *Decomposition of the Head of a Woman*, 1911.

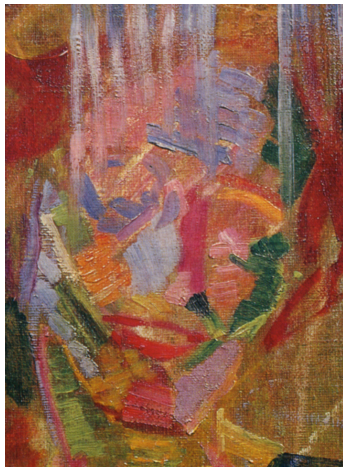

Fig. 141. Detail of Umberto Boccioni, *Decomposition of the Head of a Woman*, 1911.

Fig. 142. Umberto Boccioni, *Nocturne*, 1911–12.

Fig. 143. Umberto Boccioni, *Controluce* (*Contre-Jour*), 1910.

Fig. 144. František Kupka, *The Horsemen*, c. 1900–1902.

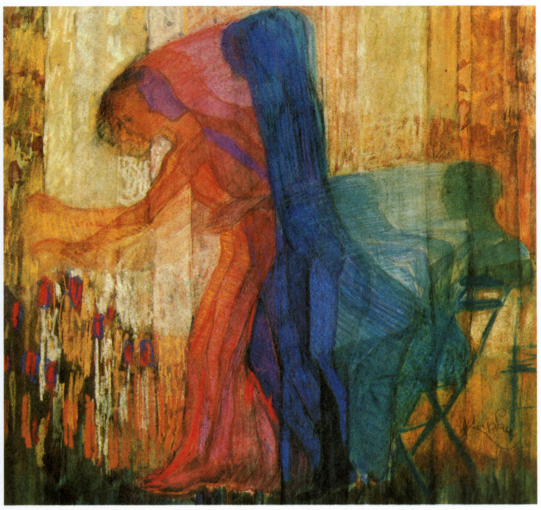

Fig. 145. František Kupka, *Woman Picking Flowers, No. 1*, 1909–10.

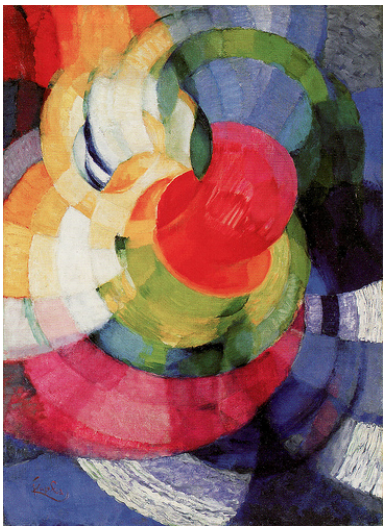

Fig. 146. František Kupka, *Disks of Newton*, 1911–12.

Fig. 147. Giacomo Balla, *Girl Running on a Balcony*, 1912.

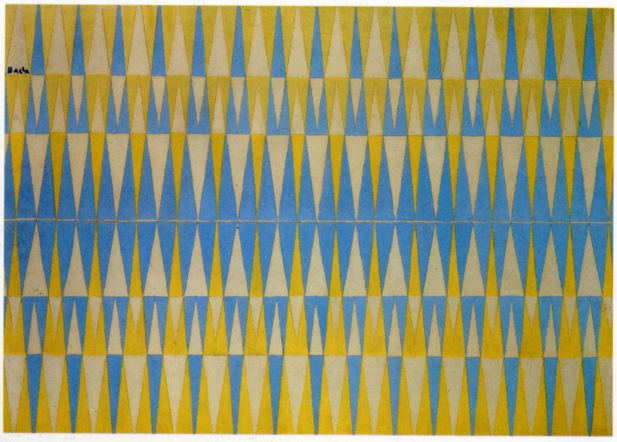

Fig. 148. Giacomo Balla, *Iridescent Interpenetration No. 4*, 1913.

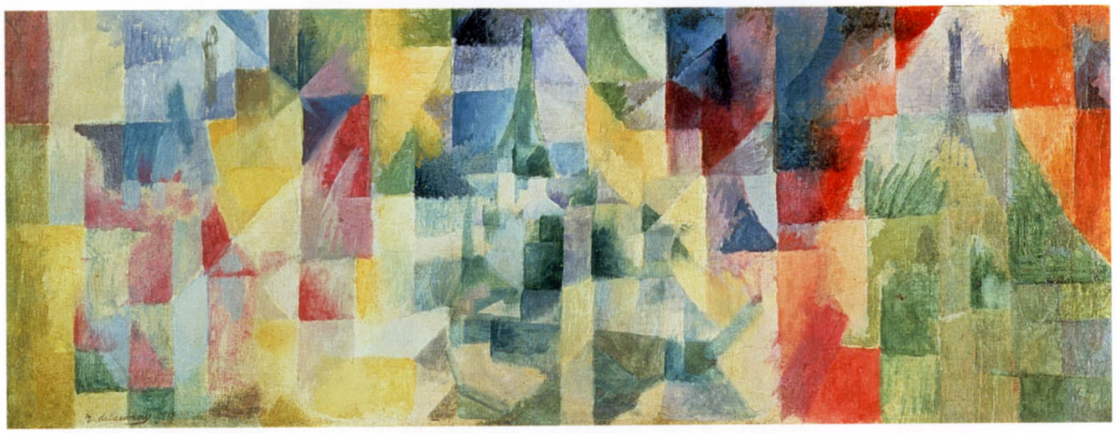

Fig. 149. Robert Delaunay, *Windows in Three Parts*, 1912.

Fig. 150. Sonia Delaunay, *Simultaneous Contrasts*, 1912.

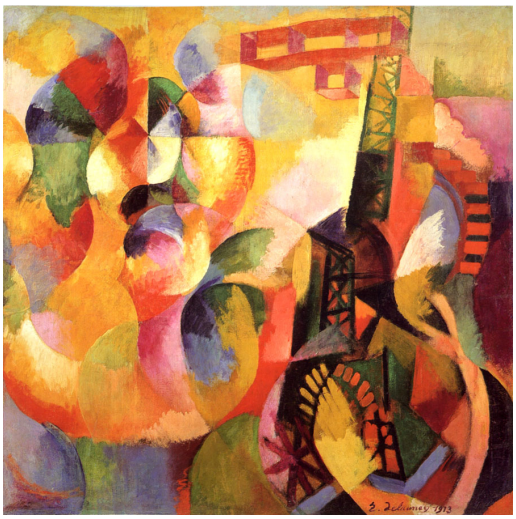

Fig. 151. Robert Delaunay, *Sun, Tower, Airplane*, 1913.

Fig. 152. Fernand Léger, *Stairs*, 1913.

Fig. 153. Luigi Russolo, *Music*, 1911.

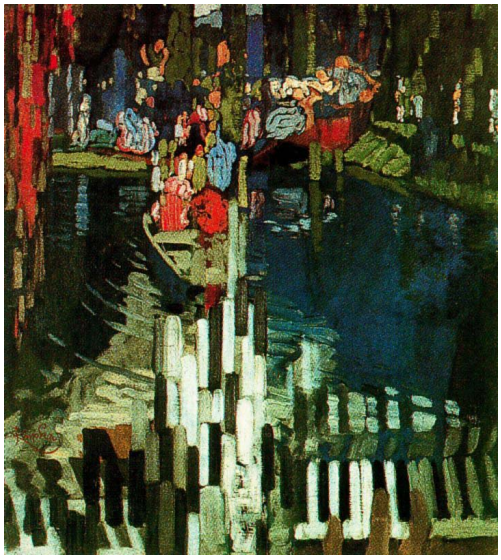

Fig. 154. František Kupka, *Piano Keys: The Lake*, 1912.

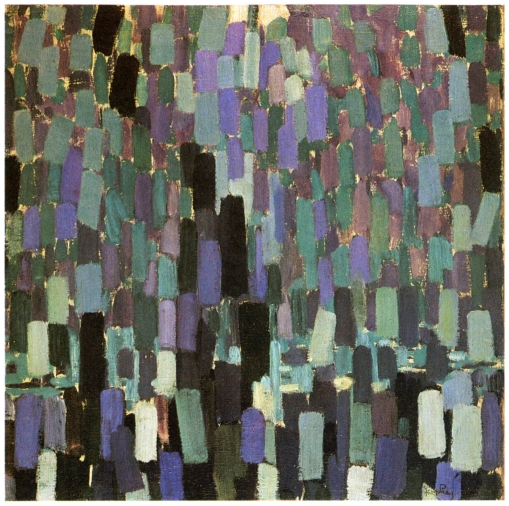

Fig. 155. František Kupka, *Nocturne*, 1911.

Fig. 156. Louis Lumière, *Nature Morte*, autochrome, c. 1907–1908.

Fig. 157. Gino Severini, *Spherical Expansion of Light (Centrifugal)*, 1914.

Fig. 158. Umberto Boccioni, *Dynamism of a Football Player*, 1914.

Fig. 159. Robert Delaunay, *Cardiff Team*, 1912–13.

Fig. 160. Henri Rousseau, *Football Players*, 1908.

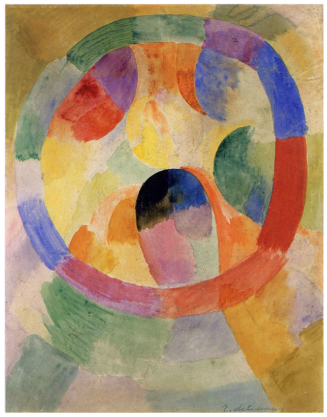

Fig. 161. Robert Delaunay, *Circular Forms*, 1913.

Fig. 162. Umberto Boccioni, *Study for Dynamism of a Football Player*, 1913; C.R. no. 896.

Fig. 163. Tonal analysis of Umberto Boccioni, *Dynamism of a Football Player*, 1913.

Fig. 164. Umberto Boccioni, *Dynamism of Human Body*, 1913, oil on canvas.

Fig. 165. Crowd gathered outside Lux Bookstore, Rome, March 1913.

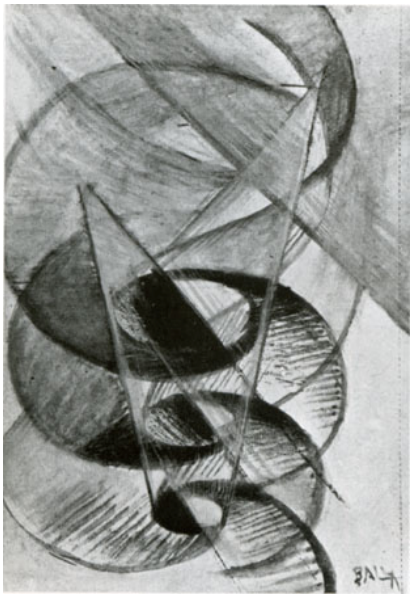

Fig. 166. Giacomo Balla, *Vortex + Spatial Forces of a Glass*, c. 1912.

Fig. 167. Umberto Boccioni, *Force-Forms of a Bottle*, 1913, plaster (destroyed).

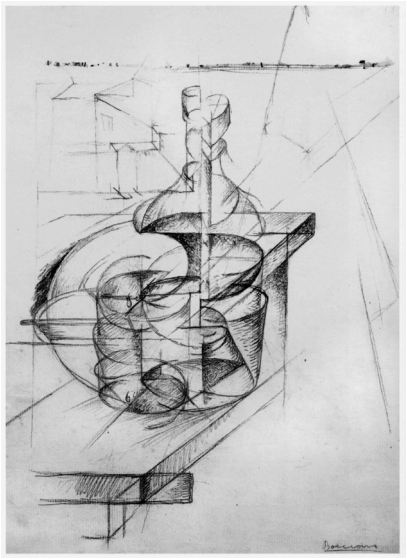

Fig. 168. Umberto Boccioni, *Table + Bottle + House*, 1912.

Fig. 169. Umberto Boccioni, *Development of a Bottle in Space*, bronze, 1913.

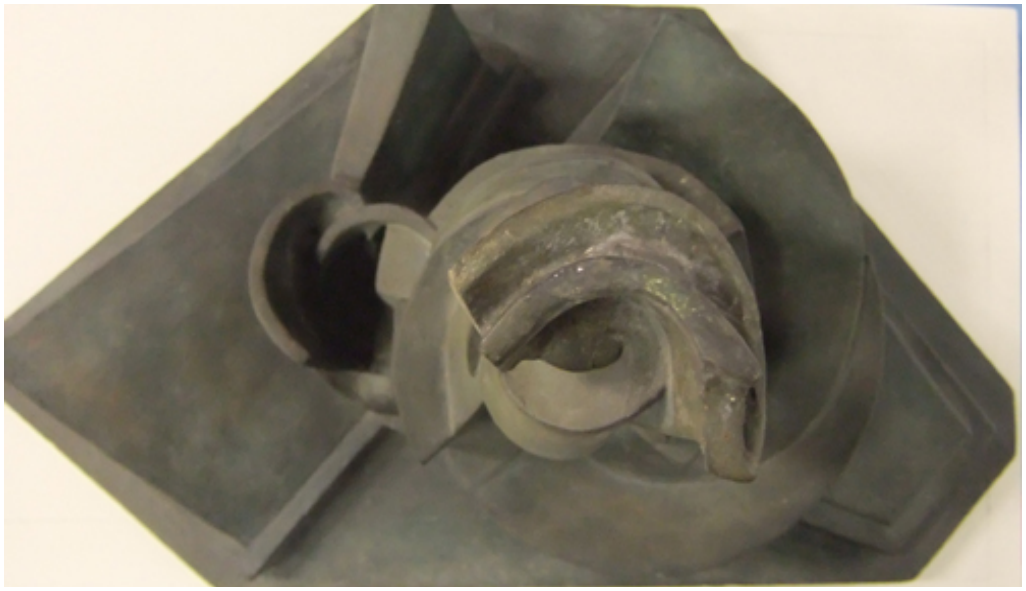

Fig. 170. Umberto Boccioni, *Development of a Bottle in Space*, 1913, plaster and paint.

Fig. 171. Umberto Boccioni, *Development of a Bottle in Space*, 1913, plaster and paint.

Fig. 172. Giacomo Balla, *Noise Forms of a Motorcycle*, 1913–14.

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