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Novels That Enact: Capitalist Storification and Emerging Forms in Contemporary Fiction

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Novels That Enact: Capitalist Storification and Emerging Forms in Contemporary Fiction

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in English

by

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ABSTRACT OF THE DISSERTATION

Novels That Enact: Capitalist Storification and Emerging Forms in Contemporary Fiction

by

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Doctor of Philosophy in English

University of California, Los Angeles, 2020

Professor Mark I. Seltzer, Chair

Novels That Enact: Capitalist Storification and Emerging Forms in Contemporary Fiction examines the contemporary novel form in relation to major historical transformations of managerialism and cybernetics since the 1950s. Tracing the metamorphosis of cybernetics from a war-time computing technology to a dissimulated logic of capitalist operations, this dissertation illuminates how cybernetics has provided not only the technical apparatus but also the essential epistemological frame for many breakthroughs in the recent history of capitalism. Among such breakthroughs, 'scenario planning,' a business strategy first developed by leading cybernetician Herman Kahn in the late 60s, is given special attention. As a strategy to manage the increasing complexity and unpredictability in the market, this strange amalgam of computational analysis, future planning, and fiction writing has become a norm in managerialism and has prepared the way for the so-called 'narrative turn' in recent business theories and culture. *Novels That Enact* argues that the unconventional peculiarities found in contemporary novels are part of the

novelistic attempt to respond to this capitalist appropriation of narrative. The result is novels that enact the fundamentally cybernetic logics of capital through their literary forms in order to stage and perform the workings of contemporary capitalism.

Analyzing our economic present through the lens of cyberneticization and storification, this dissertation engages with the existing criticisms of late-capitalism and the critical impasse they face. Through a historical and theoretical examination of the process of the cybernetic reconfiguration of capital, it demonstrates how capitalism has gradually become a self-regulating, autotropic system that is impervious to the critiques mounted by traditional theoretical frames of political economy. Addressing the complex interplay and reciprocation between literature and managerialism, *Novels That Enact* also reimagines the relation between novels and economic systems beyond the unidirectional or reflective model. In the process, it reexamines recent critical discussions of the purported crisis of the novel, proposing a new way of understanding emerging forms in the contemporary novel as manifestations of an alternate mode of critique.

The dissertation of Sujin Youn is approved.

Allison Carruth

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Mark I. Seltzer, Committee Chair

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2020

With gratitude for my family and my teachers

TABLE OF CONTENTS

ACKNOWLEDGEMENTS **vii**

VITA **ix**

INTRODUCTION **1**
The Cyberneticization of the World

CHAPTER ONE **18**
Cybernetics and Capitalist Managerialism

CHAPTER TWO **58**
Cybernetic Ironies: The Metamorphosis of Cybernetics and Contemporary Capitalism

CHAPTER THREE **102**
Capitalist Storification and the Impasse of Critique

CHAPTER FOUR **175**
Novels That Enact: The 'Crisis' of the Novel and Emerging Forms

BIBLIOGRAPHY **226**

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INTRODUCTION

THE CYBERNETICIZATION OF THE WORLD

In *Cosmopolis* by Don DeLillo, the protagonist, a billionaire Wall Street finance expert, receives a brief lecture on "the art of money-making" from his chief assistant theorist: "*Chrimatistikos* … But we have to give the word a little leeway. Adapt it to the current situation. Because money has taken a turn. All wealth has become wealth for its own sake. There's no other kind of enormous wealth. Money has lost its narrative quality the way painting did once upon a time. Money is talking to itself."[1] She continues, "The glow of cyber-capital. So radiant and seductive. I understand none of it."[2] In contrast to her admitted incomprehension, the protagonist is fascinated by this self-reflexive and seemingly autonomous movement of wealth. During the theorist's lecture, his eyes are fixated on the ever appearing and dissolving numbers on a stock market ticker. He finds "beauty and precision"[3] in "the organic patterns" that have nothing to do with "the cold compression of unruly human energies." The data, "soulful and glowing, a dynamic aspect of the life process"[4] yield to "his search for something purer, for techniques of charting that predicted the movement of money itself."[5] Nonetheless, when

[1] Don DeLillo, *Cosmopolis* (New York: Scribner, 2003), 77.

[2] Ibid., 78.

[3] Ibid., 76.

[4] Ibid., 24.

[5] Ibid., 75.

inexplicable anomalies in the financial market occur, it reveals that he has been "dealing with a system that's out of control … driven by thinking machines that we have no final authorities over."[6] When the 2008 financial crisis unfolded five years after the publication of *Cosmopolis*, observers were similarly shocked by its sheer unexpectedness and inexplicability, a quality as unnerving as the catastrophic economic consequences of the crisis itself. Everybody, including then president Bush, wondered in panic "how we ended up with a system like this." Even those at the epicenter of the disaster, like the C.E.O. of Lehman Brothers, could only stammer in disbelief, "I don't know how this happened."[7]

The image of capital as a self-organizing, almost animated, autopoietic system comes into view in both the fictional and the actual manifestations of the peculiarities of contemporary capital. As the theorist in *Cosmopolis* asks and answers herself—"Does it ever stop? Does it ever slow down? Of course not. Why should it? Fantastic"[8] —the current capitalist system operates incessantly according to its own logic. In contemporary corporate culture, "[w]e're told businesses have souls," a fact which many find "surely the most terrifying news in the world," in the words of Gilles Deleuze.[9] Indeed, contemporary critics often lament that we now live in the age of the "real subsumption under capital"[10] with a sense of pragmatic fatalism Mark Fisher

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[6] Ibid., 85.

[7] James B. Stewart, "A Reporter at Large: Eight Days, The Battle to Save the American Financial System," *New Yorker*, 21 September 2009.

[8] Don DeLillo, *Cosmopolis*, 80.

[9] Gilles Deleuze, "Control and Becoming," *Negotiations: 1972-1990*, trans. Martin Joughin (New York: Columbia University Press, 1995), 181.

[10] Nicholas Brown, "The Work of Art in the Age of Its Real Subsumption under Capital," *nonsite*, 13 March 2012, URL = https://nonsite.org/the-work-of-art-in-the-age-of-its-real-subsumption-under-capital.

calls “capitalist realism”—“whether we like it or not, the world is governed by neoliberal ideas, and that won’t change. There’s no point fighting the inevitable.”[11]

However, in corporate management, the unpredictability of the self-evolving, self-regulating economic system does not always induce the same “sense of resignation, of fatalism.”[12] It is accepted as axiomatic in many management theories that crises are “filled with as much potential opportunity—and as much potential danger”[13]; they are a sign of the organic elasticity of the market, evidence of the endless potential for the market to still expand, adjust, and move on. Thus, as one business textbook advises, corporations ought to willingly embrace the fluctuations and “ride the wave” to “channel its flow to benefit their organizations. This is the lesson of Microsoft and Apple.”[14] Yet, the oracle of the endlessly flexible and mutable self-organization does not only apply to economic systems and business organizations. Individual workers are expected to be constantly “self-managing and self-modulating, to instantiate mechanisms of adaptation and self-training that could cope with the volatilities of capitalist production.”[15] And, instead of defying or resisting this boundless deployment of their productivity, contemporary workers seem to embrace the idea of perpetual self-mutation and

[11] Mark Fisher and Jeremy Gilbert, “Capitalist Realism and Neoliberal Hegemony: A Dialogue,” *New Formations* 80-81 (2013), 90.

[12] Ibid., 90.

[13] Steven Fink, *Crisis Management: Planning for the Inevitable* (New York: American Management Association, 1986), 47.

[14] David M. Boje, “Storytelling in Systemicity and Emergence: A Third Order Cybernetic,” eds. David M. Boje, Bernard Burnes and John Hassard, *The Routledge Companion to Organizational Change* (London: Routledge, 2011), 181.

[15] Jasper Bernes, *The Work of Art in the Age of Deindustrialization* (Stanford: Stanford University Press, 2017), 114.

self-development not only into their work but into their life itself, such that the distinction between life and work breaks down. The logic of the contemporary capitalist system—eternal movement, ceaseless metamorphosis, self-organization, self-regulation and self-reflexivity—is internalized as their way of being.

A recent *The New York Times* article, for example, illustrates this eerie (but familiar) tendency in young American workers. Depicting the young entrepreneurs flocking to WeWork "obsessed with striving, relentlessly positive … glorify[ing] ambition not as a means to an end, but as a lifestyle," it summarizes millennials' work culture as "Rise and Grind" and "Do what you love." For these enthusiasts of a new generation, work "is bigger than career … It's ambition, grit and hustle. It's a live performance that lights up your creativity … a sweat session that sends your endorphins coursing … a visionary who expands your way of thinking." In short, in "the new work culture, enduring or even merely liking one's job is not enough. Workers should *love* what they do, and then promote that love on social media."[16] When business is ensouled to a spiritual level, "the entry of soul itself into the production process"[17] does not sound too cultish.

What caused this shift in capitalist culture? In Herman Melville's bleak depiction of nineteenth century Wall Street, Bartleby crouches in the corner of his office, passively but firmly determined to withhold his labor, while today's youth have seemingly abandoned "I prefer not to" and embraced "Rise and Grind" and "Do what you love." In the twentieth century, capitalism was synonymous with the "administered world"[18] controlled by various powerful, hierarchical

[16] Erin Griffith, "Why Are Young People Pretend to Love Work?" *The New York Times*, 26 Jan 2019.

[17] Franco Berardi, *The Soul at Work: From Alienation to Autonomy* (New York: Semiotext(e), 2009), 13.

[18] Theodor W. Adorno, *Aesthetic Theory,* ed. and trans. Robert Hullot-Kentor (Minneapolis: University of

institutions and organizations, while today it has become seemingly autonomous and self-organizing, its own logic superseding the whims of its ostensible masters. At some point, business management appears to have ceased scientific prediction and control of production, marketing, and sales processes, preferring to 'ride the wave' of new autopoietic and cybernetic processes. The contemporary capitalist system differs from its previous forms, but in precisely what that difference consists is not entirely clear. In a cultural epoch that is often all too easily summed up as 'neoliberal,' we must investigate the socio-economic, political, and cultural shifts that have made today's world possible.

My dissertation will analyze these shifts through an examination of the historical metamorphosis of capitalist managerialism since the 1950s. In this process, we will see how cybernetics, serving as a model for the endlessly self-mutating self-organizing system, has provided not only the technical apparatus but also the essential epistemological frame for many breakthroughs in corporate managerialism in recent capitalist history. Among such breakthroughs, I will pay special attention to 'scenario planning,' a business strategy first developed by leading cybernetician Herman Kahn in the late 60s. This strange amalgam of computational analysis, future planning, and fiction writing soon became a norm in managerialism and prepared the way for the so-called 'narrative turn' in business theories and culture in the past three decades. In the ""narrative turn" [that] has become increasingly popular"

Minnesota Press, 1997), 31, cited in Sianne Ngai, *Ugly Feelings* (Cambridge: Harvard University Press, 2005), 1. Here my sketch of Bartleby as a precursor and counterpart to contemporary workers is in line with Ngai's reading of "Bartleby, the Scrivener" as an affective and political depiction of the "administered world" of late modernity.

since the 1990s, as business theorists David Barry and Michael Elmes note, "story-telling is the sense-making currency" and corporations explore "strategic management as a form of fiction."[19]

Yet, recalling the narrator's comment in *Cosmopolis*, this managerial turn to narrative seems incongruent with what he sees in contemporary capital: "Money has lost its narrative quality the way painting did once upon a time."[20] Money has lost its representative role as art already did a while ago, and now narrative means and *does* something else rather than referring to the outside world. Narrative has become a "currency" that can be endlessly produced, exchanged, and circulated, helping people make sense of things, which does not necessarily contain truth or use value in it. Just like the numbers on a stock market ticker, stories ever appear and disappear in circulation, which is why Diedrich Diederichsen says "no one really trusts narrative anymore."[21] The incongruence between what narrative used to be and what it means today is thus crucial here, marking the complexity of the managerial return, or recasting, of narrative. Capitalist storification in this way denotes a mutation in what stories mean today; in its fusion with cybernetic series and systems, storification becomes a form of self-reflexive serial operation itself, a perfect managerial technique for the incessant movement of contemporary capital.

Along with the earlier cybernetic reconfigurations in managerialism, this capitalist recasting of narrative has furnished the current capitalist system with the charismatic

[19] David Barry and Michael Elmes, "Strategy Retold: Toward a Narrative View of Strategic Discourse," *The Academy of Management Review* 22.2 (Apr 1997), 429-30.

[20] DeLillo, *Cosmopolis*, 77.

[21] Diedrich Diederichsen, "Living in the Loop," *Fillip* 14 (summer 2011), URL = https://fillip.ca/content/living-in-the-loop.

performative power to create its own reality-equivalents and reality-effects. The present appeal of capitalism as "the only legitimate form of economic, political, and social organization … to the point of establishing free market economies as a kind of second nature"[22] is achieved through the constant modifications of its managerial technologies rearranging the world into manageable and manipulable templates. The latest version of such technical renovations is the incorporation of narrativization into managerialism, turning the world into autonomously working storifying-storified machines. The following analysis will show that it is above all the historical transformations of this dissimulated cybernetic logic that have culminated in "the world interior of capital" with no boundaries or outside.[23]

However, when I say storification becomes part of contemporary business strategy and management technology, I do not just refer to the commercial campaigns foregrounding "your stories" or even the fictitious nature of the movement of finance capital, although they have a lot to do with what I am addressing here. In fact, as many management textbooks reveal, the managerial takeover of narrativization—from 'scenario planning' to 'narrative turn'—appears in the form of the pseudo-novel with full consideration of actual narratological devices such as

[22] Neal Curtis, *Idiotism: Capitalism and the Privatisation of Life* (London: Pluto Press, 2012), 14.

[23] Peter Sloterdijk, *In the World Interior of Capital*, trans. Wieland Hoban (Cambridge: Polity, 2013), 193-210. Sloterdijk's concept is very useful and crucial here since it affords a more attentive and sophisticated corrective to the widely accepted idiom that *neoliberalism has conquered the world and there is no outside*. Through the analogy between glass palaces connected by corridors and "the global capitalist interior" (195) where the spending power resides, Sloterdijk emphasizes the self-reflexive and narcissistic world-experience of the West. The outside *exists*, but they are more or less ignorable while you enjoy "the openness towards anything that money can buy" (196). In the global capitalist interior that "rises above the earth as a web of comfort corridors," Sloterdijk says, "[t]o go away, one no longer needs to go outside" (195). In this way, "world interior of capital" is "a socio-topological term … applied to the interior-creating violence" (198) with which cosmopolitanism only means "the provincialism of the pampered" (196). Yet, through the ever-evolving operation of the interior-creation, the "capitalist interior" works pretty well as an equivalent of the world itself with a satisfying feeling of openness.

emplotment, characterization, narrative point of view, spatial and temporal setting, and so on. Indeed, it is "management as a form of fiction" as theorists Barry and Elmes befittingly called it.[24] In other words, in contemporary capitalism, what corporations do has become hardly distinguishable from what novels have been doing. This, of course, puts the novel into a paradoxical position where it cannot do what it does (narrativization or telling a story) without repeating and reaffirming the operation of capitalist activities and logics—which becomes all the more problematic if the novel intends to counteract the flattening and depoliticizing effects of contemporary capital.

Thus, the discussion of capitalist storification leads us to the problems of contemporary novels, which I will closely examine in the second half of my dissertation through the following questions. When capital narrates its own realities, what is left for the novel? When the business world is filled with storifying organizations and the novel is aware of its formal affinity and complicity with capitalist activities, how does the novel respond to this dilemma? If there is something fundamentally cybernetic in literature and literary studies, are they still able to generate meaningful critique of the cyberneticization of the world? Answering these questions necessitates reassessing the purported 'crisis' of contemporary novels. In recent decades, increasing number of literary critics have come to notice the abnormalities and deviations in the contemporary novel form. Whether it is 'neoliberal' conditions undoing the genre of the novel, larger 'turns' in humanities reflected in novel forms, or simply symptoms of novelistic failure that critics hold responsible, the shared sense of crisis suggests that the novel fails to fulfill the expected aesthetic, cultural, and political mandates in the contemporary world.[25]

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[24] Barry and Elmes, "Strategy Retold: Toward a Narrative View of Strategic Discourse," 429.

[25] The concerns about the novel's diminishing political and cultural power, especially in relation with the

In his 2000 article, "Human, All Too Human," for example, James Wood conveys a strong dissatisfaction towards a group of his contemporary novelists, accusing them of the "awkwardness" in their characterization and emplotment. According to him, the "recent novels are full of inhuman stories" of flat, cartoonish, "not really alive, not fully human" characters while the plot loops around "repetitive leitmotifs" without a sense of development or plausible causalities between events. As a result, he insists, these novels fail to give readers a satisfactory reading experience with "anything really affecting, sublime, or beautiful." Despite the dismissive and irritated tone, his diagnosis precisely captures the narratological characteristics found in a growing number of contemporary novels: characters without psychological depth or interiority, looping or meandering plots with a random series of events that do not lead to a meaningful conclusion, prose styles that are not necessarily lyrical or poetic, all of which make it hard for the reader to have the expected affective response or to identify with the characters of the story.[26]

Though it is common to see critics of contemporary literature postulate the exhaustion of traditional formal conventions as a premise for their argument, the observation of such inhuman

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economic conditions, are visible in major academic journals' recent special issues on the nexus between neoliberalism and the novel. See "Speculative Finance/Speculative Fiction," a special issue of *CR: The New Centennial Review* 19.1 (Spring 2019); "The Novel and Neoliberalism," a special issue of *NOVEL: A Forum on Fiction* 51.2 (August 2018); "Neoliberalism and the Novel," a special issue of *Textual Practice* 29.2 (2015); "Financialization and the Cultural Industry," a special issue of *Representations* 126.1 (Spring 2014); "Genres of Neoliberalism," a special issue of *Social Text* 31.2 (Summer 2013); and "Neoliberal Culture," a special issue of *New Formations* 80-81 (2013).

[26] James Wood, "Human, All Too Inhuman," *The New Republic*, 23 Jul 2000. Zadie Smith, in her now famous article "Two Paths for the Novel," enthusiastically endorses these unconventional formal features which she finds in Tom McCarthy's *Remainder* and claims that "the future for the Anglophone novel" is in this kind of "avant-garde realism." Smith's strong affirmation of *Remainder* is mainly for its deliberate opposition to the conventions of "lyrical realism" based on what she calls "the Balzac-Flaubert model." Considering that nineteenth-century realism is taken up as the proper formal criteria of the novel by James Wood, "Two Paths for the Novel" can be also seen as a sort of Smith's belated response to Wood's article, which was a purported review for *White Teeth* by Zadie Smith. See Zadie Smith, "Two Paths for the Novel," *The New York Review of Books*, 20 Nov 2008. The unconventional formal features of *Remainder* and their implications will be discussed in detail in Chapter Four.

and anti-narrative quality is distinct in criticisms of the novel in the most recent couple of decades. In an overview of contemporary dystopian fiction, from Cormac McCarthy's *The Road* (2006) to David Mitchell's *The Bone Clocks* (2014), Ursula K. Heise also identifies the "deliberate flatness" of characterization and lack of interest in plot that turns the narrative into "a series of scenarios … to stage familiar dystopian motifs." In these novels, Heise notes, "what matters is not so much the plot itself" while "the major character's motivations and goals" are often left untended or incomprehensible as well.[27]

Here, one might find a parallel between the movement of capital, as we have seen in *Cosmopolis*, and the formal peculiarities of contemporary novels, often criticized as a symptom of the crisis of the genre itself. Characters, flat and inhuman—like the ever appearing and dissolving numbers on a stock market ticker—keep moving without explicit causality or motivation; events keep happening and accumulating, creating a series or a loop—like the "organic patterns" or "waves" of the incessant crises in the market—but never moving towards a meaningful closure. In both cases, what matters is not what actually happens or what it means (the theorist in *Cosmopolis* "understand[s] none of"[28] contemporary capital but still finds it "fantastic"[29]) but the system's incessant operation itself: either a capitalist one or a system of literary motifs and signs.

Yet, contrary to many critics, the formal affinity between contemporary novels and the current capitalist system should not be taken for granted as art's subsumption under capital or

[27] Ursula K. Heise, "What's the Matter with Dystopia?" *Public Books*, 1 Feb 2015, URL = https://www.publicbooks.org/whats-the-matter-with-dystopia.

[28] DeLillo, *Cosmopolis*, 78.

[29] Ibid., 80.

literature's reflection of the predominant economic relations (and their ramifications). As Anna Kornbluh has shown in *Realizing Capital: Financial and Psychic Economies in Victorian Form*, by analyzing the literariness of the nineteenth century financial capitalism and the logic of finance sublimated into the structure of the realist novel, the relation between novels and economic systems is, from the beginning, more complicated and intertwined than the unidirectional model of autonomy versus hegemony suggests.[30] What has driven the emergence of the new narrative mode in contemporary novels is the realization that the novel and the current capitalist system are operating on the same formal premise and logic; they have always been modifying and modeling each other, but even more so since the 'narrative turn' in managerialism, to the point where what capital does now is hardly distinguishable from what novels do.

Although contemporary novels are enmeshed in this predicament, some of them discover in it their own way of critically engaging with the actualities of the contemporary capitalist operations and logics. Under the managerial appropriation of storification, these novels make a conscious narratological decision to *formally enact and perform* through their own novelistic structure how contemporary capital works, rather than *telling the story* of what they are performing. As we will see in the following chapters, when capitalist storifying organizations turn to heartfelt themes, individual subjects, sharing stories, and instilling affects (signs and tasks of a "successful" story), some contemporary novels turn away from them and become awkward, flat, and repetitive—anything but "affecting, sublime, or beautiful" to borrow Wood's language again.

[30] Anna Kornbluh, *Realizing Capital: Financial and Psychic Economies in Victorian Form* (New York: Fordham University Press, 2014).

Hence, if these contemporary novels present flat, inhuman characters with little sense of ethics, affect, or psychological depth, it is neither due to the author's failure to depict a round, full-fleshed character, nor simply a metaphor or a reflection of the dehumanized state of the neoliberal subject. Rather, it is a result of their *formal*—thus, nonhuman or inhuman in its essence—re-enactment of contemporary capitalist logic. For instance, in Tom McCarthy's *Remainder* (2005), when the narrator, or the enactor more precisely, repeats a random series of re-enactments of real or imaginary events, rendering the narrative drift in an endless loop of repetition and accumulation, it is not to document a psychological experience of a traumatized or neurotic individual as some critics read it.[31] Here, the character is not a psychological position for readers to identify with—just as the capitalist storifying organizations expect its customers, managers, and workers to do so with their stories—but a literalization and enactment of the speculative and seemingly immaterial movements of finance capital and the capitalist system's incessant operation of deterritorialization and reterritorialization.

We encounter another narrator who sounds like an AI or a robot in Teju Cole's *Open City* (2012). At first glance, the Nigerian American first-person narrator seems to be a reliable and sensitive global thinker and aesthete, populating his narrative with multifarious life stories from all over the world while rambling about different geo-political locations, cultures, and histories. In this way, *Open City* stages itself as an exemplary cosmopolitan novel embodying a polyphonous democratic space, only to overthrow this self-image as a celebration of global connectivity through increasing awkwardness, or even creepiness, created by the gradual

[31] Tom McCarthy, *Remainder* (New York: Vintage, 2007). *Remainder* was first published in 2005 by Metronome Press, a small, independent French publisher, and later re-printed by Alma Books in UK, and Vintage Books in the United States.

revelation of the inhuman nature of his narrative. The novel's constant mobilization of attention, overloaded accounts of unrelated materials, vastness of scope, speedy transition, stylization and aesthetic delivery—the characteristics of the internet age in a form of narrative structure—reveal that the narrator is not an empathetic listener to those heartfelt stories, but rather a story-processing machine the goal of which is only to keep connecting regardless of what it is connecting. Thus, the narrative mode of *Open City* mimics the capitalist processing of reality, both of which turn real-life experiences into mere information to be processed and circulated. Through its narrative form, *Open City* enacts the ways in which techno-capitalism fetishizes the delusional self-image of open connectivity while in actuality foreclosing it through depoliticizing aestheticization and informatization of socio-cultural relations.

Indeed, the morphological de-differentiation between the novel and the capitalist economic system has created a predicament in the genre of the novel. However, it is not an idiosyncratic condition for literature; for capitalist narrativization is part of a larger historical and ideological process—the cyberneticization of the world. What the critics of neoliberalism call capital's all-encompassing homogenizing power is a result of the isomorphic reconfiguration of the world by the logic of cybernetics: the incessantly self-updating, self-modulating, looping movement we have seen in contemporary capital, contemporary novel forms, and the young workers striving at WeWork. Peter Sloterdijk calls this movement "the *circulus virtuosus*, or virtuous circles" of modernization, the "logic of the self-reinforcing sphere of activity that feeds back upon itself."[32] With the introduction of the technology of cybernetics in the mid-20th

[32] Peter Sloterdijk, *What Happened in the 20th Century?* trans. Christopher Turner (Cambridge: Polity, 2018), 6.

century, this mechanism has reached its culmination and gradually merged with the modus operandi of late-capitalism.

Thus, the situation we tackle here is neither only a matter of art's subsumption under capital nor the changes in the form of labor (material to immaterial, physical to cognitive, repetitive to creative, so to speak), but a general impasse of critique itself. Far from providing relevant and constructive critique, we can hardly describe or even talk about the ironies of contemporary world without misconceptions and misinterpretations if we stick to the old critical frames that were made moot a while ago. Take young American workers' obsessive passion for their work and eagerness for self-development as an example—is it an expression of their subjectivity and autonomous self-realization, or a sign of complete subjection to and internalization of the capitalist ideology? How does the "apparently free-floating control" of self-organizing systems seem to "free and enslave us" at the same time?[33] Or, as Diedrich Diederichsen and Anselm Franke point out, why does it feel like the fluid, ever-changing world and its "dynamization produced new static fixities"?[34] Is it reality or its representation that the numbers on a stock market ticker display? How can we try to answer these questions when the accepted forms and stable positions of critique, based on theoretical formations such as hegemony-autonomy, subject-object, and word-world have been dismantled and lost their purchase on reality?

Henceforth, as Diederichsen and Franke note with respect to the critical predicament in contemporary world, "the biggest question is how to find a narrative to account for this

[33] Deleuze, "Postscript on Control Society," 178.

[34] Diedrich Diederichsen and Anselm Franke, interview by Ana Teixeira Pinto, "The Whole Earth: In Conversation with Diedrich Diederichsen and Anselm Franke," *E-Flux* 45 (May 2013).

synthesis, this reconciliation of binaries, this conflation of opposites, which is still going on. This appears as a historical process with its own logic and necessity, and … it's worth wondering about the underlying structures that create this necessity." In my dissertation, I will delineate the history of the cyberneticization of the Western modern world and demonstrate how its configuration of capitalist logic has created this critical (as well as political, socio-cultural, epistemological, and literary) impasse. The historical process of cyberneticization has made the "once fixed, objectified, reified world begin[s] to be dynamic, talkative, and transformative again - but at the price of immersive adaptation to systemic conditions." Thus, with "the aporia of the system, because the system always tells us: you can't look at a system when you're part of it. But you're *always* part of it,"[35] to investigate these systemic conditions—or, simply to "tolerate them being allowed to appear as what they are"[36] as Sloterdijk precisely puts it—requires a new critical frame and approach; critique of the contemporary world first of all should untether itself from the desire of the detached 'other' that judges, moralizes, and condemns—what critique has offered primarily in the history of Western metaphysics.

In the following chapters, the *novels that enact*—a term that I use for a group of contemporary novels that stage, perform, and enact the cybernetic operations of contemporary capital through their literary forms—will be examined as a novelistic version of such an alternate model of critique. This enactment might seem conformist, too formalist, or inhuman and frustrating to some; however, I want to reiterate to those what Adorno said about cultural criticism: "[r]epudiation of the present cultural morass presupposes sufficient involvement in it

[35] Ibid.

[36] Peter Sloterdijk, *Not Saved: Essays After Heidegger*, trans. Ian Alexander Moore and Christopher Turner (Cambridge: Polity, 2017), 65.

to feel it itching in one's finger-tips, so to speak, but at the same time the strength, drawn from this involvement, to dismiss it. This strength, though manifesting itself as individual resistance, is by no means of a merely individual nature."[37] We encounter this "itching in one's finger-tips" literalized and intensified in *Remainder* as the "tingling" that creeps through the enactor's body when he is into his re-enactments deep enough to feel the binaries—between the real and representation, subject and object, inside and outside, and so on—come down in his own cyberneticization of the world. In the attempt to respond to capitalist storification through formal literary enactment, a group of contemporary novels stage and perform this "tingling" or "itching," suggesting a new mode of realism that critically engages with the world while also being complicit in it.

But, then again, how did we get here? What does the 'cyberneticization' of the world exactly mean? How did it happen and where do you see it? How has cybernetics, the fuzzy precursor of contemporary computer and information technology, become the dominant mode of capitalist operations and the way of being in contemporary world? What kind of metamorphoses have capitalism and cybernetics gone through to bring us here? By examining an extended set of historical and cultural resources including early cybernetics conferences, MBA textbooks, and management guidebooks, Chapter One and Two will trace the historical process of the transformation of cybernetics from a war-time computing technology to a dissimulated logic of late-capitalism. After examining the history of cybernetic reconfiguration of capital, in Chapter Three, I will carry out a detailed analysis of 'scenario planning' and the 'narrative turn' in managerialism with examples from actual business practices, emphasizing the philosophical and

[37] Theodor Adorno, *Minima Moralia: Reflections from a Damaged Life*, trans. E.F.N. Jephcott (New York: Verso, 1974), 29.

epistemological implications of this most recent mutation in cybernetic managerial technology. The contemporary novels' response to the crisis brought by this capitalist storification will be discussed in Chapter Four, with an in-depth investigation of the experimentality in the formal enactment of a group of recent novels, as an alternate form of literary realism and critique for the contemporary world.

CHAPTER ONE

CYBERNETICS AND CAPITALIST MANAGERIALISM

In *Creating Shared Vision*, Marjorie Parker introduces a tale of how storification played a key role in revitalizing a leading European aluminum producer, Karmøy Fabrikker. After recovering from a recent crisis of non-profitability and polluting facilities, the executives of the firm asked Parker to facilitate an extensive transformation project to "lift the company to a new plateau." The goal of the consulting project was a revitalization of the organization "that could lead to shifts in attitudes and beliefs and create a basis for continual self-renewal," for which a series of company-wide cross-sectional story-telling sessions, centered around a metaphor of a garden for their work and the company, were proposed and enacted.[38] The collective process of the strategic narrative construction is described as follows:

> Throughout this process, hundreds of stories were told and recorded. Forums were developed whereby stories could be listened to and compared. At first, all that was apparent to participants at Karmøy Fabrikker was how different the stories were. The emerging narrative was chaotic, a true pastiche. From this beginning, however, people in the company started asking how things might be different. How could this garden be made beautiful, more cohesive? New story elements were suggested, compared, and

[38] Marjorie Parker, *Creating Shared Vision: The Story of a Pioneering Approach to Organizational Revitalization* (Clarendon Hills, IL: Dialog International Ltd., 1990), 14.

joined. Characters were introduced, changed, and erased. Different themes and plots were considered.[39]

At the end, the overall narrative came together in a complex, polyvocal, and dialogical way, embodying new directions for the company's future.[40] Although it is hard to draw a clear causal relation, using the tale of Karmøy Fabrikker as a case study, a leadership strategy theorist reports the "innovation resulting in benefits to the company amounting to millions of kroner"[41] while Parker simply states "record breaking has become a part of everyday KF life."[42] In this case, storification was enlisted as a managerial method for employees' self-evaluation, self-organization, future planning, presentation and execution of proposed plans, altogether running in a loop simultaneously, for the company's autonomous "continual self-renewal." The stories were motley, unpredictable, and unorganized as stated above; yet, this chaotic volatility was what made this managerial technique perfect for the turbulent times of an organization.

In "Storytelling in Systemicity and Emergence: A Third Order Cybernetic" collected in *The Routledge Companion to Organizational Change*, David M. Boje points to one of the biggest challenges in business, the emergence of unexpected events: "[e]mergent phenomena are capricious, unpredictable, and extreme in nature. Fads, traffic jams, grass-roots political movements, catch-phrases, tsunamis, and stock-market crashes have this in common." Setting aside the procrustean de-differentiation between natural, political, cultural, and economic

[39] Barry and Elmes, "Strategy Retold: Toward a Narrative View of Strategic Discourse," 445.

[40] Ibid., 446.

[41] Cheryl De Ciantis, *Using an Art Technique to Facilitate Leadership Development* (Greensboro, NC: Center for Creative Leadership, 1995), 58.

[42] Parker, *Creating Shared Vision*, 88.

phenomena in his enumeration—also shown in his following examples of the unpredictable fad of ripped jeans in 1980s and the 2008 mortgage crisis (juxtaposed with no distinction or hierarchy)—Boje's point is that the unpredictability of dramatic events has always been inevitable and a priori for "a dynamic ecosystem," only that its intensity has been ever increasing. Hence, he states, it is "important for those managing organizational change to transcend traditional approaches to contingency planning and explore how complex self-organizing social systems adapt to, navigate, and ultimately use emergent phenomena."[43] As the tale of Karmøy Fabrikker demonstrates, since "storying falls into the category of emergence, as it is the unchoreographed product of many independent actors and it is unpredictable in scale and timing,"[44] he suggests it is a prime tool for a "truly robust organization" in order to "be sufficiently flexible and versatile to not only adapt to emergence, but ingest and gain nourishment from it."[45]

Here, the unexpected, if not absurd, link between storification and systemic thinking comes into view. Indeed, reviewing different historical approaches to systemicity and complexity, Boje delineates the genealogy of systemic thinking starting from "*[f]irst-order cybernetics*" with "feedback loops to enable 'goal-seeking' regulation" to "*[s]econd order cybernetics*" with "permeable boundaries, self-organization, and the development of dynamic, dissipative structures that thrive on environmental variations," and finally makes an unexpected extension of the lineage to "a *third-order cybernetic* paradigm," by which he means storytelling as a

[43] Boje, "Storytelling in Systemicity and Emergence*,"* 177.

[44] Ibid., 176.

[45] Ibid., 177.

contingency management technique for organizations. First and second order cybernetics are identified as the "predecessors" of storification[46]—as a particular type of systemic approach for emergences of the contemporary business world—but he insists the last exceeds them in its ability to embrace the change and "ride the wave": "*systems thinking*, including *open systems thinking* [second-order cybernetics], cannot envelop the complexity and nuance of storytelling in its truest, unpoliticized sense. It is inadequate to address the multifaceted, holographic nature of complexity in human systems."[47]

Put differently, storification is the most recent innovation in the technologies of capitalist control to manage increasing uncertainties and complexities in the modern world. Yet, recalling the ironies of the contemporary world we have already seen in the young workers so passionate to exploit themselves, or the incongruence in the meaning of narrative under its managerial return, the control here does not indicate Foucauldian discipline or confinement but the creative and dynamic process of continuous self-transformation, as we have seen in the case of Karmøy Fabrikker. This supposedly counter-intuitive link between control and autonomy, cybernetics and storytelling, or the organizational and the artistic (the list of which can be expanded to regulation and self-organization, rationality and creativity, the mechanical and the imaginative, the rigid and the flexible, and on and on) posits the key questions integral to investigate the historical mutation of capitalism since the 1950s.

Then again, what has happened between Bartleby and WeWork? Or, as Paul Virilio puts it, when and how does a capitalist subject "stop being a cog in the technical machine and itself

[46] Ibid., 173.

[47] Ibid., 171.

become a motor"?[48] How does control technology remodel its old rigid, inhuman, rational, and calculative self into a charming, creative, liberating, and artistic one? In other words, what does the creative and imaginative process of storification have in common with the technology of cybernetics? What happened between the first, second, and so-called 'third' order cybernetics and how did they reshape technologies of capitalist control? If "each kind of society corresponds to a particular kind of machine"—like "simple mechanical machines corresponding to sovereign societies, thermodynamic machines to disciplinary societies" as Deleuze lays out—how do "cybernetic machines" correspond to "control societies" and express the social forms of contemporary world?[49]

Answering the questions above, a detour into the history of cybernetics will put us in a position to appreciate, first, the ways in which cybernetics has emerged as a sort of anthropotechnology and counterculture leading the major socio-cultural and managerial changes since the 1960s; and, second, in doing so, how it turned to stories, or storification, recasting them into one of the most effective managerial tools of capitalism. In short, cybernetics has captured something of the spirit of the times in the post-World War Western industrial world—the transition from management to self-management, from regulation to self-organization, and from scientific prediction to creative emergence—and novels that enact foreground, stage, and realize its logic of operation that has become undistinguishable from the logic of capital and practically come to completion in the twenty-first century.

[48] Paul Virilio, *Speed and Politics* (Los Angeles: Semi0text(e), 2007), 29.

[49] Gilles Deleuze, "Control and Becoming," *Negotiations: 1972-1990*, trans. Martin Joughin (New York: Columbia University Press, 1995), 175.

In this chapter, I will examine the historical evolution of cybernetic thinking and its emergence as a control technology for modern capitalist managerialism. Analyzing the metamorphosis of cybernetics and its juxtaposing transformation of capitalist managerialism throughout the second half of the twentieth century will prepare us to see the often forgotten, and thus almost clandestine, account of the cyberneticization of the world, which unfolds as a *modus vivendi* of the contemporary order of things. The ephemeral preeminence of the term "cybernetics" in academic and public discourses—first appearing in 1947 and quickly fading within two decades into the hazy history of early information technology—does not indicate a premature decline of cybernetics's relevance and influence on other socio-cultural and politico-economic realms; on the contrary, it was the ready and widespread absorption of cybernetics into almost every social form and knowledge system that effaced its name from our memory of the recent intellectual history. By the time of the late 1960s, cybernetics already had become a universal "way of looking at things and … a language for expressing what one sees,"[50] manifesting itself "practically through the world itself, which it configures every day."[51]

Cybernetics and the Rationalization of the Human Thought Process

[50] Ranulph Glanville, "Second Order Cybernetics," ed. Francisco Parra-Luna, *Systems Science and Cybernetics Volume III* (Oxford: Eolss Publishers, 2009), 65. The quotation is how Margaret Mead described cybernetics in her keynote paper ,"The Cybernetics of Cybernetics" (1968), for the first symposium of the American Society for Cybernetics (ASC), which mirrored the previous decade's Macy Conferences in many respects. As the title reflects, her paper marked the important turn from first-order cybernetics as a mathematical computational technology to keep systemic equilibrium to second-order cybernetics that became a socio-epistemological model for various self-reflexive, self-regulating open systems.

[51] Tiqqun, "The Cybernetic Hypothesis." *Tiqqun* 2 (2001), 15.

Cybernetics was first developed by Norbert Wiener during World War II as a mathematical engineering technology to predict the future position of an enemy plane by analyzing the pattern of its past movements.[52] Against the German prestige in aviation at the beginning of the war, in 1941, Wiener embarked on the effort to build "a remarkably ambitious calculating device that he called the 'antiaircraft (AA) predictor,' designed to characterize an enemy pilot's zigzagging flight, anticipate his future position, and launch an antiaircraft shell to down his plane."[53] However, as Wiener himself says, in attempting to create a "mechanics-electronic system which was designed to usurp a specifically human function—in the first case, the execution of a complicated pattern of computation, and in the second, the forecasting of the future"[54]—the key problem he encountered was the randomness or irregularity in the operation of the plane introduced by the *human* pilot. The opaqueness of human consciousness was a disturbance to the system of control Wiener was trying to construct and had to be somehow dealt with scientifically.

Wiener's solution to this problem was simple and practical. Since he thought the inner life of human beings—whether we call it consciousness, mind, or even soul—was hardly accessible

[52] In the summer of 1947, Norbert Wiener coins the term *cybernetics* "to call the entire field of control and communication theory, whether in the machine or in the animal," deriving it from "the Greek κυβερνήτης or steersman." Norbert Wiener, *Cybernetics: Or Control and Communication in the Animal and the Machine*, 2nd ed. (Cambridge, Mass.: MIT Press, 1965), 11. For the war-time origin of cybernetics and Wiener's work in it, see Wiener's introduction to *Cybernetics*; Norbert Wiener, *I Am a Mathematician: The Later Life of a Prodigy* (Cambridge, Mass.: MIT Press, 1964); Peter Galison, "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," *Critical Inquiry* 21, no. 1 (October 1994); and David A. Mindell, *Between Human and Machine: Feedback, Control, and Computing before Cybernetics* (Baltimore: Johns Hopkins University Press, 2002).

[53] Galison, "The Ontology of the Enemy," 229.

[54] Wiener, *Cybernetics*, 6.

and approvable by scientific methods, he approached the pilot based on *observable and calculable* behaviors alone. He later describes this behaviorist method in his autobiography:

> It does not seem even remotely possible to eliminate the human element as far as it shows itself in enemy behavior. Therefore, in order to obtain as complete a mathematical treatment as possible of the over-all control problem, it is necessary to assimilate the different parts of the system to a single basis, either human or mechanical. Since our understanding of the mechanical elements of gun pointing appeared to us to be far ahead of our psychological understanding, we chose to try to find a mechanical analogue of the gun pointer and the airplane pilot.[55]

One of the important lessons Wiener learned from the AA predictor project was that "the conceptualization of the pilot and gunner as servomechanisms within a single system was essential and irreducible."[56] For the scientific representation of the world—to describe the actions of the animal and the machine as something computable and controllable in a universal language, in this case, the language of scientific rationalization—the differences between organic *or* non-organic beings had to be flattened out. For instance, in an article Wiener published with Dr. Rosenblueth, a research partner from the earliest stage of his cybernetic research, they say "[w]e believe that men and other animals are like machines from the scientific standpoint because we believe that the only fruitful method for the study of humans and animal behavior are the methods applicable to the behavior of mechanical objects as well. … [A]s objects of scientific enquiry, humans do not differ from machines."[57]

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[55] Wiener, *I Am A Mathematician*, 251-2.

[56] Galison, "The Ontology of the Enemy," 240.

[57] Arturo Rosenblueth and Norbert Wiener, "Purposeful and Non-purposeful Behavior," *Philosophy of*

The "mechanical analogue" Wiener found both in humans and machines was servomechanism, a system of circular process that corrects its errors through negative feedback, which Wiener explains thus: "when we desire a motion to follow a given pattern, the difference between this pattern and the actually performed motion is used as a new input to cause the part regulated to move in such a way."[58] For example, in a series of experiments intended to simulate a war situation, the erratic differences between the desired and actual location of the light-spot mimicking the movements of the plane were recorded, and the data provided "a way to duplicate … the properties of the type of irregular motion of an airplane in flight."[59] Once the pilot's behavior was observed as a self-correcting feedback mechanism, every activity involved in the steering of the plane turned into a message, "a discrete or continuous sequence of measurable events distributed in time" as Wiener defined it.[60] And henceforth "[t]he prediction of the future of a message" became feasible "by a scheme of mathematical computation."[61]

The behaviorist method Wiener took to mathematically represent and anticipate the action of the pilot-plane implies a fundamental feature in the cybernetic understanding of the world: the *black-box*. A black-box is "an as yet [un]analyzed non-linear system" that functions but only can be described in terms of its incoming and outgoing signals without any knowledge of its inner workings.[62] In Turing's famous "Imitation Game," for example, as long as the machine can

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Science 17.4 (October 1950), 326.

[58] Wiener, *Cybernetics*, 6.

[59] Wiener, *I Am A Mathematician*, 251. For the central role servomechanical theory played in early cybernetics, see Galison, "The Ontology of the Enemy," 236-45.

[60] Wiener, *Cybernetics*, 8.

[61] Ibid., 9.

[62] Ibid., x.

statistically mimic the inter-relations between inputs and outputs of the mechanism of human behaviors, "whether machines are or can be like men"[63] and "Can machines think?"[64] become *irrelevant* questions. Similarly, an AI running Google translation does not need to understand the meaning of what is being said as long as it figures out the syntactic correlations between different signs. In a like manner, the stockbroker in Don DeLillo's *Cosmopolis* does not need full comprehension of the inner workings of the market or of the exact mechanisms of finance in order to make profit from its ebbs and flows.

Hence, in this black-box vision of the world, the question of Being is replaced by *cybernetic functions*. If the actions of any organism can be represented and predicted through the mathematical model of a communication system, what matters is not "who you are" (whether you are an Axis opponent pilot or an Allied AA gunner) or "what it is" (whether it is a human element or a mechanical one); rather, its relational position or function in the network of difference is all that matters.[65] In the cybernetic configuration of the world, the key is the external function, position, and form—not the content.

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[63] Rosenblueth and Wiener, "Purposeful and Non-purposeful Behavior," 326.

[64] Alan M. Turing, "Computing Machinery and Intelligence," *Mind* vol. LIX no. 236 (1950): 433.

[65] In this manner, cybernetics exhibits a logical and operational affinity with the system of language. Responding to Weiner's opposition to application of cybernetics into the social sciences in 1949—"a possible extension to the social sciences of the mathematical methods of prediction which have made possible the construction of the great modern electronic machines" (55)—Lévi-Strauss called attention to the isomorphic structure between language and cybernetics: "there … is at least one area of social sciences where Wiener's objections do not seem to be applicable, where the conditions which he sets as a requirement for a valid mathematical study seem to be rigorously met. This is the field of language, when studied in the light of structural linguistics, with particular reference to phonemics" (56). As a network of discrete units that can be represented mathematically and through their interrelational functions, cybernetics and language share the same form of systemic operation, which Heidegger was also aware of in 1965 when he said, in cybernetics, "the human being must be represented in such a way that language can be explained scientifically as something computable, that is, as something that can be controlled" (92). Although this kind of formal homology can be found in multiple instances throughout different social communicative systems, I will argue that literature takes a special place in its formal relation to

The liquidation of the problems of Being by the logic of cybernetics undoubtedly disturbed Martin Heidegger, among many other philosophers. However, by 1964, it already seemed unavoidable for him to make a reluctant, or at least apprehensive, declaration of the end of philosophy brought about by cybernetics. In a lecture titled "The End of Philosophy and the Task of Thoughts," Heidegger claims, "[p]hilosophy is ending in the present age. It has found its place in the scientific attitude of socially active humanity. … The sciences are now taking over as their task what philosophy in the course of its history tried to present … that is, the ontologies of the various regions of beings (nature, history, law, art)."[66] Such pervasive scientism, according to Heidegger, was embodied above all else in cybernetics. "[N]o prophecy," he proclaims, "is necessary to recognize that the science now establishing themselves will soon be determined and guided by the new fundamental science which is called *cybernetics*."[67]

Indeed, during the two decades between Wiener's AA predictor and Heidegger's "The End of Philosophy," cybernetics had gained increasing support and attention from a wide range of disciplines and thus acquired the status of a universal representational mode of the scientific inquiry of the world. As Peter Galison elucidates in "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," step by step, Wiener "came to see the predictor as a prototype" not only of the mind of the Axis or Allied pilots but also "of human proprioceptive

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cybernetics (and capitalism, which completely absorbed the logic of the former), not just another example among them. See Claude Lévi-Strauss, "Language and the Analysis of Social Laws," *Structural Anthology*, trans. Claire Jacobson and Brooke Grundfest Schoepf (New York: Basic Books, 1963) and Martin Heidegger, *Zollikon Seminars: Protocols-Conversations- Letters*, ed. Medard Boss (Illinois: Northwestern University Press, 2001).

[66] Martin Heidegger, "The End of Philosophy and the Task of Thought," *On Time and Being*, trans. John Stambaugh (Chicago: University of Chicago Press, 1972), 58. The lecture was held in Paris, delivered and later published in French.

[67] Ibid., 58. Emphasis added.

and electrophysiological feedback systems" in general, which finally expanded to become "the model for a cybernetic understanding of the universe itself."[68] And, from the pilot/gunner-as-servomechanism, it was a short step to "us more generally—we humans—whose intentions could be seen as none other than self-correcting black-boxed entities and finally nature itself that came to be seen as a correlated and characteristic set of input and output signals."[69]

With the growing valence of cybernetics as a new epistemological and representational frame, Wiener notes, neurophysiologists began to see "the equivalents of his neurotic circuits and systems" and their "precise analogue in the computing machine"[70] while anthropologists and sociologists employed cybernetic paradigms to investigate "the importance of the notion and the technique of communication in the social system."[71] Throughout that time, the Macy conferences functioned as an interdisciplinary hub for scholars to share their interest in this new "representational-calculative thinking"[72] and formulate the central concepts of cybernetics. Its participants included not only engineers and mathematicians but encompassed physicists, biologists, neurophysiologists, psychologists, sociologists, anthropologists, and literary theorists among others; and this radical interdisciplinarity gave cybernetics broader implications and general ascendency as an intellectual paradigm.[73] Thus, by the time Heidegger was giving the

[68] Galison, "The Ontology of the Enemy," 229.

[69] Ibid., 264.

[70] Wiener, *Cybernetics*, 14.

[71] Ibid., 24.

[72] Heidegger, "The End of Philosophy," 59.

[73] Sponsored by the Josiah Macy Jr. Foundation and organized by Frank Fremont-Smith, these meetings of wide range of scholars were held from 1946 to 1953. The meetings were led by Warren S. McCulloch, and unlike conventional conferences the participants laid out some unfinished ideas and the following free discussions were the center of the conferences. The transactions of the last five Macy conferences were

lecture on the end of philosophy in the mid-60s, the logic of cybernetics had already become the dominant explanatory model to reshape all spheres of natural and social sciences, proving "the triumph of the manipulable arrangement of a scientific-technological world and of the social order proper to this world."[74]

However, it is not only after the emergence of cybernetics as a computing, information technology in the twentieth century that we see such a mechanical and scientific approach to describing and rationalizing the world. In *Cybernetics*, Wiener acknowledges earlier models of servomechanisms in Watt's eighteenth century steam engine governors and nineteenth century thermostats and ship-steering systems, tracing the origin of the mathematical-technical thinking all the way back to the ancient astronomers and clockmakers.[75] In addition to these earlier mechanical devices, we can also find the proto-cybernetic view of societies in the writings of the seventeenth century political philosophers such as Hobbes (1651) and Locke (1690) and the eighteenth-to-nineteenth century classical economists like Ricardo (1817) , Malthus (1798) , and Adam Smith (1776).[76] In *Control Revolution*, James Beniger writes, "Adam Smith's "invisible

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edited by Heinz von Foerster and published as *Cybernetics: Circular Causal and Feedback Mechanisms in Biological and Social Systems* (New York: Josiah Macy Jr. Foundation, 1950-55) in five volumes. For a collection of all transcripts and protocols of Macy conference contributions, see *Cybernetics: the Macy Conferences 1946-1953*, ed. Claus Pias (Zurich-Berlin: diaphanes, 2003). Also, on the history and the role of the Macy conference in the development of cybernetics, see Steve J. Heims, *The Cybernetics Group* (Cambridge: MIT Press, 1991) and N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press), 50-75.

[74] Heidegger, "The End of Philosophy," 59.

[75] Wiener, *Cybernetics*, 30-44.

[76] See Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. Edwin Cannan (Chicago: University of Chicago Press, 1977); David Ricardo, *The Principles of Political Economy and Taxation* (London: J. M. Dent, 1911); Thomas Robert Malthus, *An essay on the principle of population, or, A view of its past and present effects on human happiness: with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions*, ed. Donald Winch (Cambridge: Cambridge University Press, [1798/1803] 1992); John Locke, *Of Civil Government: Two*

hand" of market forces (1776, p.423), for example, can be seen to result from the interconnected programming of individuals and their organizations," the whole of which appears to operate like a self-regulating feedback machine. In this model of society that "emerges from the interaction of goal-directed behavior," an individual is supposed to act like an information processing machine, making completely rational decisions based on the calculation of "objective facts like the behavior of other actors," as in the model of the pilot/gunner in Wiener's AA predictor. In a strong resonance with the *in*human qualities we have seen in cybernetics, Beniger adds that these socio-political explanations based on programming and control "obviate the need to attribute consciousness, planning, purpose, or any other anthropomorphic qualities," prompting "the special problem of *reification*."[77]

The desire to have a complete, objective, and rational map of the world, of course, is not something new or unprecedented before the rise of early modern scientific thinking. In *Libidinal Economy*, Lyotard introduces a short story by Jorge Luis Borges as a cybernetic fable that showcases the age-old desire for the ultimate scientific representation of the world. In Borges's "On Exactitude in Science," the emperor wants to create a perfect map of his empire that can cover the entirety of his territory in every aspect and "coincide[d] point for point with it."[78] He "wants to eliminate every partial pulsion" to immobilize the body of the land and its people with "stable circuits, equal cycles, predictable repetitions, untroubled accountability," in which

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Treaties (London: J. M. Dent, 1924); and Thomas Hobbes, *Leviathan: On the Matter, Form, and Power of a Commonwealth Ecclesiastical and Civil*, ed. Michael Oakeshott (New York: Macmillan, 1962).

[77] James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, MA: Harvard University Press, 1986), 41.

[78] Jorge Luis Borges, *Collected Fictions*, trans. Andrew Hurley (New York: Penguin, 1999), 325.

Lyotard finds an analogy to "today's science [cybernetics]."[79] What the emperor's desire epitomizes is the old aspiration of Western metaphysics, which had been the goal of scientific thinking since ancient Greek philosophy and culminated in the Enlightenment. Yet, predictably, the emperor's project cannot but fail and at the end of the story the empire falls into ruins after all.

However, there is a different ending in another version of the story. In Lewis Carroll's earlier version of the story Borges reframes, the executives of the country do not let the whole system collapse pursuing the unattainable dream of a perfect scientific rationalization of the world. Rather, they decide to have the imperfection, fluctuation, and unpredictability—simply, *reality,* in other words—fed back into their systemic configuration of the world. In this version, they succeed to make "a map of the country, on the scale of a *mile to the mile*" but "the farmers objected" and adjustments are made; one of the characters report the subsequent measure as follows: "they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well."[80] It is this *map-country* doing "nearly as well" that the history of cyberneticization has come to achieve—the collapse of the binary between reality and representation when the world is fully rearranged and operating according to the cybernetic logic, a logic that does not uphold the traditional distinctions such as subject-object, control-autonomy, word-world, and art-work.

The transition from an exact scientific map in Borges's fable to a map-country in Carroll's story corresponds to the historical metamorphosis of cybernetics which I will examine in the

[79] Jean-Francois Lyotard, *Libidinal Economy*, trans. Iain Hamilton Grant (Bloomington: Indiana University Press, 1993), 215.

[80] Lewis Carroll, *Sylvie and Bruno Concluded* (London: McMillan, 1893), 169.

following parts; unlike Borges's emperor, contemporary capitalism no longer aims at having an accurate picture of the future of the market (or the world itself) and regulating the unexpected crisis. Instead, it transcendentally endorses and welcomes unexpected happenings, crises, and noises to "get along with" the fluctuating world (the "sunlight" the system needs to breathe and grow constantly). Yet, before capitalist managerialism turned into this flexible, autonomous, and reality-positing autopoiesis, it first fully embraced and realized the scientific rationalization—the goal of first-order cybernetics—in the process of production as its prime control technology.

Still, as Clifford Siskin points out in *System: The Shaping of Modern Knowledge,* it was not until the calculative-systemic turn starting in the seventeenth century that the long-held, seemingly unattainable dream of Western metaphysics, the complete scientific representation of the world, finally started to look probable and feasible. Newton's invention of calculus, Siskin notes, following and stimulated by Galileo's discovery of cosmic system, verified "the conviction that became so central to Enlightenment—the conviction that the world could be known"[81] through rational and scientific method, by providing "the mathematical 'fact'—the law of gravity—that confirmed the philosophical truth of *system*: that 'all' truths were 'closely connected together.'."[82] Thus, Newton's *Principia* (1687) was considered to have achieved the "unprecedented purchase on the real"[83] and proved Galileo's belief that the universe "is constantly open before our eyes … written in mathematical language."[84] The rest of the story

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[81] Clifford Siskin, *System: The Shaping of Modern Knowledge* (Cambridge, MA: MIT Press, 2016), 92.

[82] Ibid., 95. The enclosed quotation is from Adam Smith's appraisal on Newton's *Principia*. See Adam Smith, *Essays on Philosophical Subjects: The Glasgow Edition of the Works and Correspondence of Adam Smith*, ed. D. D. Raphael and A. S. Skinner (Oxford: Clarendon Press, 1980 [1795]), 105.

[83] Ibid., 94.

[84] Ibid, 97. Siskin is quoting from Galileo Galilei, *The Essential Galileo*, ed. and trans. By Maurice A. Finocchiaro (Indianapolis, IN: Hackett, 2008), 183; The quoted line is from Galileo, *The Assayer* (1623).

Siskin delineates in his book is well-known to us: "system's emergence as the primary form of Enlightenment and the norm for modern knowledge … from Galileo's 'system of the World' to Newton's to Enlightenment encyclopedism to modern disciplinarity and, now, the computational universe."[85] And, of course, Locke and Smith were among the early modern inheritors of this new legacy that is systemic thinking, admiring and attempting to follow in the epistemological and methodological implication of Newton's *Principia*: "*calculating* the world and *systematizing* it."[86]

Hence, the logic of cybernetics, the "representational-calculative thinking"[87] Heidegger anticipated to be a predominant thought frame and representational mode of the world, did not abruptly emerge from the twentieth century technological advances. The principles early cyberneticians postulated for their computing devices—rational and scientific knowability, mechanical and mathematical representation, and technological manipulation of the world—have their origins in the foundations of Western European thought. As Heidegger argues in his lecture, "the empirical science of man, of all of what can become the experiential object of his technology for man" can be traced back to "the age of Greek philosophy." Therefore, he concludes, the "end of philosophy" marked by the new dominance of cybernetics does not

[85] Ibid., 7.

[86] Ibid., 94. It is no surprise that both Locke (only a few years after the publication of *Principia*) and Smith (around a century later) explicitly expressed their endorsement and admiration for Newton's system. Smith, for example, asserted it had "gained the general and complete approbation of mankind" with "the discovery of an immense chain of the most important and sublime truth," while Locke said "the incomparable Mr. Newton, has shown how far mathematics [can] … carry us in the knowledge of … the incomprehensible Universe." See Siskin, *System*, 92-94. Quotations are from Adam Smith, *Essays on Philosophical Subjects*, 105; John Locke, *Some thoughts concerning education* (London: Printed for A. and J. Churchill, 1693), 232.

[87] Heidegger, "The End of Philosophy," 59.

denote "the mere dissolution of philosophy" but indeed "is in truth its completion."[88] The emergence of cybernetics was an extension and fruition of the history of Western philosophy endeavoring for complete rationalization and mastering of the universe—in Heidegger's words, "the completion of metaphysics"[89] in which "the whole of philosophy's history is gathered in its most extreme possibility."[90]

Capitalism and the Rationalization of Society

While cybernetics as an information technology indicated the "mechanization of processes of thought,"[91] the mechanization of human body had already been incorporated into the capitalist mode of production. Around the same time as the rise of early servomechanisms and feedback rhetoric in political economy, capitalists began to see the laboring body as a particular kind of machine. In *The Human Motor,* Anson Rabinbach writes "[t]he new technology of the Industrial Age thus produced a new image of the body whose 'origins lie in labor power'"; in this view, "[t]he body is not simply analogous to, but essentially identical with a thermodynamic machine."[92] With the increased efficiency and speed of production empowered by the Industrial Revolution, modern industrial plants demanded "the bodies, or corporal mechanisms, to be harmonized with the work process"[93] at their full capacities. More than a

[88] Ibid., 57.

[89] Ibid., 56.

[90] Ibid., 57.

[91] Wiener, *Cybernetics,* 12.

[92] Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic Books, 1990), 61.

[93] Ibid., 190.

century before Wiener and Rosenbluth's flattening of organic and inorganic beings, this capitalist utopian idea of the "working-body-as-motor," operating incessantly without fatigue, sought to erase the difference between human body and machine except with respect to the former's deployment: "[t]he animal body … does not differ from the steam-engine as regards the manner in which it obtains heat and force, but does differ from it in the purpose for, and manner in which the force gained is employed."[94]

Such mechanistic conceptualization of the laboring body enabled the calibration of the movement of work, whose enhanced calculability and predictability and its institutionalization made modern capitalism qualitatively different from earlier modes of production. From the eighteenth century factory codes "with the time-sheet, the time-keeper, the informers and the fines"[95] to Fordism and Taylorism in the twentieth century, the rationalization of working body was implemented through "the decomposition of each task into a series of abstract, mathematically precise relations, calculable in terms of fatigue, motion, units of work, and so forth"—strongly echoing the mathematical decomposition of the enemy-pilot's movement in Wiener's AA predictor—with a goal for "economizing motion and achieving great work performance through adapting the body to technology."[96] In other words, when the scientific-calculative view of the world converged with capitalist managerialism, "it immobilize[d] the body" of the laborer and "eliminate[d] every partial pulsion" from it, as Borges's emperor did

[94] Ibid., 61. Rabinbach is quoting from Hermann von Helmholtz, "Über die Wechselwirkung der Naturkräfte und die darauf Bezüglichen neuesten Ermittelungen der Physik," [1854] *Populäre wissenschaftliche Vorträge*, 2nd ed., vol. 1 (Braunschweig, 1876), 125, 163.

[95] E. P. Thompson, "Time, Work-discipline, and Industrial Capitalism," *Past & Present* 38 (Dec 1967), 82.

[96] Rabinbach, *The Human Motor,* 242.

with his territory. According to Lyotard, such desire for complete control and stable representation of the (human and social) body is the totalitarian "madness of political economy"[97] and can be found "in every cybernetic system."[98]

If Taylorism was a process of rationalization "at the level of the labourer's 'body',"[99] the rise of bureaucracy denoted a general tendency to rationalize the social body as a whole. "[A]mong all the technological solutions to the crisis of control" brought by the increasing complexity and velocity of the social environment after the Industrial Revolution, Beniger claims that "foremost"—"in that it served to control most other technologies—was the rapid growth of formal bureaucracy."[100] Bureaucracy has become, as Max Weber analyzes, the first modern control apparatus that established "a permanent structure with a system of rational rules"[101] grounded on the belief that "one can, in principle, master all things by calculation."[102] This promise of world-mastery through calculative reason became a paradigm of social modernity by realizing "the vision of society whose productive potential is ultimately linked to a calculus about the limits of society's ability to reduce social risks without damaging industrial growth and restricting freedoms,"[103] the embodiment of which in economic planning was the Keynesian

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[97] Lyotard, *Libidinal Economy*, 215.

[98] Ibid., 212.

[99] Ibid., 214.

[100] Beniger, *The Control Revolution*, 13.

[101] Max Weber. "The Sociology of Charismatic Authority," *Max Weber: Essays in Sociology,* eds. and trans. H.H. Gerth and C. Wright Mills (New York: Oxford University Press, 1946), 245.

[102] Weber, "Science as a Vocation," *Max Weber: Essays in Sociology,* 139.

[103] Rabinbach, *The Human Motor*, 293.

model of economy. Hence, when cybernetics was introduced into managerialism after the Second World War, it was almost a 'dream-come-true' for modern industrial bureaucracy, turning the society as a whole into an unprecedentedly capable and efficient processing machine. The continuous growth in capitalist production and profit until and especially in the 1950-60s, furthermore, seemed to promulgate Weber's description of "the fate of our time" that he asserted was "characterized by rationalization and intellectualization and, above all, by the disenchantment of the world."[104]

However, the economic growth under the mechanization of human body and the scientific rationalization of managerial systems did not come without social costs. Through the institutional innovations, capitalists expected the workers to initiate a kind of "character-reformation": the "changes of attitude and belief [that] are necessary if rapid economic and social development is to be achieved." The qualities desired by the executives included "Punctuality," "Rationality and problem-solving," "Discipline, deference to legitimate authority," and most importantly "Impersonality: judgement of merit and performance, not social background or irrelevant qualities."[105] Once again, in the rationalization of capitalist production, the human element—or what makes a person who she is—is dismissed as something *irrelevant*, or even something to be suppressed for the precise functioning of the system, just as cybernetics deemed it a vexatious noise that disrupts the orderly operation of a mechanism.

While such capitalist "provision of ideological orientations"[106] indeed attained a measure of success in shifting laborers' behaviors throughout the early and mid-twentieth century, the

[104] Weber, "Science as a Vocation," 155.

[105] Thompson, "Time, Work-Discipline, and Industrial Capitalism," 94.

[106] Ibid.

resistance against the dehumanization of scientific management practices such as centralized bureaucracy, Taylorism, and Fordism had also become increasingly noticeable in the meantime. In the early process of adoption, techniques of 'scientific' management within industry were the subject to considerable opposition and conflict and continued to draw criticisms in the following decades. For instance, Taylorism was condemned by a French syndicate leader Alphonse Merrheim during the Billancourt Renault strike in 1913 that it "eliminated, annihilated and banished personality, intelligence, even the very desires of the workers, from the workshops and factories."[107] Furthermore, in addition to objections from the trade unions, leftist intellectuals also added their voice to criticize the inhuman work conditions generated by this new configuration of the shop floor. Among them, Otto Bauer, an Austrian democratic socialist, argued in his book *Rationalisierung und Fehlrationalisierung* ("Rationalization and Mis-rationalization") in 1931 that "overly greedy capitalists" were abusing scientific management, reflecting the Marxist view at that time prevalent in Europe that this new system "could be adapted to a vision of society that required the ever-increasing productivity of labor to realize its aim."[108]

Nonetheless, these hostile reactions from the antagonists of capitalism were not merely unfounded complaints or a manifestation of the employees' inveterate grievance against capitalists. When the United States Commission on Industrial Relations carried out "an investigation of scientific management in its relations to labor"[109] in 1914, as a countermeasure

[107] Rabinbach, *The Human Motor*, 241. The original quotation is from Alphonse Merrheim, *Vie ouvrière* (20 February 1913).

[108] Ibid., Rabinbach is referring to Otto Bauer, *Rationalisierung und Fehl-rationalisierung* (Vienna, 1931).

[109] Robert F. Hoxie, *Scientific Management and Labor*, (New York: D. Appleton & Co., 1915), v. Robert

after a union strike at a government arsenal operated by the scientific production system, one of the appointed investigators reported that "the system forced abnormally high speed upon workmen, that its disciplinary features were arbitrary and harsh, and that the use of a stop-watch and the payment of a bonus were injurious to the worker's manhood and welfare."[110] The final investigation report, submitted to the Commission and later published as *Scientific Management and Labor,* also pointed to the trade union statements that the "scientific management" tended to be "[o]pposed to industrial democracy," allowing "the workmen no voice in hiring or discharge, the setting of the task"[111], and "look[s] upon the worker as a mere instrument of production," while reducing "him to a semi-automatic attachment to the machine or tool."[112] In short, the Taylorist system "deal[s] with human beings as it does with inanimate machines,"[113] the report states, as in other instances of technical or social rationalization such as cybernetics that equates the thought process of humans with the flow of data in a calculative mechanism and bureaucracy that sees the society as a large information processing machine connecting numerous human and inhuman actants.

F. Hoxie, a professor of Economics at the University of Chicago at that time, was appointed by the United States Commissions on Industrial Relations to investigate the new system of management that was applied to government arsenals only a few years ago. The investigation committee under chairman Hoxie consisted of representatives for both sides—the employer's and the union's—and the report was completed after investigating "some thirty-five industrial establishments" and interviewing a large "number of individuals connected with the management side, including such leaders of the "scientific management" systems as Mr. Frederick W. Taylor, Mr. Harrington Emerson and Mr. H. L. Grantt" as well as "[w]orkers, organized and unorganized, and trade union officials" (Frey 257). See John P. Frey, "Scientific Management and Labor," *The American Federationist,* XXIII (1), January 1916.

[110] Frey, "Scientific Management and Labor," 257.

[111] Hoxie, *Scientific Management and Labor*, 169.

[112] Ibid., 174.

[113] Ibid., 18.

Analyzing its practical impact on laborers' industrial competency and social life, the report further articulated a deep concern about the disappearance of craftsmen and apprenticeship, replaced by constant specialization and standardization turning "the workers 'of all the traditional craft knowledge'" into "one job or one machine man."[114] The mechanical decomposition of work, meticulously calculated, planned, and operated, "violate[d] the fundamental principles of human nature by ignoring temperament and habits,"[115] while the deskilled and routinized work assigned through a top-down hierarchical system destroyed the wholeness of work and "the totality of social being." In other words, as Rabinbach puts it, due to "the elimination of the 'human element' … from industrial production," "[m]eaning has disappeared from work; consequently work has disappeared as a source of meaning."[116]

In this way, the increasing "specialization … [or] coordination of functions"—in other words, *functional differentiation*—to maximize the capability of control generated the secularization of modern society, which Max Weber finds to be the axiom of the "social aspects of the division of labour."[117] Benjamin Ziemann notes "secularization best interpreted as a result of functional differentiation," due to which "religion had to adapt to the fact that the systemic perspectives or codes of the economy, politics, art and education became independent not only from clerical tutelage, but also developed their own, distinctive rational criteria."[118] In the

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[114] Frey, "Scientific Management and Labor," 265.

[115] Hoxie, *Scientific Management and Labor*, 170.

[116] Rabinbach, *The Human Motor*, 297.

[117] Max Weber, *The Theory of Social and Economic Organization*, ed. Talcott Parsons (New York: The Free Press, 1964), 229.

[118] Benjamin Ziemann, "The Theory of Functional Differentiation and the History of Modern Society," *Soziale System* 13. 1-2 (May 2007): 227.

modern world where religion and culture had already ceased to provide a set of purposes, this new disposition of work only aggravated the disenchantment of modern individuals, who were "vexed with a Faustian restlessness of spirit,"[119] fanatically moving forward but not knowing where to find their relevance to the world. Thus, to borrow Weber's words again, "[t]he fate of our time is characterized by rationalization and intellectualization and, above all, by the disenchantment of the world. Precisely the ultimate and most sublime values have retreated from public life."[120]

Yet, as Jürgen Habermas points out in *Philosophical Discourses of Modernity*, the secularization caused by "the institutionalization of purposive-rational economic and administrative action"[121] was "not only the secularization of Western *culture*" or merely a problem of work condition between the workers and the employer. "What Weber depicted was … the development of modern *societies* from the viewpoint of rationalization,"[122] and "to the degree that everyday life was affected by this cultural and societal rationalization, traditional forms of life—which in the early modern period were differentiated primarily according to one's trade—were dissolved."[123] Indeed, the organizational reconfiguration of the world based on the mathematical calculation of decomposed functions of each unit—whether it is an enemy pilot's movements, a laborer's physical task, or the duty of each bureaucratic division or

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[119] Rabinbach, *The Human Motor*, 296.

[120] Weber, "Science as a Vocation," 155.

[121] Jurgen Habermas, *Philosophical Discourses of Modernity: Twelve Lectures,* trans. Frederick Lawrence (Cambridge: Polity, 1990), 1-2.

[122] Ibid., 1.

[123] Ibid., 2.

compartment—and the desire to maintain the mechanical efficiency and stability of the system pervaded all realms of society throughout this time.

Hence, *rationalization, differentiation*, and *disenchantment* marked the first half of the twentieth century, reshaping the social forms and personal lives in Western industrial countries. The changes in managerialism (or its introduction itself) in business enterprises and organizations led to the "character-reformation"[124] of the whole society as well as the employees, while accelerating individuals' feeling (and actual process) of alienation, inauthentification, and reification. Yet, as I sketched out in Chapter One, we will see this disenchantment return in a full circle and sublated into a kind of re-enchantment in the twenty-first century. The charismatic and spiritual aspect of contemporary capital and the self-throwing devotion of the millennial entrepreneurs result from the advent of the re-enchantment of modern individuals at the apex of disenchantment.

This remarkable qualitative transformation of capitalism was a result of the socio-cultural reaction against the unlimited rationalization and ensuing dehumanization intensified throughout the first half of the twentieth century; And it was cybernetics, I would argue, which went through its own transformation at the same time, that provided the various counter-movements (not only in science and technical sectors but in subcultures, art, business theories, academic disciplines, and politics) with underlying logical frames and ideological models. The cybernetic concepts such as feedback, self-reflexity, and autopoiesis marked the transition in thought from linearity, one-directionality, hierarchy, and order to circularity, communication, openness, and emergence—that mirrors the transformation of cybernetics from Wiener's computational technology to second-order cybernetics as a general social theory—which predominated the

[124] Thompson, "Time, Work-Discipline, and Industrial Capitalism," 94.

socio-cultural and institutional changes in the Western world since the late 1960s. In the following sections, I will overview the progressive demands from the ’60s counter-movements and the subsequent institutional changes in capitalist managerialism, which will prepare us for the analysis of their cybernetic links in their historical and theoretical formations.

The 1968 and the Artistic Critique of Capitalism

If “an abundant past” is “a means to keep futures open,” as Michel Serres has it, the 1968 was an abundant moment on many fronts.[125] What caused the widespread protests and resistance across the globe in the late 1960s and how it transformed the post-68 world is still an active and open question; yet, among the multifarious relations and factors, the accumulated social discontent and heightened anxiety from the hyper-rationalization of the world, and the ensuing dehumanization of individual life, were not the least or trivial elements. Against the oppressive socio-cultural system, various leftist and student protest groups demanded more autonomy and democracy in private and public world. And, along these lines, the significance of the 1968 movement is often, and rightly, found in its revolutionary and liberal impact on the Western world in the late twentieth century.

Nonetheless, what is important for us—in terms of the historical mutation of capitalist managerialism, as well as the cybernetic reconfiguration of the post-1945 world at large—is rather the unexpected, inadvertent, and paradoxical social changes the 1968 generated. As Luc Boltanski and Eve Chiapello elaborate in *The New Spirit of Capitalism,* and as I will soon discuss in detail, it was one of the most critical challenges capitalism had faced since the

[125] Vera Bühlmann, *Mathematics and Information in the Philosophy of Michel Serres* (London: Bloomsbury Academic, 2020), 152.

Industrial Revolution.[126] Yet what seemed to be a positive counterpoint to defy the capitalist system later turned out to ironically bolster the virility of capitalism by helping it transcend itself, gain new vitality, and become the contemporary capitalism we know today. This historical process of the capitalist metamorphosis is cybernetic in itself, moving in a positive feedback loop (converting an external disturbance into information to update and enhance its internal systemic operation) and pursuing systemic criteria as its functional logic (autonomy and self-regulation), through which we will also discover the deeply entangled relationship between cybernetics, counterculture, and capitalist managerialism.

Considering the continued mechanization of human life both in public and private sectors throughout the first half of the twentieth century, it is not surprising that one of the most representative slogans from the 60s' student movements highlighted their autonomy and humanity by saying "We're human beings."[127] On December 2, 1964, more than five thousand students marched at UC Berkley to demonstrate against the "autocracy" of the university, the corporate world, the militancy, and any authoritative and hierarchical forms of power that reduce "the otherwise complex and creative" individuals into a mere "cog going through pre-programmed motions."[128] In front of the students gathered at Berkeley's Sproul Hall, Mario Savio, one of the student leaders, stepped to a microphone and spoke: "We're human beings. … There's a time when the operation of the machine becomes so odious, makes you sick at heart,

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[126] Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism,* trans. Gregory Elliott (London: Verso, 2007).

[127] Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2006), 11. Turner is quoting from Mario Savio's address reported in Hal Draper, *Berkeley: The New Student Revolt* (New York: Grove Press, 1965), 98.

[128] Ibid., 12.

that you can't take part, you can't even tacitly take part. And you've got to put your bodies upon the gears and upon the wheels, upon the levers, upon all the apparatus, and you've got to make it stop. And you've got to indicate to the people who run it, to the people who own it, that unless you're free, the machine will be prevented from working at all."[129]

The "machine" Savio claimed the students were willing to throw their bodies to stall its operation until they were "free" does not only signal the Taylorist assembly machines on a factory floor but also refers to the socio-economic world as a whole, running like a programmed machine. The '68 generation had grown up in a world characterized by rigid organization, mechanical regulation, and elimination of the human elements from its structural configuration. Daniel Bell later described this particular phase of capitalism
governed by scientific rationalization as follows:

> The world has become technical and rationalized. The machine predominates and the rhythms of life are mechanically paced … It is a world of scheduling and programming in which the components are brought together at exact moments for assembly. It is a world of coordination in which men, materials, and markets are dovetailed for the production and distribution of goods. It is a world of organization—of hierarchy and bureaucracy—in which men are treated as things because one can more easily coordinate things than men.[130]

In this kind of world operating like a servomechanism that reconfigures time and energy and regulates "men, materials, and markets" with no practical distinction—notably echoing Wiener

[129] Ibid., 11. The original quotation is from Draper, *Berkeley*, 98.

[130] Daniel Bell, *The Cultural Contradictions of Capitalism* (New York: Basic Books, 1976), 147.

and Rosenblueth's methodological de-differentiation between human and machine for their theoretical manageability—the young generation in the 1960s felt like they were "little more than an IBM card"[131] going through the mechanism of the university to be sold out for the corporate world. Grown up in the post-war economic abundance and received higher education than their previous generation, they expected more freedom, autonomy, flexibility, and democratic participation in their work, as well as in other public spheres; but, as a sociologist anticipated, the reality of the society "designed for automatic operation" was rather the one validating the students' frustration and pessimism: "Instead of functioning actively as an autonomous personality, man will become a passive, purposeless, machine-conditioned animal whose proper functions, as technicians now interpret man's role, will either be fed into the machine or strictly limited and controlled for the benefit of depersonalized, collective organizations."[132]

Disaffection with the repressive social environment of modern industrial society was shared and vindicated not only by student protesters in Europe and America, but also by many contemporary thinkers and intellectuals, as well as hippies, leftists, bohemian artists, and other countercultural movements during the political and cultural turmoil that culminated in the revolts of 1968. Many believed the "increasing rationalization of society" turned the man into "the cheerful robot," as C. Wright Mills put it, who "flourishes … [in] the antithesis of the free society—or in the literal and plain meaning of the word, of a democratic society."[133] Herbert

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[131] Mario Savio, "California's Angrist Student," *Life*, 26 February 1965; cited in Turner, *From Counterculture to Cyberculture*, 12.

[132] Lewis Mumford, *The Myth of the Machine: Technics and Human Development* (New York: Harcourt Brace and World, 1967), 3.

[133] C Wright Mills, *The Sociological Imagination* (Oxford: Oxford University Press, 1990 [1959]), 172.

Marcuse, in a similar vein, claimed in *One Dimensional Man* (1964)—to which "the New Left and antiwar movement … radicals turned"[134] for their central themes and inspiration—that "contemporary industrial society tends to be totalitarian," for "'totalitarian' is not only a terroristic political coordination of society, but also a non-terroristic economic-technical coordination."[135] With "the rationalization of the productive apparatus," Marcuse notes elsewhere, "all domination assumes the form of administration."[136]

In *The New Spirit of Capitalism*, Luc Boltanski and Eve Chiapello call this global resistance to "the everyday oppression and sterilization of each person's creative, unique powers produced by industrial, bourgeois society" *the artistic critique*, and trace the history of how a "new spirit" of capitalism has emerged from it.[137] Similar to the remark made by the labor representative of the 1914 investigation for the United States Commission on Industrial Relations, one of the main themes of the artistic critique was that "human nature or human qualities and characteristics are prone to upset the rigid rules of mechanical motions" and that "the efficiency experts had failed to standardize … they could not standardize … the physical

[134] Douglas Kellner, "Introduction," Herbert Marcuse, *One-Dimensional Man*, 2nd ed. (Boston: Beacon Press, 1991 [1964]), xxxvi.

[135] Marcuse, *One-Dimensional Man*, 3.

[136] Herbert Marcuse, *Eros and Civilization: A Philosophical Inquiry into Freud* (Boston: Beacon Press, 1974 [1955]), 98.

[137] Boltanski and Chiapello, *The New Spirit of Capitalism*, 199. They describe the situation that brought about the artistic critique as follows: "on the one hand, the disenchantment, the inauthenticity, the 'poverty of everyday life', the dehumanization of the world under the sway of technicization and technocratization; on the other hand, the loss of autonomy, the absence of creativity, and the different forms of oppression in the modern world … denunciation of 'hierarchical power', paternalism, authoritarianism, compulsory work schedules, prescribed tasks, the Taylorist separation between design and execution, and more generally, the division of labour." (170)

and mental qualities of the workers, their vitality, [and] their ambition."[138] The artistic critique from the counter-movements in the late 1960s thus denounced "'hierarchical power', paternalism, authoritarianism, compulsory work schedules, prescribed tasks, [and] the Taylorist separation between design and execution" and demanded "autonomy and self-management, and … unbounded liberation of human creativity"[139] in work places and organizations. As Boltanski and Chiapello point out, the critique from students and young intellectuals was soon "extended to *cadres* or engineers who had recently left the university system,"[140] concomitant with the widespread protests happening in other social spheres. Thus, "the anti-bureaucratic struggle for autonomy at work"[141] also started to develop *inside* the world of production throughout the late 1960s and early 70s.

Unsurprisingly, employers' reaction to such demand was an allergic and agitated one. They deemed it a crisis of control and a "dangerous and intolerable interference" in their governance over the firm. Against the increasing call for self-management and democracy at work from within—the managers, engineers, semi- or un-skilled workers all together—the employers' federation in France, for instance, declared its position repeatedly in 1965 and 1968: "When it comes to the managing firms, authority cannot be shared."[142] However, from the mid-1970s, dramatic changes in policies and philosophies of corporatism started to appear in management literature and practices. In one of the major business conventions held in France in

[138] Frey, "Scientific Management and Labor," 266.

[139] Boltanski and Chiapello, *The New Spirit of Capitalism*, 170.

[140] Ibid., 169.

[141] Ibid., 178.

[142] Ibid., 184.

1977, Boltanski and Chiapello find "the first large-scale public manifestation of the spirit of '68 in the world of the employers," which presented "several hundred 'innovations' introduced over the course of the decade in firms" inspired by the artistic critique. To their surprise, especially considering the employers' vehement rejection not long ago, the reformation of managerial methods introduced in these case reports included "an experiment conducted in a Rouen metallurgy from 1974 onward, consisting in the abolition of assembly-line work … in order to 'afford everyone greater autonomy'"[143]; a case "at Peugeot from 1973, accompanied by a 'modification of hierarchical structures in order to reduce the number of levels of command and enhance workshop autonomy'"; and numerous organizational "experiments in variable hours, part-time work, the 'flexible week,' … 'adjusted retirement'" [144] among many others.

While it took several years for the business entities to institutionalize these innovations, the initial attempts to remodel corporate managerialism were, in fact, detected as early as 1971. In a report published by the French employers' organization (the CNPF: Conseil National du Patronat Français), firms were encouraged to "move towards 'flexible hours, that is to say, accepting certain differences for part of the workforce … a sense of freedom, of autonomy'"[145] and to embody "'*a new conception of the role of managerial staff*, with supervisors playing not so much the role of boss as of adviser to autonomous groups' … of wage-earners themselves 'identifying the problems, discussing possible solutions, and then arriving at shared decisions'"—markedly heralding the essence of the 'innovations' Parker would bring to Karmøy

[143] Ibid., 191-192.

[144] Ibid., 192.

[145] Ibid., 192. The enclosed quotation is from CNPF, *Le problèm des OS*, (Paris: CNPF, 1971), 14.

Fabrikker in fifteen years. Demonstrating the pervasiveness of such shifts in organizational philosophy at a global level, in 1972, the OECD also published similar proposals, which emphasized "the necessity of developing responsibility, autonomy, and creativity" in workers and stated that "'[t]he criterion used for measuring individual success' … 'consists less and less in technical skill, and greater emphasis is placed on a *constant ability to acquire new qualifications* and perform new tasks: thus social maturity will find expression in creative imagination and not in mastery of an age-old occupation.'"[146]

The conceptual transition in managerialism from regulation to self-organization, from stability to flexibility, and from technical precision to creative imagination seems abrupt but undoubtedly explicit in those statements. What is extraordinary about this transformation is, as Boltanski and Chiapello point out, that this swift and "massive redeployment of capitalism" is achieved "without an overall plan and without challenging the main 'social entitlements' of the previous period head-on or outright." Hence, "it changed the character of the whole society without a *coup d'état*, revolution or commotion, without wide-ranging legislative measures, and virtually without debate,"[147] in retrospect, compelling us to wonder how such a substantial and extensive change was even possible to take place in such a short time-span.

In a nutshell, this was possible because satisfying the demands from the artistic critique did not violate or hinder the objectives of the capital. The scientific rationalization of production was not only inhuman and detestable for the workers; but, in fact, by the early 1970s, it had

[146] Ibid., 193. The enclosed quotation is from CNPF, *Le problèm des OS*, 16 and from OECD, *Les Nouvelles attitudes et motivations des travailleurs*, (Paris: Direction de la main-d'oeuvre et des affaires sociales, 1972), 23.

[147] Ibid., 194.

already proved itself to be ineffective and unviable for the employers' pursuit of constant increase of and expansion of capital. With the growing critique both from inside and outside, as well as the self-awareness of their inability to respond to the increasing complexity and uncertainty in the market, corporate managers were keenly aware of the need for change, especially after the early efforts to address and alleviate the labor resistance in the late 60s (mostly the same old measure to go through the union) failed to turn around the situation. Inspired by the artistic critique, disruptive behaviors of the workers at the shop floors continued until the early 70s—indeed, the protesters' threat to stall the operation of the machine was not a mere verbal one or just a menacing metaphor—and "the costs entailed by absenteeism, delays, turnover, obstruction, defective work, below-average productivity, strikes and criticisms, protests or temporary stoppages in the work place" were becoming an unneglectable burden to the employers. Meanwhile, out of line with the current workers' slowdown, the directors of large firms also "fear[ed] a manpower shortage in these years of full employment,"[148] due to the young people's rejection of rote, repetitive work much as to say that they would go "so far as to prefer poverty or begging to factory work,"[149] reported in one OECD conference held in 1971.

Yet, the biggest motivation for the companies' self-initiated reconfiguration of their managerial protocols was the downturn of production and profit. Boltanski and Chiapello note, while "in the 1950s work rationalization was accompanied by significant productivity gains," the firms witnessed a paradoxical inversion in the 1970s, "characterized by 'pursuit of the process of

[148] Ibid., 187.

[149] Ibid., 173. Boltanski and Chiapello are referring to OECD, *Les Nouvelles attitudes et motivations des travailleurs* (1972).

Taylorization' and a conjoint 'collapse in productivity gains'."[150] The scientific rationalization did not promise or result in the growth of profit anymore with the repercussions of the artistic critique; moreover, when the first oil shock and the subsequent recession hit the market in 1974-75, the challenges seemed to call for a fundamental change in the existing management methods. In the middle of this prolonged predicament, there was no reason for the firms not to try out all possible alternatives, one of which was "a break with previous modes of control and an assimilation of demands for autonomy and responsibility hitherto regarded as subversive."[151]

The results of the implementation of these measures were beyond the expectations of the corporate executives. By "recognizing the validity of the demand for autonomy, and even making it an absolutely central value of the new industrial order,"[152] the firms could replace the security of employment with individual autonomy without extra cost or burden. Granting the workers' request for "autonomy of persons … autonomy of organizations," the "world of work now contained only individual instances connected in a network," which allowed the employers to efficiently diminish the power of unions, regaining control over the workforce and organization. Besides, the new requirement of self-management and responsibility was an effective and easy tool that "made it possible to part simultaneously with oppositional workers and abusive petty tyrants." Best of all, through these democratic innovations, the firms could attract young workers again and meanwhile externalize "the very high costs of control by shifting the burden from organizations onto wage-earners."[153]

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[150] Ibid., 175.

[151] Ibid., 191.

[152] Ibid., 190.

[153] Ibid., 191.

In this way, the artistic critique, which had emerged as a challenge to the capitalist system and as an antithesis of its repressive and dehumanizing control technologies, paradoxically became an impetus to capital's reinvigoration. In other words, "by recuperating some of the oppositional themes articulated from the May events" in 1968, "capitalism was to discern, regain initiative, and discover a new dynamism,"[154] paving the way for the autopoietic operation of contemporary capitalism with a renewed spirit. As Rabinbach concludes in the last few pages of *The Human Motor*, through this metamorphosis of capitalism, the nature of work took "a transition from 'work of the laborer to the work of communication,' from work centering on the physiology of muscles and nerves, to work of a 'cognitive or semiotic' nature"[155]; at the same time, the new managerial protocols institutionalized in work places steered the direction of corporate managerialism from control through linear hierarchy and discipline to flexible self-control, constantly processing new inputs and outputs through open communications.

Along with the new mode of production and managerialism, under this reconfiguration of the capitalist system, the image of a model worker also went through a transformation. The qualities of a desirable worker no longer only consisted of "punctuality," "discipline," "rationality," and "impersonality," as listed in the nineteenth century factory code books and upheld in the twentieth century Taylorist or Fordist shop floors. Workers in the new managerial mode after the embrace of the artistic critique were expected to have creativity, plasticity, and adaptability—more suitable characters for "productive dynamism and creative disorder … in which continuous restructurings, reassignments, mergers, and decompositions are celebrated as a

[154] Ibid., 168.

[155] Rabinbach, *The Human Motor*, 298.

way of remaining agile" in the volatility of the market. The old business planning model—which "sought to preserve structural stability through long-range planning, economies of scale" [156]—was shed by corporate entities, seeking to redesign themselves into flexible, adaptive, and self-mutable systems that can handle the turbulence and complexities of the market and eventually "ride the wave" of the unpredictable.

The artistic critique fundamentally transformed the mechanism of capitalist operation, not by political overthrow or subversion, but by its paradoxical assimilation and recuperation into capitalism itself. And the open, voluntary, and spontaneous appearance of this process—without enforcement, restrictions, predetermined programs or strategies—is in itself suggestive of how capitalism henceforth has come to saturate every instance of public and private life in the late twentieth and twenty-first century. Boltanski and Chiapello write:

> By adapting these sets of demands to the description of a new, liberated, and even libertarian way of making profit—which was also said to allow for realization of the self and its most personal aspirations—the new spirit could be conceived in the initial stages of its formulation as transcending capitalism, thereby transcending anti-capitalism as well.[157]

Thus, the casualization of employment, liberalization of economic activities, privatization and deregulation—all moving towards the "libertarian way of making profit"—largely implemented in the late 1980s were not simply direct consequences of a new set of government policies (such as Thatcherism in the UK or Reaganomics in America) or a sudden conversion to a new economic model (the so-called "neoliberal") replacing the Keynesian planning. Rather, it was the

[156] Bernes, *The Work of Art in the Age of Deindustrialization*, 100.

[157] Boltanski and Chiapello, *The New Spirit of Capitalism*, 201.

‘innovation’—which was brought to capitalist managerialism as a response to the critique from the ’60s leftist-liberals and thought to represent progress, shifting away from the oppressive post-World War industrial world—that induced this massive self-modification of capitalism moving towards the endlessly self-adjusting and self-regulating operations of Post-Fordist capitalism, which does not even have to bother to control or ideologize its subjects any more. The liberating, or even democratic, charm the newly modified spirit of capitalism showcases—its appeal for “realization of the self and its most personal aspirations”—would evolve to become fully articulated in the twenty-first-century entrepreneurism and work culture, luring millennials into self-grinding professionalism and boundless self-exploitation.

Whether the new spirit was an advance towards more humanistic capitalist practices or a mere morphological update of capitalist exploitation was not clearly discernible in the immediate outlook after the artistic critique; but it was obvious that, at least, some kind of fundamental changes were taking place at that time—not only in capitalist production and managerialism but also in the larger mechanism of capitalist operation, constitutions of socio-cultural values, and the zeitgeist itself. Putting it roughly despite the risk of oversimplification, the shift from control to communication, from management to self-management, and from mechanical regulation to creative emergence first took place in the free spirits and intellectual minds of the ‘60s countercultural movements and consequently inspired the business world to pursue the self-reinforcing metamorphosis of capitalist managerialism.

Yet, what is often forgotten and scarcely discussed is that, in fact, there was another metamorphosis in a different socio-cultural sphere that had happened simultaneously or just a little ahead of these managerial and cultural transformations. And, as we will soon see in detail, the systemic and logical shift carried out in this field played a pivotal role in providing and

guiding the new orientations for subversive countercultures in ‘60s, as well as, ironically (since they were the very adversary those countercultural movements were targeted at), mainstream business organizations and institutions. The area in which this preceding and prototypical shift took place was none other than *cybernetics*—in its self-mutation from first-order to second-order cybernetics, gradually developing and arising from inside of the discipline throughout the two decades between its inception and 1968.

Chapter Two

Cybernetic Ironies: The Metamorphosis of Cybernetics and Contemporary Capitalism

One might want to see the capitalist metamorphosis denoting capital's disengagement or separation from cybernetics, breaking the long-standing ideological and conceptual alliance between cybernetic thinking and capitalism, manifested through Adam Smith to Taylorism and through scientific rationalization and technological innovations up to the mid-20th century. The new spirit of capitalism, pivoting around flexibility, autonomy, creativity, and open communication, which gained refreshed attraction and appeal to the young, creative, and progressive minds as a result, indeed seems to fall in counter-position to the cybernetic principles we have outlined earlier—the mechanical-calculative thinking and scientific representation of the world based on mathematical exactitude and regulatory control. Yet, what if cybernetics itself, by the late 1960s, had already become a dialectical antithesis of its old self, as capitalism did later in its own transformation? What if cybernetics already turned into something different from what it used to be in the 1940s and in Wiener's original formulation? The emergence of second-order cybernetics, whose nascent ideas are found as early as the 1940s and matured into a new paradigm in the 1960s, in fact, marks a historical shift in the ways we understand, organize, and operate systems (systems of any kind or size, from a management unit or a network of neurons to a language system of a tribal community or the entirety of global economy), anticipating and mirroring the subsequent socio-economic and cultural reconfigurations of the post-68 world.

An examination of the historical process of this cybernetic metamorphosis from first-order to second-order cybernetics—that is, from a mathematical control theory of mechanical homeostatic systems to a general theory of the self-reinforcing operation of any self-organizing and autopoietic systems—will allow us to see, eventually, that the creative, liberating, and dynamic turn in capitalist managerialism was not a dissociation from cybernetics, but actually an extended embodiment and actualization of it. The logical shifts first happened in cybernetics with respect to its epistemological frame and operational model, which heavily influenced the '60s counterculturals' mode of thinking and attitudes—directly (the hippies enthusiastically reading Wiener and McLuhan, for example) and indirectly (through the changed socio-cultural atmosphere and disciplinary adaptations) as Fred Turner demonstrates in *From Counterculture to Cyberculture*—and consequently led to the transformation in capitalist managerialism we have seen above. The striking parallel morphology in the steering of direction and the new operational logic after their respective turns in capitalism and cybernetics is, as some scholars have noted, not a mere contemporaneous coincidence but a demonstration of their constitutional and logical homology[158]; indeed, I would argue, it was the cybernetic metamorphosis that provided a logical frame and an epistemological model for the breakthroughs in business theories and managerial strategies that induced "the new spirit of capitalism." Therefore, investigating this complex trajectory and the interconnectedness of cybernetics, counterculture, and capitalist managerialism will also allow us to have a better account of "how we got here"—in other words, how

[158] The qualitative transition in the process of the capitalist metamorphosis, for example, can be readily translated into cybernetic language: in this turn, the functioning mechanism of capitalism ceased to be the one of *negative feedback*, correcting errors through exact calculation and mechanical regulation to preserve the homeostasis of the system, and it subsequently switched to operate in a *positive feedback loop* that updates and (re-)creates itself by openly communicating with the chaotic disorder and noise, which was something to be eliminated and ignored in the previous model.

contemporary capitalism has become the paradoxical, all-encompassing power that it is, presumably with no outside.

In conjunction with the resistance and criticism against the scientific rationalization in the twentieth century—both of human labor and of the society as a whole—cybernetics, as a rationalization of the human thought process, was no exception to the critique of the mechanical and inhuman treatment of its subject. For instance, Gregory Bateson's anthropological and social cybernetics was already receiving stern criticism in the late 1940s on the grounds that analyzing societies "in terms of universal concepts such as feedback and homeostasis … is to ignore the existence of conscious (as opposed to in-built, automatic) process of correction and adaptation."[159] This kind of critique of the elimination of complexity and randomness introduced into a system by human elements is, of course, not unfamiliar to us as we have already seen it regarding Wiener's modeling of AA predictor as well as the rigid mechanization of production in Taylorism and Fordism.

Yet, from the late 1940s to the 1950s, a breakthrough response to this kind of criticism was being formed inside cybernetics. Facing a similar critique of his "game theory," the cybernetician and economist John von Neumann reconceptualized his theoretical model. While his early model of the "game-theoretic rationality"[160] arrived "at definite solutions of the bargaining problem by pure analysis of the profit motive, without getting involved in 'degrees of intelligence,' or other arbitrary 'psychological' assumptions,"[161] in his later theory of automata,

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[159] Seb Franklin, *Control: Digitality as Cultural Logic* (Cambridge, MA: MIT Press, 2015), 55.

[160] Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science* (Cambridge: Cambridge University Press, 2002), 147

[161] Ibid., 143.

he replaced "the concept of the player with that of a cybernetic machine capable of self-regulation through communication and feedback even when unforeseen inputs arise."[162] In this early emblematic transition in von Neumann's theory, Mirowski explains, "some aspects of the formalism … are amended or summarily abandoned. Most obviously, where game theory tended to suppress formal treatment of communication and the role of information, the theory of automata elevates them to pride of place."[163] Thus, in this revised model, in contrast to earlier theoretical principles of cybernetics, "randomization is now rather treated as an oracle,"[164] as a cure for the problem of rigidity in the preprogrammed pattern of cybernetics, anticipating the full furcation of second-order cybernetics from its earlier model.

In his seminal paper "On Self-organising Systems and Their Environments" in 1960, Heinz von Foerster—one of the core participants at Macy gatherings from the early 1940s and probably the most influential figure in the theoretical and institutional development of second-order cybernetics[165]—introduces the principle of "order from noise" as follows:

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[162] Franklin, *Control*, 62.

[163] Mirowski, *Machine Dreams*, 147.

[164] Ibid., 148.

[165] Heinz von Foerster was an early member of the Macy Conferences (1946-53) with Warren McCulloch, Norbert Wiener, and John von Neumann, and also the co-editor of the proceedings of the conferences. In 1968, he organized the first symposium of the American Society for Cybernetics (ASC) and in the following decades has been a leading personality in the reconfiguration of cybernetics into a self-reflexive theory of all self-organizing and self-generating systems. Identifying "Heinz von Foerster … as a transition figure between the first and second waves" of cybernetics, Katherine Hayles analyzes Foerster's contribution to second-order cybernetics as follows: "The second wave was initiated by, among others, Heinz von Foerster, the Austrian émigré who became coeditor of the Macy transcripts. This phase can be dated from 1960, when von Foerster wrote the first of essays that were later collected in his influential book *Observing Systems*. As von Foerster's punning title recognizes, the observer of systems can himself be constituted as a system to be observed. Von Foerster called the models he presented in these essays "second-order cybernetics" because they extended cybernetic principles to the cyberneticians themselves. The second wave reached its mature phase with the publication of Humberto Maturana and Francisco Varela's *Autopoiesis and Cognition: The Realization of the Living*. Building on Maturana's work on reflexivity in sensory processing and Varela's on the dynamics of autonomous biological systems, the two

> Thus, in my restaurant self-organizing systems do not only feed upon order, they will also find noise on the menu. … I would name two mechanisms as important clues to the understanding of self-organizing systems, one we may call the "order from order" principle as Schrodinger suggested, and the other one the "order from noise" principle, both of which require the co-operation of our demons who are created along with the elements of our system, being manifest in some of the intrinsic structural properties of these elements."[166]

The "demon" von Foerster refers to here—not only as a structural by-product of a systemic operation but also as a necessary requisite for the self-organization of a system—is the noise, variation, randomness, disorder, or crisis, which had been the evil to eliminate or ignore for the earlier generation of cyberneticians. Yet, now it is the addition of noise that cyberneticians put more emphasis on, which is thought to sustain the open communication of a system and to give it flexible adaptability for constant self-mutation, in order that the system can "reach stable and (dynamically) self-perpetuating states" by "continuously re-distinguishing the distinction."[167]

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authors expanded the reflexive turn into a fully articulated epistemology that sees the world as a set of informationally closed systems. … Their one and only goal is continually to produce and reproduce the organization that defines them as systems. Hence, they not only are self-organizing but also are autopoietic, or self-making." See N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 2008), 222, 10. Also, for von Foerster's role as "the impresario and entrepreneur" (68) supporting the next generation of second-order cyberneticians such as Maturana, Varela, and Gordon Pask, see Ranulph Glanville, "Second Order Cybernetics," 68-74.

[166] Heinz Von Foerster, "On Self-Organizing Systems and Their Environments," *Understanding Understanding: Essays on Cybernetics and Cognition* (New York: Springer, 2003), 13.

[167] Glanville, "Second Order Cybernetics," 70.

Through this incessant structural metamorphosis, Foerster argues, "systems that are truly self-organizing will always expand beyond their frames of reference."[168]

Hence, in second-order cybernetics inspired by Foerster and other cyberneticians, uncertainty, complexity, and unpredictability become integral parts of the recursive, self-reflexive, and autotropic movement of a system. The addition of noise creates a positive feedback loop—a qualitative change in understanding and theorizing systemic operation from Wiener's negative feedback—through which the system reinforces, not reduces or counteracts, "the difference between this [predetermined] pattern and the actually performed motion."[169] Diedrich Diederichsen explains this "circular causal relations" as a process of the modern world trying to "recover from the trauma of the linear planning of the 20th century" through a "transition from linearity to circularity." He says, "[w]ith cybernetics - particularly when cybernetics steps into the social sciences and humanities [the turn to second-order cybernetics] - you have an interesting witch hunt starting, an anti-Cartesian witch hunt, a general anti-dualist witch hunt." Since cybernetics entails a transformation "from linear to circular models," with its boundless diffusion and adaptation, "[t]hat which is one-directional becomes the devil. This ranges from hierarchy to the scientific understanding of cause and effect." In this way, cybernetics, in the revolutionary social atmosphere of the late 1960s in Western industrial world, provided an effective metaphor and logic to work as a "self-therapy" or a "pharmacon"[170] against planning, scientific rationalism, and the linear and binary thinking of Western philosophical

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[168] Bernard Scott, "Second-Order Cybernetics: An Historical Introduction," *Kybernetes* 33. 9-10 (October 2004): 1370.

[169] Wiener, *Cybernetics*, 6.

[170] Diederichsen and Franke, "The Whole Earth."

tradition. And, accordingly, in the following decades, the logical structure of positive feedback helped establish the operational mechanism of the ever-expanding, auto-tropic, and self-regulating movement of Post-Fordist capitalism. As Peter Sloterdijk claims in *What Happened in the 20th Century*, "what drives typical modern accelerations" has been this "*circulus virtuosus,*" which he identifies as the *modus operandi* of the modern world.[171]

A few years after von Foerster's presentation of "On Self-organizing Systems," the first meeting of the American Society for Cybernetics (ASC) was held in 1968, marking a watershed moment in the history of cybernetics. Organized by Heinz von Foerster and chaired by Warren McCulloch, this gathering of cyberneticians with a more interdisciplinary and social-systems-theory inclination laid the institutional foundation for second-order cybernetics, announcing major themes and theoretical constitutions of the new direction that cybernetics was about to take. The keynote paper given by Margaret Mead provided a blueprint of renewed theoretical principles, as the title "The Cybernetics of Cybernetics" reflects, proposing to revise cybernetics with "the reflexive notion of self-application" in "circular self-corrective systems"; and thus suggested a new, surprisingly broad, characterization of "[c]ybernetics as a way of looking at things and as a language for expressing what one sees."[172]

Crucial here is the extensive reformulation and dramatic expansion of cybernetics into a kind of anthropotechnology; a scientific technology developed by human beings to control mechanical systems was now considered to be a proper language and thought frame to understand and explain human affairs. Through this turn, cybernetics was to become much more

[171] Peter Sloterdijk, *What Happened in the 20th Century?* trans. Christopher Turner (Cambridge: Polity, 2018), 6.

[172] Glanville, "Second Order Cybernetics," 65.

than what Wiener had in mind when he developed the AA predictor during the war; no longer was it only a mathematical computational technology for keeping an operational order of a homeostatic mechanism; it was a general theory and socio-epistemological model for any self-regulating open system.[173] Gregory Bateson, who became one of the most representative figures in second-order cybernetics, for example, offering an analysis of "the relationship between men and environment" as an organic cybernetic system in *Steps to an Ecology of Mind*, asserted that "an entirely new epistemology must come out of cybernetics and systems theory, involving a new understanding of mind, self, human relationship, and power."[174]

However, while one of the characteristics that defined second-order cybernetics was embracing the uncertainty, randomness, and noise into the self-organizing operation of a system—for example, the unexpected diversions of movement made by the consciousness of an enemy pilot—it is important to remember that what it took into consideration was not human consciousness or subjectivity itself (in other words, it is not interested in knowing how one feels, what a person thinks, likes or dislikes, or what kind of person you actually are) but the formal

[173] Although Wiener was enthusiastic for cybernetic modeling in biology and neuroscience, he was very skeptical and did not hide his objection to the sociological application of cybernetics. He was openly against Mead's and Bateson's anthropological cybernetics and also revealed hostility towards von Neumann's game theory. For instance, in *Cybernetics*, Wiener says "the human sciences are very poor testing-grounds for a new mathematical technique" and one of the reasons is "that the modern apparatus of the theory of small samples, once it goes beyond the determination of its own specially defined parameters and becomes a method for positive statistical inference in new cases, does not inspire me with any confidence unless it is applied by a statistician by whom the main elements of the dynamics of the situation are either explicitly known or implicitly felt" (25). For Wiener's objection to the sociological application of cybernetics, see Wiener, *Cybernetics*, 17-29; Mirowski, *Machine Dreams*; and Steve J. Heims, *John von Neumann and Norbert Wiener: From Mathematics to the Technologies of Life and Death* (Cambridge, MA; MIT Press, 1980). Also, for Lévi-Strauss's refute to Wiener's objection, see Lévi-Strauss, "Language and the Analysis of Social Laws," *Structural Anthropology*.

[174] Gregory Bateson, *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (Chicago: University of Chicago Press, 2000[1972]), 309.

logic of the operational function of such differences that happen to enter the working of a system. As Katherine Hayles notes in *How We Became Posthuman*, Wiener's proposition that "Cybernetics is nothing if it is not mathematical" was still unrepealed, and thus second-order cyberneticians wanted to find a way to deal with this problem "to be insulated against subjectivity and presented in a context in which it had at least the potential for rigorous (preferably mathematical) formulation."[175] The solution they found was to distinguish "the observer as a system separate from the organism" (in other words, not as a human being with a soul—whatever it is; but as a communication mechanism with inputs and outputs of information) and thus to reduce "the problem of observer to a problem of communication among systems,"[176] which can be translated as converting the question from "How does he know other people exist" to how does an "observer as a discrete system inside the larger system of the organism"[177] connect to and communicate with the other systems.[178]

Hence, despite its focus on openness, flexibility, and autopoiesis of a system, second-order cybernetics was still a representational calculative-and-technical thinking, "modeling social systems by means of their conceptualization as networks of *black-boxed* actors that receive and

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[175] N. Katherine Hayles, *How We Became Posthuman*, 133-4.

[176] Ibid., 134.

[177] Ibid., 133.

[178] On the self-reflexive constructivism of second-order cybernetics and, more importantly, its practical, operational quality, Niklas Luhmann noted: "The second-order cybernetics worked out by Heinz von Foerster is rightly held to be a constructivist theory, if not a manifesto for operational constructivism. The reverse does not apply, however. Constructivist epistemologies do not necessarily have the rigor of a cybernetics of cybernetics. One can observe cognition as constructions of an observer, without linking with this the theory that the observing observer observes himself or herself as an observer" (117). See Niklas Luhmann, *The Reality of the Mass Media*, trans. Kathleen Cross (Stanford, CA: Stanford University Press, 2000).

process inputs and output decisions" with "the subject as a node in a network of information flow."[179] What Claude Shannon said early in 1949 about the meaning of message in a communication system—that "semantic aspects of communication are irrelevant to the engineering problem,"[180] which is to say, it is all about the mechanical function and relational position and the constant flow of information through systems, not the content or context of what is sent or to whom it was sent—was still applicable to cybernetics in the late 1960s. This kind of cybernetic reconfiguration of meaning, conditioned by its relational function regardless of its content, developed into a norm in the following decades. Instances in the contemporary world—such as the indiscriminate dissemination of fake news, how something goes "viral" through social networking services, the deluge of the commercials appealing to "who you truly are" (which they do not care as long as you fulfill the function of a customer), or, in the field of academia, the "innovative" Digital Humanities methodology tracing the relations, connections, and flows of data rather than asking what it means in its context—denote the continuity and extension of the same kind of cybernetic formal disregard of the content, in which what it is or who you are of little importance.

The list of the things that seem innovative, cool, and liberating, but are in actuality mere refurbishments of the same mechanical cybernetic logic, could extend almost endlessly. The self-reflexivity, openness, and dynamic quality in the theoretical configuration of second-order cybernetics vested itself with the appealing democratic hue that was deficient and longed for in various socio-economic, cultural, and political realms of the Western industrial societies around

[179] Franklin, *Control*, 77. Emphasis added.

[180] Claude Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1949), 3.

the late 1960s. Yet, among all of them, it was capitalism that most readily and successfully embraced the oracle of second-order cybernetics to its core, to the extent that it modified itself into a virtual embodiment of the cybernetic logic. As Ranulph Glanville says, "Second order Cybernetics offer[ed] management the possibility of that current philosophers stone, the reflexive, self-aware, learning organization"[181] and the ever-flexible, self-developing, self-managing workers, by which allowing capitalism to steer its course and consequentially launching the self-updated version of Post-Fordist capitalism.

From Cybernetics to Counterculture: The Cybernetic Epistemology and Its Dissimilation

Yet, in addition to the isomorphic relation between the logical and theoretical orientations in the metamorphosis of capitalism and that of cybernetics, there was also more direct, practical, and institutional intertwining in the ways that cybernetics influenced the socio-economic and cultural reconfigurations of the post-68 world. As briefly mentioned earlier, in the midst of the cultural resistance during the 1960s, "hippies from Manhattan to Haight-Ashbury read Norbert Wiener, Buckminster Fuller, and Marshall McLuhan"[182] and "[t]hrough their writings the young Americans encountered a cybernetic vision of the world"; whose "notion of the globe as a single, interlinked pattern of information was" not only "deeply comforting"[183] to them but also seemed to suggest a harmonious and universal network of individuals. For the young generation, which grew up with the nuclear threats and the repressive social structures, the cybernetic conception of

[181] Glanville, "Second Order Cybernetics," 79.

[182] Turner, *From Counterculture to Cyberculture*, 4.

[183] Ibid., 5.

circularity, planetary connectedness and communication seemed to provide a safe techno-ideological haven with the promise that "there are no more opponents" and "communication can also lead us out of any war situation." With this technological enthrallment, "the whole feedback ideas became such a glorified element of countercultural lifestyle, theories, pedagogies, psychologies, and music" and, as Diederichsen says in a jocular but truthful way, soon "there was nothing people liked more than a long feedback loop."[184]

In *From Counterculture to Cyberculture*, Fred Turner investigates the historical trajectory of the evolvement of cybernetics, eagerly adopted by the '60s counterculturals and embraced as an ideological and epistemological frame for their utopian images of society:

> [F]or the broader counter-culture, cybernetics and systems theory offered an ideological alternative. Like Norbert Wiener two decades earlier, many in the counterculture saw in cybernetics a vision of a world built not around vertical hierarchies and top-down flow of power, but around looping circuits of energy and information. These circuits presented the possibility of a stable social order based not on the psychologically distressing chains of command that characterized military and corporate life, but on the ebb and flow of communication.[185]

The autonomy and democratic quality cybernetics seemed to imply (for instance, the ontological flattening of actants could be interpreted as egalitarian, the feedback loop as decentralized and nonhierarchical open communication, the connectedness of a network or a circuit as global, harmonious co-existence of beings, and so on) was attractive enough to capture the attention of

[184] Diederichsen and Franke, "The Whole Earth."

[185] Turner, *From Counterculture to Cyberculture*, 38.

the progressive-minded young people and intellectuals, rendering cybernetics a status of a countercultural force or even an avant-garde metaphor. The hippies, student protesters, avant-garde artists, and leftist intellectuals found an "appealingly nonhierarchical model of governance and power" and "metaphors for the democratic creation of order from below"[186] in cybernetics, which soon made it an overarching general frame and language that is readily applicable to any radical, progressive, counter-movement. With this "new cybernetic rhetoric of systems and information," Turner states, "[t]hey began to imagine institutions as living organisms, social networks as webs of information, and the gathering and interpretation of information as keys to understanding not only the technical but also the natural and social worlds."[187]

The paradoxical nature of cybernetics, providing "the new spirit" for the reinvigoration of capitalism and at the same time becoming an alternative ideological model to resist the repressive society based on it, deepens its irony even further when we consider the institutional origin of cybernetics. While the '68 movements fought against the authoritative structure of command and control that characterized corporative and military organizations, cybernetics originated from the technological competition of the Second World War; and, moreover, the engineers and researchers, working at various government-sponsored military projects during and after the war, had been cultivating the flexible and creative, new corporate culture that the counterculturals would later come to demand desperately.

To the young tech-elites at the frontline supporting the state's war management, cybernetics was not only a scientific discipline for their technological research but also a common language and everyday corporate lifestyle. Turner describes the work culture at MIT's

[186] Ibid., 24.

[187] Ibid., 4.

Radiation Laboratory—which was founded in 1940 "with a half-million-dollar grant from the National Defense Research Committee" for the development of anti-aircraft guns to shoot down German bombers (the project Norbert Wiener was part of) and became "a model for the sorts of large-scale military engineering projects that defined the cold war, including the Semi-Automated Ground Environment (SAGE) air defense system and the Atlas and Polaris missile systems"[188]—as an environment where "entrepreneurship and collaboration were the norm, and independence of mind was strongly encouraged." As this specific kind of work culture was certainly inevitable for the extremely interdisciplinary nature of their projects, the tech-workers were "urged to become generalists … [to] design and build new technologies" through "flexible, collaborative work and a distinctly nonhierarchical management," the practice of which as a whole promoted them to "generate new ways of thinking and speaking."[189]

In this way, self-organization, interconnectedness, autonomy, and flexibility were not only axioms for the technologies the researchers were developing, but also the norms for their professional and organizational life, habitually and characteristically attuned to the logic of cybernetics. Following its institutional ancestor, as Turner notes, in the SAGE air defense project, the cybernetic concepts also "helped turn the computational metaphor into a tool with which to imagine, manage, and facilitate such highly interdisciplinary, networked forms of cooperation."[190] And it was this creative, horizontal cooperative model of organization that the tech-professionals brought with them and dispersed when they migrated from military research

[188] Ibid., 18-19.

[189] Ibid., 19.

[190] Ibid., 27.

institutions to private industrial enterprises and state organizations in the following decades. The researchers and engineers trained in these massive government-funded military projects "brought with them not only a habit of entrepreneurship and interdisciplinary collaboration, but also the discourse of cybernetics and systems theory and the computational metaphor on which it depended."[191]

Meanwhile, a similar migration of cybernetic managerial philosophy also took place with the New Left, when the young protesters who celebrated and embraced the utopian vision of cybernetics during the '68 movements became an elite group of policy makers in the late 1970s and 1980s. They brought "the leftist theme of self-management"—mainly against "the inhuman character of Taylorism" but also against the extremist fraction among the leftists such as Trotskyism—to corporate organizations and government policies, and "reinterpreted [it] … to conform to new managerial requirements."[192] In this way, cybernetics, in addition to being an underlying ideological model for the artistic critique by the leftists and counterculturals in the 1960s, also provided the new technocrats with a practical and readily feasible model for the innovation of managerialism and organizational protocols for the corporate and government entities in the late 1970s and 1980s.

We should note here the messy entanglement between cybernetics as a technology and a discipline, the countercultural or revolutionary social movements, and the organizational and managerial strategies of capital. As Turner points out, there has been a kind of "historical misconception," especially among the analysts of digital utopianism, that the introduction of

[191] Ibid., 28.

[192] Boltanski and Chiapello, *The New Spirit of Capitalism*, 197.

cybernetics and its descendant digital technology was "a single, authentically revolutionary social movement that was somehow crushed or co-opted by the force of capitalism."[193] However, as we have seen, it is not that "a countercultural movement whose ideals and practices were appropriated by the force of capital, technology, or the state." Rather, the counterculture "embraced those forces early on"[194]; or, we can simply say that cybernetics itself—which was one of the central ideological inspirations for the '60's Western counterculture—from its inception, had been a military-industrial-academic infrastructural product (basically everything that the '60s countercultural movements fought to resist), although by the time of the late 1960s cybernetics had already been too extensively applied and disseminated for the public to discern its complicit origin as a war-time control technology.

Furthermore, despite being rarely discussed, even before the counterculturals found the charming democratic appeal in cybernetics, a group of business theorists and management strategists turned to cybernetics to break through the limitations of earlier managerial methodologies such as Taylorism and centralized bureaucracy. In "Systems Theory and Practice in Organizational Change and Development" collected in *Traditions of Systems Theory: Major Figures and Contemporary Developments*, Debora Hammond discusses the significant impact second-order cybernetics had in "the theory and practice of organizational management" and how it evoked an emergence of a subfield called "organizational cybernetics."[195] Almost

[193] Turner, *From Counterculture to Cyberculture,* 33.

[194] Ibid., 9.

[195] Debora Hammond, "Systems Theory and Practice in Organizational Change and Development," *Traditions of Systems Theory: Major Figures and Contemporary Developments*, ed. Darrell P. Arnold (New York: Routledge, 2014), 326-27.

concurrently with the emergence of the second wave inside the discipline of cybernetics, a different approach to organizational management had evolved in business theory, building up around the Society for General Systems Research (SGSR) and especially cultivated by some "active members of the 'general systems' community, embodied in the SGSR/ISSS," which included Stafford Beer and other management theorists "drawing on the foundations of management science and operations research to develop the field of organizational cybernetics."[196]

Anticipating the association's theoretical orientation, Kenneth Boulding, the first chairman and founder of SGSR, argued in *Organizational Revolution* (1953) that "emerging information and communication technologies made possible an unprecedented growth in size and power of organizations,"[197] but the existing management system revealed its limitations and inability to deal with the increasing complexity of the environment. Along with "the rapidly evolving energy, manufacturing, transportation, and information sectors [that] introduced more complex organizational challenges,"[198] Boulding and other scholars in SGSR were also keenly aware of the problems engendered by the authoritative and rigid management system—such as "the consequences of increasingly stratified hierarchical organizational structures, the potential danger of oligarchical concentrations of power, and the psychological effects resulting from the

[196] Ibid., 330. The SGSR was an interdisciplinary association for applied systems theory research founded in 1954 and later renamed the International Society for the Systems Sciences (ISSS). Early participants at Macy conferences such as W. Ross Ashby (1962-64), Margaret Mead (1972), and Heinz Von Foerster (1976) along with others like Stafford Beer (1971) and Gordon Pask (1974) served as the presidents of SGSR/ISSS in the following years, demonstrating its theoretical centrality in cybernetics as a general socio-epistemological frame and key steering force for managerial innovations.

[197] Ibid., 328.

[198] Ibid., 326.

individual's loss of autonomy."[199] Thus, they called for a new, more organic and systemic approach to organizational management including "a shift from control to collaboration, from competition to interdependence, from hierarchical to participatory decision-making process, and from objectivity to subjectivity and reflexive self-awareness."[200]

Strongly echoing the theoretical directions and implications of second-order cybernetics as well as anticipating the major themes of the artistic critique the corporate world would have to face in a decade, such dynamic impulse for self-transformation and dialectic transmutation within the field of business management demonstrates that capital's acquisition of the 'new spirit' was not just a result of a passive response to unavoidable external critique. Instead, in fact, it was also an outcome of the business world's active and voluntary embrace of the new cybernetic framework, which had been proliferating both as an impetus and a model for the qualitative mutations that were taking place in numerous socio-cultural spheres by the time of the late 1960s and 1970s. From the military research labs and the business consultants working for organizational innovations to revolutionary protesters, progressive intellectuals, avant-garde artists, and even communist social reformers, all of whom had different, and often incompatible, concerns and stakes, cybernetics seemed to offer a useful, innovative, and agreeable thought frame and world view that was handy and effective for their respective goals and causes.

For instance, to "the conceptual artists, performers, poets, musicians, and dancers of downtown New York in the late 1960s and 1970s, … cybernetic concepts functioned as a kind of lingua franca," as Jasper Bernes informs us in *The Work of Art in the Age of Deindustrialization*. "[A]s cybernetic concepts emerged at the boundaries of mathematics, physics, engineering, and

[199] Ibid., 328.

[200] Ibid., 331.

biology," Bernes states, the "cybernetically inflected concepts such as 'system,' 'process,' and 'information' provided an interart grammar that allowed … artists … to engage in common projects, developing new aesthetic categories," and reaffirmed their artistic statement of connectivity and collaboration.[201]

Moreover, the liberal hue in cybernetics was celebrated for offering an alternative, or even a corrective, to existing political, ethical, or philosophical problems, further promoting the "status of cybernetics as the overarching future framework."[202] Discussing the impact of cybernetics on liberal discourses, Galison points out Donna Haraway claimed in the late 1970s that "[a]fter the war, the new sciences of information- and control-dominated systems reshaped biology, including sociobiology" and "[t]his new, more cybernetic biology" (which emphasized communication and feedback" and put "stress on information transfer … including efficiency, noise, and capacity," according to Haraway) generated "ultimately far more open … and more liberating vision of the biological sciences." Thus, Haraway argued, the adoption of cybernetics into biology reconstructed it as "less open to racism or sexism because in cybernetics the organic body is depicted as an engineering entity, always modifiable, and never defined essentially."[203] On a similar note, analyzing the psychological dynamics of alcoholism, Gregory Bateson found in cybernetics an antidote to the dichotomy of Western metaphysics, asserting that a cybernetic "change in epistemology" is required in an alcoholic's understanding of "the personality-in-the-

[201] Bernes, *The Work of Art in the Age of Deindustrialization,* 85-86.

[202] Ibid., 84.

[203] Galison, "The Ontology of the Enemy," 259. See Donna J. Haraway, "The Biological Enterprise: Sex, Mind, and Profit from Human Engineering to Sociobiology," *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

world." To destroy "the myth of self-power" and "Cartesian dualism"[204] between mind and body, he claimed, individuals should discover "that it (the system, self plus vehicle) is bigger than he is"[205] and break the illusion of "unilateral control"[206]—"an epistemology which is conventional in Occidental culture but which is not acceptable to system's theory."[207]

Indeed, the new epistemological model immanent in cybernetics fundamentally influenced and left its trace in Western critical thought throughout the second half of the twentieth century. Many scholars have pointed to the quintessential connection between cybernetics and French structuralism and post-structuralism, denoting the logical junctions in the earlier cybernetic approach to linguistic, social, or psychological systems by Ferdinand de Saussure, Roman Jakobson, Jacques Lacan, and Claude Lévi-Strauss as well as the following generation of "French critics … [who] adapted elements of Jakobson's and Lévi-Strauss's cybernetic structuralism and merged it with French Marxist critiques" (the list of which Geoghegan provides in "From Information Theory to French Theory" includes, for example, "Roland Barthes [who] reinterpreted Jakobson's and Shannon's schematic account of communication to develop new methods in critical and historical analysis," "Jacques Derrida [who] proposed … the 'nonfortuitous' conjunction between the human sciences and cybernetics" as an embodiment of the "Western science … self-deconstructing its own logos," and "Julia Kristeva [who] cited Wiener's research on models as a resource for developing a 'science of

[204] Bateson, "The Cybernetics of "Self": A Theory of Alcoholism," *Steps to an Ecology of Mind*, 313.

[205] Ibid., 330.

[206] Ibid., 315.

[207] Ibid., 309.

critique'").[208] Moreover, many other post-war critics such as Foucault, Althusser, Lyotard, Baudrillard, Deleuze and Guattari, among others, are also often recognized for the explicit or implicit reverberation of cybernetics retained in their critical frames.

These cybernetics-infused French critical theories predominated the Western critical discourse throughout the 1970s to 1990s, as we know, to the extent that it became almost synonymous with "theory" itself in American academia. However, as Geoghegan puts it, when "in the 1970s and 1980s America's cybernetic gift to French semiotics began a slow migration home,"[209] its cybernetic inheritance—thus, and along with, its American, military, state-bureaucratic, and conservative associations—were buried and remained unnoticed, while it enjoyed the kudos as a progressive and radical frame of critique and ascended to be the celebrated ideological paradigm for the consequent intellectual and politico-cultural movements that came into full bloom during the 1980s. While calling "French theory" cybernetics' "prodigal son returning from adventures abroad," Geoghegan suggests that the ephemeral vitality of

[208] Bernard Dionysius Geoghegan, "From Information Theory to French Theory: Jakobson, Lévi-Strauss, and the Cybernetic Apparatus," *Critical Inquiry* 38. 1 (Autumn 2011), 124. Investigating the "neglected history" between cybernetics and French theory that the "appeal of poststructural theories within the United States during the 1980s and 1990s owes much to" (98), Geoghegan traces the intellectual and institutional interactions and interconnections between two continents and especially Levi-strauss's critical involvement in the reception and development of cybernetics in French intellectual circles. In a similar vein, analyzing "Lacan's encounter with American game theory, cybernetics, and information theory … [as] a pivotal moment in his rethinking of Freud" (290), Lisa Liu makes a more forthright statement on the awry connection between American cybernetics and French theory that "[c]ontrary to common belief, a great deal of what we now call French theory was already a translation of American theory before it landed in America to be reinvented as French theory" (291). Lydia Liu, "The Cybernetic Unconscious: Rethinking Lacan, Poe, and French Theory," *Critical Inquiry* 36. 2 (Winter 2010): 288-320. Also see Roland Barthes, *Image, Music, Texts*, trans. Stephen Heath (New Yok: Hill and Wang, 1977); Jacque Derrida, *Of Grammatology,* trans. Gayatri Spivak (Baltimore: The Johns Hopkins University Press, 1976); and Julia Kristeva, "Semiotics: A Critical Science and/or a Critique of Science," *The Kristeva Reader*, trans. Sean Hand, ed. Toril Moi (New York: Columbia University Press, 1986).

[209] Ibid., 125.

cybernetics as a referent in public and intellectual discourse was due to its replacement by poststructural concepts that had adopted much of its central themes and logic.[210] Yet, I would say, poststructuralism was one of the many (namely, academic) ways to deal with the cyberneticization of the world and, to continue the consanguineous analogy Geoghegan used, the legitimate child that succeeded the most fundamental characters of cybernetics was in fact capitalism itself.

Tracing the utopian vision that the ’60s counterculturals and leftists found in cybernetics, probably the utmost stretch of it would be the “Socialist Cybernetics”—making an ultimate antithesis to cybernetics as a bridgehead and coagent for the reinvigoration of capitalism with a “new spirit.”[211] Stafford Beer’s Project Cybersyn (a government experiment to build a cybernetic management network of the national economy during the so-called ‘Chilean Path to Socialism’ [1970-73] under the presidency of Salvador Allende)[212] and the Soviet Cyberspeak era (started in the late 1950s and peaked during the 1960s and 1970s, a nation-wide project undertaken to turn cybernetics into one of the “major tools of the creation of a communist society”)[213] demonstrate the attempts to materialize the emancipatory potential of cybernetics as well as the belief that

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[210] Ibid., 126.

[211] See Eden Medina, "Designing Freedom, Regulating a Nation: Socialist Cybernetics in Allende's Chile," *Journal of Latin American Studies* 38 (2006): 571-606. Also, see Paul Buckermann, “Communication / Control / Communism: On Socialist Cybernetics, Accelerationist Dreams, and Tiqqun’s Nightmares,” *INC Longform* (19 December 2016).

[212] See Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende’s Chile* (Cambridge, MA: MIT Press, 2011) and Anthony Stafford Beer, *Cybernetics and Management* (London: Wiley, 1959).

[213] Benjamin Peters, “Normalizing Soviet Cybernetics". *Information & Culture: A Journal of History,* 47. 2 (2012), 164. Also, see Slava Gerovitch, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics* (Cambridge, MA: MIT Press, 2002).

cybernetics was a master language that could describe and solve any systemic problems—or, as Beer insisted, the belief "that it is only 'stereotypes' that lead scholars and politicians alike to consider these problems as economic or political when they are in fact cybernetic … it is 'unadaptive' political and economic systems, rather than the basic logic of capital itself, that produce exclusion and exploitation."[214] As Beer's assertion suggests, cybernetics, by this time, certainly had become a general socio-epistemological theory and a revolutionary countermeasure that was believed to be able to reshape the existing systems of politics, economy, culture, philosophy, natural and social sciences, and art—virtually everything ranging from an alcoholic's mind to a national economy.

In this way, throughout the late 1960s and 1970s, cybernetics had emerged as a kind of the spirit of the time, too ubiquitous and widely adapted to even label them 'cybernetic' anymore. The new "way of looking at things," which emerged from the war-time mathematical engineering technology, had indeed recast and metamorphosed our way of working, knowing, and living while realizing and manifesting itself through the world. The transmutation of cybernetics into the second wave and the consecutive radical dissemination, as Geoghegan says, "marked the global consolidation of knowledge within a unified cybernetic or information paradigm" so that cybernetics permeated almost every realm of society as a logical and operational model.[215] Thus, by the 1970s, cybernetics had already started to become "unnoticeable, ubiquitous, and all-pervasive" through "its concepts acquired by all disciplines—a realization of Mead's characterization of Cybernetics as a meta-language."[216]

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[214] Franklin, *Control*, 76.

[215] Geoghegan, "From Information Theory to French Theory," 101.

[216] Glanville, "Second Order Cybernetics," 82.

The dissimilation of cybernetics into everyday logic had happened so inconspicuously (although there was nothing surreptitious and everything happened in broad daylight) that, as Ranulph Glanville says, in the contemporary world, "[c]ybernetics … is dispersed like gas between stars. Its life is in and through other subject-areas, its insights so influential that they have been absorbed almost without trace or realization."[217] In an interview conducted in 1999, Heinz von Foerster commented on the profound infiltration of cybernetics into the mainstream and commonplace, asserting that the "presence of these [cybernetic] notions" in our daily life has grown "absolutely alive" and now "[n]obody can talk without at least the presence of cybernetics being operational … only not explicitly referred to." He continued to emphasize the power of the implicit universality cybernetics had gained: "It's implicit. Underneath, it's completely alive. But not explicit. In some cases I find it more important that something is acting implicitly, than explicitly. Because the implicit has much more power. … I find it very powerful that it's underground. Because people are unaware of it - and therefore don't reject it. *[We laugh].*"[218]

Indeed, the dissimilated, normalized, and ubiquitously permeated manifestation of cybernetic logic in our contemporary world shows that it has acquired omnipresent and omnipotent ascendancy. The cybernetic metaphor is predominant in our everyday conversation and the way we comprehend the world ("the universe is a computer … thinking is a type of computation, DNA is software, evolution is an algorithmic process"), turning cybernetics into a new "form of universal notation" or "a vocabulary and a syntax that is able to describe in a single language all kinds of phenomena." As Kevin Kelly, the executive editor of *Wired* magazine—

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[217] Ibid.

[218] Christina Waters, "Invitation to dance: a conversation with H. von Foerster," *Cybernetics & Human Knowing* 6. 4 (April 1999): 82.

who, we can probably say, is a contemporary heir of the ’60s countercultural techno-utopianism—unequivocally declared, cybernetics replaced “previous metaphors” or ideological frames through which we look at, understand, and describe the world, such as “Freud’s dream state, Darwin’s variety, Marx’s progress, or the Age of Aquarius.”[219]

The Cybernetic Irony of Contemporary Capitalism

Among the omnifarious realms and practices of human life that embraced cybernetics as their thought frame and meta-language, it is capitalism, above all, that has delivered the process of cyberneticization most successfully. Capitalism’s coalescence with cybernetics had taken place in such a fitting and organic way—from the proto-cybernetic affiliation in Adam Smith to the interconnected mutual metamorphosis throughout the 1950s to 1970s—that capitalism has turned itself into a cybernetic machine continuously self-organizing, self-mutating, always re-distinguishing its demarcations and expanding beyond its boundaries. In short, throughout the second half of the twentieth century, cybernetics has become the operational mechanism and logical model of capitalism, and thus dissimulated into the inconspicuous yet all-powerful mechanism of capital, positing and canceling the new capitalist realities.

Thus, the perplexing ironies of contemporary capitalism, or the so-called neoliberal impasse (capitalist subjects seem to abandon resisting and long to be more profitable, exploitable workers; work has become one’s life itself, a boundless self-realization through life-long self-development; capital seems to move autonomously with its own will superseding that of its ostensible masters; the capitalist system endlessly self-evolving and self-mutating its form of exploitation; and so on) are in fact direct consequences of the *fulfillment,* not rejection or failure,

[219] Kevin Kelly, “Computational Metaphor,” *Whole Earth* 95 (Winter 1998): 5.

of the critique capitalism has encountered though the social resistance in the late 1960s and the 1970s. As Diedrich Diederichsen says, the revolutionary demands for more democratic work environment and social structures by the leftists and student protesters during the '68 movements (inspired by the cybernetic ideas such as flexibility, adaptability, autonomy, self-regulation, and self-organization) have "been fulfilled, only in a negative sense as a compulsion rather than potential. One must now achieve self-realization in order to earn a livelihood."[220] Indeed, the problem now is not the deficiency of autonomy, flexibility, and self-management, but that we are to have too much of them. The slogans of the artistic critique were "initially presented as new freedoms,"[221] but in the state of "a sort of universal transmutation"[222] contemporary capitalism cultivates and actualizes, they turn into a new mastermind for self-exploitation. As Deleuze says, nowadays "[m]any young people have a strange craving to be 'motivated,' they're always asking for special courses and continuing education; it's their job to discover whose ends these serve."[223]

On a similar note, Boltanski and Chiapello elucidate in *The New Spirit of Capitalism* how the "libertarian" changes in the mode of production, managerialism, and planning carried out from the 1980s to the 1990s were indeed "extensive implementation of the 'second response' … [to] the artistic critique from the class of '68."[224] The 'innovations' in work organizations and the

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[220] Diedrich Diederichsen, "Persecution and Self-Persecution: The SPUR Group and Its Texts: The Neo-Avant-Garde in the Province of Postfascism," *Grey Room* 26 (Winter 2007), 69.

[221] Deleuze, "Control Society," 178.

[222] Ibid., 179.

[223] Ibid., 182.

[224] Boltanski and Chiapello, *The New Spirit of Capitalism*, 195. The 'first response' was the employers' total rejection of the critique while the second was the positive acceptance and institutionalization since the early 1970s I have outlined above.

consecutive adoption of such 'innovative' models by different social sectors were later called 'neoliberalization' or 'neoliberal homogenization,' as if 'neoliberalism' was a totalitarian autocrat imposing identical formula on its subjects. Yet, at least, in the Western industrial countries, it started as a historical process of voluntary displacement or metamorphosis that subsequently brought about isomorphic changes in business, government policies, academia, law, art, and culture, reshaping them into analogous formal structures.

In other words, the socio-economic changes that enabled the unlimited and unchecked expansion of capital starting from the late 1980s were not direct consequences of sudden steering in the direction of national policies or the mainstream economic model, as I briefly mentioned earlier; instead, "as early as 1971 … most of the mechanisms whose diffusion was generalized during the second half of the 1980s were conceived, and then tested out,"[225] while "the decade 1985-95"[226] was soon marked by "the working class … [that] no longer exists, increased casualization of the condition of wage-earners; growth in income inequality and distribution."[227] Indeed, "[u]nder the fire from the artistic critique," as Boltanski and Chiapello note, "the anti-bureaucratic struggle for autonomy at work supplanted concerns about economic equality and the security of the most deprived."[228] Therefore, the so-called neoliberal implementations in the late 1980s and 1990s—which are often summarized as the "institutional framework characterized by strong private property rights, free markets, and free trade" and the "economic dogma and

[225] Ibid., 193.

[226] Ibid., 167.

[227] Ibid., 168.

[228] Ibid., 178.

political rationale that holds that free markets and competition will produce the best outcomes for most people"[229]—were rather a belated governmental and theoretical institutionalization of the logic that had already been established for decades and become pervasive by that time; it was the shift in the *zeitgeist* of the Western post-68 world, a cybernetic metamorphosis (in the case of business management, from Keynesian long-term planning and scientific managerialism) towards self-organizing, self-balancing, autopoietic and flexible systems.

The conceptual shifts in cybernetics had also provided more direct inspiration for economists to deal with the socio-economic crises challenging the laws of classical political economy that was based on mathematical calculation and transparency of other economic actors' behaviors. The neoliberal economic theory—which started as a fringe movement in the 1940s by Friedrich A. Hayek among others and achieved hegemony during the Thatcher-Reagan era—had demonstrated some fundamental conceptual and formal compatibility with cybernetics from both of their early stages. In 1945, W. Ross Ashby, a psychiatrist and cybernetician who later invented the homeostat (an electro-mechanical machine capable of adapting itself to the environment), published a letter in *Nature* arguing against state control of economic matters, using cybernetic concepts such as "equilibrium" and "vicious circles." In accordance with his theory of self-adaptation and self-regulation, he claimed in the letter that the "introduction of governmental controls has led to many matters being dealt with by an order of *fixing* some quantity, price, or other variable where a *laissez-faire* system would have allowed them to find their own levels."[230] Besides, in Hayek's early theoretical work, we can also find the influence of cybernetics. In *The*

[229] David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005), 2.

[230] W. John Ashby, "The Effect of Controls on Stability," *Nature* 155 (24 February 1945), 242; cited in Frankiln, *Control*, 72.

Sensory Order (1950), his early study on human psychology, Hayek "began citing work in fields like cybernetics and systems theory" such as "Warren Weaver on organized complexity, John von Neumann on the logic of automata, and Norbert Wiener on cybernetics"[231]; and later he recalls his meeting with von Neumann in the 1940s, where he was pleasantly surprised to find congruity in their respective theories: "And then I met John von Neumann at a party, and to my amazement and delight, he immediately understood what I was doing and said that he was working on the same problem from the same angle."[232]

Yet, most of all, Hayek's conceptualization of a market as a complex self-maintaining system incessantly communicating information inputs and outputs, yet whose inner workings are unknown to individual actants, retains a deep consonance with cybernetic principles—especially with the idea of *black-box.* Hayek claims "our values and institutions are determined not simply by preceding causes but as part of a process of unconscious self-organization of a structure or pattern," acknowledging the logical affinity between his theory and "a growing family of theories that account for the formation of complex structures in terms of processes transcending our capacity to observe all the several circumstances operating in the determination of their particular manifestations … such as autopoiesis, cybernetics, homeostasis, spontaneous order, self-organization, synergetic, systems theory, and so on."[233] In the complex economic order "which became increasingly incomprehensible to man," Hayek insists, it is not and cannot be a

[231] Bruce Caldwell, *Hayek's Challenge: An Intellectual Biography of F.A. Hayek* (Chicago: University of Chicago Press, 2004), 362.

[232] Friedrich. A. Hayek*,* "The Sensory Order after 25 Years," eds. W. Weiner and D. Palermo*, Cognition and the Symbolic Processes*, vol. 2 (Hillsdale, NJ: Erlbaum, 1982), 322.

[233] Friedrich. A. Hayek*, The Fatal Conceit: The Errors of Socialism* (London: Routledge, 1988), 9.

"deliberately designed system of rules" that guide people's economic behaviors, but "only abstract rules" and "impersonal signals which emerge from the market process" can "tell people what to do in order to adapt their activities to events of which they have no direct knowledge"[234]

Thus, as a system that presents itself as a self-regulating autonomous machine, neoliberalism denotes the cyberneticization of the economic system, which is a historical product of the metamorphoses in business managerialism, the socio-political demands in the Western industrial world, and the technology and theory of cybernetics itself (each of which in multifaceted interconnectedness with one another) throughout the second half of the twentieth century. By the mid-1990s, according to Boltanski and Chiapello, the new spirit of the time—whose central themes are evolved from the themes of second-order cybernetics—"was pressed in a narrative that would ossify with time, conferring a simultaneously anonymous and inevitable character on the development of the last twenty years, in accordance with an organist or Darwinian vision of history. This process without a subject, willed by no one, was supposedly the product of a collective reflex of adaptation."[235]

In this way, under the fulfillment of artistic critique through the later-called 'neoliberal' metamorphosis of capitalist thinking and operation, the workers' demand for autonomy has been completed in the soul-grinding enthusiasm of the young contemporary entrepreneurs, who are "obsessed with striving, relentlessly positive … glorify[ing] ambition not as a means to an end,

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[234] Friedrich. A. Hayek, *Law, Legislation, and Liberty Vol. 3: The Political Order of a Free People* (Chicago: University of Chicago Press, 1979), 162. Hayek empathizes our inability to comprehend the system's working in this bold statement: "*We have never designed our economic system. We were not intelligent enough for that*" (164).

[235] Boltanski and Chiapello, *The New Spirit of Capital*, 194.

but as a lifestyle."[236] They are the proud vanguard of the creative, cognitive, semiotic, and communicative capitalist production, projecting his or her own holistic self as identical with their work, always willing to take the risk and living on the edge—the counterpart of the old, but still existing, precise, disciplined, repetitive, and planned labor. Under the new spirit of capitalism, whose "form of production … no longer depends on acquired skills but rather, as is the case today, on personalities," the corporations now look for "those very complete human beings"—far from the "cog in the machine" or "human-motor" of the previous industrial models—"who no longer submit to disciplinary imperatives but rather place their whole virtuosity at the disposal of the corporation in the form of self-production."[237]

Aestheticization, De-differentiation, and Re-enchantment of Contemporary Capital

Such a new model of the worker pouring their whole being into capitalist production (now indistinguishable from self-production) indeed fulfills the demand of creativity in workplaces requested by the '68 protesters. Accompanied by the metamorphosis in economic planning (from Keynesian to free markets) and managerialism (from rigid control to self-management), the transmutation in the mode of production (from Fordism to Post-Fordism, or creative capitalism, semiocapitalism, cognitive capitalism, immaterial labor, or identity work—whatever nomenclature you choose to use) gave rise to the figure of *artist as entrepreneur*. In *The Soul at Work*, for example, Franco Berardi calls the current mode of production "semiocapitalism" that "takes the mind, language and creativity as its primary tools for the

[236] Erin Griffith, "Why Are Young People Pretend to Love Work?"

[237] Diedrich Diederichsen, "People of Intensity, People of Power: The Nietzsche Economy," *E-Flux* 19 (October 2010).

production of value"[238]; similarly, emphasizing the creative aspect of contemporary work, Stanley Cohen and Laurie Taylor characterizes the current capitalist labor as "identity work" that requires "the absorption and deployment of those areas traditionally seen as cultural - narratives, language, art, image, taste, style, leisure."[239]

With the "capitalization of creativity" through the active embrace and institutional implementation of artistic critique, art is no more an antithesis to business in contemporary capitalism. As Lars Bang Larsen says, we are living "in the era of immaterial labor, whose forms turn affect, creativity, and language into economical offerings." And, as a result, "[a]rt has become a norm, in a different way than it was under the cultural order of the bourgeoisie," that is through "commodifying a conventional idea of art's mythical otherness."[240] As Diederichsen shows in "Persecution and Self-Persecution," throughout the second half of the twentieth century, avant-garde art had been subsumed into the Post-Fordist capitalist reality[241] in which "one no longer pursues artists in order to harm them but instead to exploit their lifestyle, one that produces a stimulant that circulates as currency in our event culture and still exemplifies the complete human as a potential and aspirational way of life."[242]

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[238] Berardi, *The Soul at Work*, 21.

[239] Stanley Cohen and Laurie Taylor, *Escape Attempts: The Theory and Practice of Resistance in Everyday Life* (London: Routledge, 1992), 40.

[240] Lars Bang Larsen, "Zombies of Immaterial Labor: The Modern Monster and the Death of Death," *E-Flux* 15 (April 2020).

[241] In "Persecution and Self-Persecution," Diederichsen traces how the radical Situationist artist group SPUR—whose members fiercely refused art's "specialized function in the compartmentalized social system of the 1950s" Germany and their role as functionally differentiated specialists (60)—had been sublated into the force they wanted to resist and ironically helped to provide the ideal model of worker for Post-Fordist capitalism.

[242] Diederichsen, "Persecution and Self-Persecution," 68.

With their artistic refusal to follow predetermined procedures and patterns, ability to "think outside the box," full exertion of the creative power for their work, and passionate devotion to their creation, the figure of artist turns into "a beloved public figure and widely touted model for entrepreneurs and politicians, indeed the Lord Privy Seal of that essential resource 'creativity'" in contemporary capitalist world.[243] Following the teachings of contemporary business gurus—such as "the biggest risk is not taking any risk"[244] or "[w]e're going to make it happen"[245]—with almost spiritual reverence, the young entrepreneurs are eager to throw themselves into the unpredictable turbulences of the market, test themselves out, and deliver the artistic performance of their profession. In this "forced euphoria"[246] —where "profit generation is not the employee's first priority" and "it is made secondary to the employee's search for paths to self-expression, self-development, and self-realization"[247]—the passionate young workers (millennial freelancers, outsourced creative minds, tech start-up entrepreneurs, etc.) make a voluntary vow: "I forsake any possibility of projecting myself as a private self, independent from my work, ultimately also renouncing any chance at negotiation, co-determination, or living the conflict of interest between capital and labor, and instead project myself as a holistic total self that is identical to my work."[248]

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[243] Ibid.

[244] From an interview of Mark Zuckerburg held at Stanford University in 2011, where he gave advice for new startup entrepreneurs. Steve Tobak, "Facebook's Mark Zuckerberg—Insights For Entrepreneurs," *CBS News* (31 October 2011).

[245] Carl Hoffman, "Now 0-for-3, SpaceX's Elon Musk Vows to Make Orbit," *Wired* (8 May 2008).

[246] Diederichsen, "People of Intensity, People of Power."

[247] Sarah Brouillette, "Academic Labor, the Aesthetics of Management, and the Promise of Autonomous Work," *nonsite* 9 (1 May 2013).

[248] Diederichsen, "People of Intensity, People of Power."

As the ostensible 'democratization' of managerialism carried out under the artistic critique, such aestheticization of capitalist labour has also transformed the practicalities of business management. In "People of Intensity, People of Power: The Nietzsche Economy," Diederichsen introduces the early incidents of the German corporations starting to "hire[d] artists for the specific task of interfering with business as usual" in the early 1970s. What the firms wanted from the artist-workers back then was "critiques of conformist work"—a hired (thus safely implemented and managed) "artistic critique" from inside, so to speak—bringing the creative otherness of art into the stagnant working environment. By "incorporating the irrationalism of disruption and wastefulness," corporations reinvigorated themselves by updating their "traditional style of entrepreneurial subjectivity" with, "on the one hand, the Casino-style capitalism that has served as its own form of income" and, "on the other hand, the invention of the 'passion to perform' ... the introduction of entrepreneurial principles into the everyday operations of business."[249] In this way, the artist-worker in corporations could provide the necessary disruption, noise, and crises for the capitalist system to establish a positive feedback loop to turn itself into an ever-expanding self-regulating machine. In short, the ascent and normalization of the idea of artist-worker denotes the internalization and institutionalization of the once-subversive artistic critique into the system of capitalism.

Many theorists and critics of the contemporary capitalist world have thus called attention to the increasingly "creative" nature of the job requirements and the aestheticization of capital itself. As Stefano Harney puts it in a nutshell, since the 1970s and especially after the 1990s, there has been "a movement from art as a trope for management activity, to art as the objective

[249] Ibid.

of management."[250] And this movement was observed not only in the sectors of the so-called creative economy such as design, performing arts, advertisement, or entertainment, but refers to the extensive and conceded notion that "creativity is the work of flexible, self-managing individuals trained to turn an innate capacity for 'innovation' into saleable properties" as Sarah Brouillette describes.[251] Since companies started to hire artist-workers in the 1970s—first as a controlled disruption to avoid a bigger, unmanageable one, then as a commonplace qualification for employees—the artist-worker gradually has become a norm the companies actively look for in their recruitment. In *A Whole New Mind*, Daniel H. Pink writes, for example, "[a] master of fine arts, an MFA, is now one of the hottest credentials" and "[c]orporate recruiters have begun visiting the top art grad schools—places such as the Rhode Island School of Design, the School of the Art Institute of Chicago, Michigan's Cranbrook Academy of Art—in search for talent. And this broadened approach has often come at the expense of more traditional business graduates." After all, he concludes "the rules have changed: the MFA is the new MBA."[252]

With the artistic impulsion for authentic devotion and spiritual fascination, the aesthetic appeal and charisma capitalism has gained through its metamorphosis since the 1970s indeed helped individual workers, to some extent, experience the feeling as a holistic human being once again. Although now it is imposed on capitalist subjects "as a compulsion rather than potential"—to borrow Diederichsen's words again—the personality of a worker is no longer something to be eliminated, annihilated and banished but the very source of boundless

[250] Stefano Harney, "The Creative Industries Debate," *Cultural Studies* 24.3 (2010): 434.

[251] Sarah Brouillette, "Academic Labor, the Aesthetics of Management, and the Promise of Autonomous Work," *nonsite* 9, May 2013).

[252] Daniel H. Pink, *A Whole New Mind: Why Right-Brainers Will Rule the Future* (New York: Penguin, 2006), 54.

productivity. The refusal of the ’50s German avant-garde artists to remain as functionally differentiated specialists was an artists’ resistance to the dehumanizing rationalization of modern society, which resonated with much bigger waves of the artistic critique in the following decades, combining with the ostensibly ‘democratic’ themes of second-order cybernetics to generate a counter-drive against the scientific rationalization of the first half of the twentieth century. Yet, under the auspices of the new spirit of capitalism, the wholeness of being, which was deemed lost in the “secularization” and “functional differentiation” through the process of modernization of the Western industrial world, was sought again more passionately and desperately than ever in contemporary professionalism and entrepreneurism.

In other words, if the first half of the twentieth century in the Western societies was “characterized by rationalization and intellectualization, and above all, by the disenchantments of the world”[253] as Max Weber diagnosed, the world after the cybernetic metamorphosis and the artistic critique witnessed growing ascendancy of *the irrational, the spiritual, de-differentiation, and re-enchantment*. As David E. Wellbery has shown in “The General Enters the Library: A Note on Disciplines and Complexity,” the framework of “functional differentiation … the characteristic form of social differentiation in modernity”[254] is no longer adequate to explain the contemporary world; he claims that “this hypothesis [of functional differentiation] finds no grip” on disciplinary diversification because “disciplines are homologous to clans and that

[253] Weber, “Science as a Vocation,” 155.

[254] David E. Wellbery, “The General Enters the Library: A Note on Disciplines and Complexity,” *Critical Inquiry* 35.4 (Summer 2009): 984.

Wissenschaft as a whole is not an organization but a concatenation of isomorphic disciplinary units."[255]

In *Ascendancy of Finance*, Joseph Vogl makes a similar argument that the traditional sociological model of "functional differentiation" cannot describe or represent "the maneuvers, tactics and techniques employed to manage the most recent crisis [the financial crisis in 2008]" and the "mode of political-economic power"[256] that was responsible for it. Contrast to the general assumption that "the state and the market are … opposed to one another as hermetic entities," Vogl finds the isomorphic relation and "the modus operandi of a zone of indeterminacy" between them, which "exist in a relation of power formed by continuous transitions, alliances, fluctuations and mutual reinforcement."[257] Indeed, the morphological correspondences he recognizes between politics and economy is increasingly observed across diverse social realms—academia reshuffled by the market logic, the subsumption of art under capital, the logic of technology predominating over more traditional social forms ("the Googlization of the academy," for example, as Galloway puts it) [258], or the aestheticization of business discussed above, to name a few—and Vogl aptly calls this process of homologous structuralization across different social realms "*functional* de-*differentiation*."

As early as the 1970s, Jean-François Lyotard detected the process of de-differentiation already underway and, with an almost prophetic accuracy, made a statement on the self-

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[255] Ibid., 985.

[256] Joseph Vogl, *The Ascendancy of Finance*, trans. Simon Garnett (Cambridge: Polity, 2017), 10.

[257] Ibid., 11.

[258] Alexander R. Galloway, "The Cybernetic Hypothesis," *differences: A Journal of Feminist Cultural Studies*, 25. 1 (2014), 128. Also, see Brouillette, "Academic Labor, the Aesthetics of Management, and the Promise of Autonomous Work" and Nicholas Brown, "The Work of Art in the Age of Its Real Subsumption under Capital."

regulating movement of modern capital and the collapsing distinctions between heterogeneous socio-cultural sites:

> This is the movement of integration which ruins the old distinctions, for example, that of the military and the civilian, the political and the private, the economic and the cultural, which divests these once diverse regions of their specific dignity and has them filed away under the same category in the Central catalogue of intelligence and decision-making. And if there is a crisis of political economy, it is primarily … this process of incessant integration which gives rise to the movement of expansion … what is 'wealth', what is 'good', what is 'exchange', what is 'labour' … when prices are self-determining, outside all debate amongst the exchangists, according to a complex commodity standard that no-one (except a theorist after 40 years of study) will come to define … when decisions to invest in capital no longer necessarily belongs to its owners, when the military man becomes an economist, the economist a psychoanalyst, the scientist a military man, the pedagogue an information scientist?[259]

What Lyotard describes here is close to the world of *Cosmopolis,* where the incessant, incomprehensible movement of capital confuses but at the same time excites the protagonist while the previous distinctions between different social and professional forms are disintegrated. When you find no functional difference between an economist, a psychoanalyst, a military man, a pedagogue, and an information scientist, individual identities are supplanted with algorithmic decision-making mechanisms and contextual meanings with systemic functions; which is the ramification of the formal reconfiguration of the socio-economic world and their logic of

[259] Lyotard, *Libidinal Economy*, 214.

operation by "the new cybernetic reality principle: communication, the medium, the in-between."[260] In this "crisis of political economy," subjectivity of human actants (a "standard that no-one … will come to define" and "decisions [that] … no longer necessarily belongs to its owners") and meaning ("what is 'wealth', what is 'good', what is 'exchange', what is 'labour'") become dismantled and impotent, which consequently leaves individuals longing for some kind of spiritual fulfillment and enchantment again.

Frederic Jameson notes in "'End of Art' or 'End of History'" that "the dissolution of the modern as a lengthy cultural process, which began in the 1960s"[261] led to the "great movement of dedifferentiation of postmodernity [that] has … once again effaced these boundaries."[262] Since "[d]ifferentiation - like Galilean or Newtonian movement - simply continues until it meets some external obstacle," tending "towards ever greater differentiation, without any end in sight,"[263] Jameson argues, "a dialectic must necessarily be posited whereby at any given moment the increase triggers a leap from quantity to quality and produces a radically new type of differentiation."[264] This qualitative shift from the modern to the postmodern "has to do with education, the public sphere, and the cybernetic or informational age"[265]; and, as we have seen, it encompasses a transition from differentiation to de-differentiation, from calculative

[260] Diederichsen and Franke, "The Whole Earth."

[261] Frederic Jameson, *The Cultural Turn: Selected Writings on the Postmodern 1983-1998* (New York: Verso, 1998), 84.

[262] Ibid., 86.

[263] Ibid., 89.

[264] Ibid., 89-90.

[265] Ibid., 86.

rationalization to irrational fascination, and from disenchantment with "cool intellect" to re-enchantment in "one's 'heart and soul'."[266]

In other words, as Deleuze puts it, "in the midst of a general breakdown of all sites" where "everyone knows these institutions are in more or less terminal decline," for instance, "[o]ne can envisage education becoming less and less a closed site differentiated from the workplace as another closed site, but both disappearing and giving way to frightful continual training, to continual monitoring of worker-schoolkids or bureaucrat0-students."[267] Under the continuing dissolution of epistemological and ontological distinctions, the only thing left consistent and solid seems to be the incessant formal movement of the capitalist system itself, whose motional principle is "a perpetual displacement, an eternal turning" making "[t]he shores … disfigured and identities wrecked."[268]

Hence, the endless self-renewing movement in a "virtuous circle" becomes the object of a strange intoxication not only for capitalist system but also for individual subjects caught in this paradoxical yet universal imperative-passion for self-realization. Thus, after all, "at the apex of rationalization, we moderns have suddenly found ourselves living 'as did the ancients when their world was not yet disenchanted of its gods and demons'." In fact, when Max Weber envisioned "the future of rationalization … in terms of 'mechanized petrification,'" he anticipated another

[266] Weber, "Science as a Vocation,"135.

[267] Deleuze, "Control and Becoming," 175.

[268] Ian Hamilton Grant, "Introduction," *Libidinal Economy*, Lyotard, xxx.

possible scenario in which "Modern Western society is … once again enchanted as a result of disenchantment"[269]:

> Redemption from the rationalism and intellectualism of science … They crave not only religious experience *but experience as such*. The only thing that is strange is the method that is now followed: the spheres of the irrational, the only spheres that intellectualism has not yet touched, are now raised into consciousness and put under its lens. For in practice this is where the modern intellectualist form of *romantic irrationalism* leads. This method of emancipation from intellectualism may well bring about the very opposite of what those who take to it conceive as its goal.[270]

The irrational, the creative, the artistic, and the unpredictable return to the modern world, bringing "the noise" back to the mechanical operation of the rationalized system in a full circle. However, the re-enchantment craved by contemporary capitalist subjects is not a mere reaction to or revival of the old enchantment before the secularization and re-spiritualization. Rather, it is an intensification of a formal movement developed in Western industrial world since the early twentieth century and a certain kind of personality outgrown from that: the cybernetic rearrangement of the world with its own and resultant capitalist metamorphosis from the scientific, the calculative, the regulative, order and control to the creative, the flexible, the communicative, autonomy and self-control. What we witness now in the ironic self-infatuation and self-exploitation of the young workers—with their unwearying motto of "Rise and Grind"

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[269] Sung Ho Kim, "Max Weber", *The Stanford Encyclopedia of Philosophy* (Winter 2019 Edition), ed. Edward N. Zalta, URL = https://plato.stanford.edu/archives/win2019/entries/weber/. The enclosed quotes are from Weber, "Science as a Vocation."

[270] Weber, "Science as a Vocation," 142-43. Emphasis added.

and "Do What You Love"[271]—is a product of "a slow embrace of what was previously excluded from the constitution of the modern social and epistemological order: the irrational, the mimetic (contagious or playful), the animistic." In short, as Diederichsen deftly puts it, "[t]he cyberneticization of the world also becomes its re-animation, a project of undoing alienation, a desire for immersion and enchantment. The once fixed, objectified, reified world begins to be dynamic, talkative, and transformative again—but at the price of immersive adaptation to systemic conditions."[272]

In this way, the paradoxical characteristic of contemporary capital—it is more autonomous *and,* at the same time, more contained—seems to receive a reasonable explanation: that it is an outgrowth of the fulfillment of the artistic critique in capitalist managerialism, whose ideological orientations (openness, creativity, autonomy, elasticity, self-management, and self-organization) were provided by the transformation from first to second-order cybernetics. However, even then, the image of capital as a self-organizing, almost animated, autopoietic system—in other words, as we have seen in the 2008 financial crisis, capital that seems to operate autonomously *regardless of its material reality, without a telos, and according to its own logic*—still calls for a cogent historical account. What brought about the critical impasse we encounter now is indeed this "zombie-like character of this society, its fall-back to automatic pilot, its cybernetic governance,"[273] that the capitalist system seemingly has a life or soul of its own as a self-organizing and self-generating system. To keep going or to move on without an

[271] Erin Griffith, "Why Are Young People Pretend to Love Work?"

[272] Diederichsen and Franke, "The Whole Earth."

[273] Brian Holmes, "The Affectivist Manifesto: Artistic Critique in the 21st Century" (Nov 2008), URL = https://brianholmes.wordpress.com/2008/11/16/the-affectivist-manifesto/.

overarching ideology, goal, or meaning seems to be the only interest of contemporary capitalism as if, as Sloterdijk clearly puts it, "systems and other suspicious entities … have nothing better to do than to function in the way that they function."[274]

Yet, the explanatory and deprecatory model the critics of neoliberalism suggest—that it is due to the all-encompassing dominance of neoliberalism and that there is no outside since "this is the way things are now"[275]—does not really resolve or clarify any of the problematic situations and aporias we are facing now. Today, the problem is not the inability of capitalist subjects to realize and disclose the hidden power or ideology behind the workings of capital, but that contemporary capitalism does not hide anything and indeed by itself guides and creates its own trajectory—contrary to the common assumption that invisible authorities controlling the system are so well manipulated and concealed that it *looks as if* the capital *was* moving autonomously. The traditional hegemony-autonomy model of political economy and subject-object frame of critique reveal themselves inadequate in order to address the historical moments in which the so-called neoliberal forms of governance and economic scenarios are embedded and, more importantly, to recognize the "metamorphosis of modern psyche" those historical changes have engendered.[276] For the operation of contemporary capitalism both expresses and shapes social forms, and hence defies existing critical or explanatory frameworks; indeed, "[y]ou could even call it a superstructural phenomenon - although it's more than a superstructural phenomenon, because it creates material reality."[277]

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[274] Peter Sloterdijk, *Not Saved*, 72.

[275] Mark Fisher and Jeremy Gilbert, "Capitalist Realism and Neoliberal Hegemony: A Dialogue," 90.

[276] Sloterdijk, *In the World Interior of Capital*, 209.

[277] Diederichsen and Franke, "The Whole Earth."

As Heidegger pointed out earlier, cybernetics has both "*operational* and *model* character," which transposed into the self-regulating and autopoietic quality of contemporary capital when the two have merged with and become indistinguishable from each other. Thus, if one feels that the "world begins to be dynamic, talkative, and transformative again" under contemporary capitalism, it is not a merely ostensible impression but, in fact, a substantive socio-economic condition of the post-industrial capitalist world. And, to investigate this perplexing quality of contemporary capital—where "Money … [is] talking to itself"[278] in its "soulful and glowing, a dynamic aspect of the life process"[279]—we need to examine another cybernetic metamorphosis of capitalist managerialism that came after the artistic critique: the new cybernetic technique called *scenario planning*.

[278] DeLillo, *Cosmopolis*, 77

[279] DeLillo, *Cosmopolis*, 24.

CHAPTER THREE

CAPITALIST STORIFICATION AND THE IMPASSE OF CRITIQUE

In *Satin Island* (2015) by Tom McCarthy, an in-house anthropologist hired at a top management consulting firm, ponders a Vanuatuan custom called the Cargo Cult. The Vanuatu islanders first encountered the US military cargo planes during the Second World War, when the US Army took over part of the island for the war-effort against Japan. Watching the "metal beast … disgorge … their great stomachs' bounty," full of war and mundane supplies, they were struck with awe. When the war ended and the American troops "disappeared into the sky from which they'd first materialized," the Vanuatuans began to enact, or re-enact, the rituals they believed would bring back the planes laden with Western gadgets and bountiful goods. The narrator recounts, "like anthropologists, they'd studied the bat-waving routines, learnt the choreography of military salutation"[280] and "constructed beacons and antenna-topped control towers, ping-pong bats and forklift trucks alike from balsa and bamboo," repeating the ceremonial invocation for years and decades with a hope, or faith: "If we do it enough, their logic went, the planes will come again. Perhaps not now, or next week, or next month—but one day, they will come."[281]

Strange as this kind of tribal Messianism may seem, however, it is not unfamiliar in the Western world. While introducing how the early anthropological description of Vanuatuan rituals attracted criticism for its snooty derision and "colonial arrogance," the narrator turns his

[280] Tom McCarthy, *Satin Island* (New York: Alfred A. Knopf, 2015), 89.

[281] Ibid., 90.

ethnographical rumination into a moment of self-reflection. Our contemporary world, he concludes, is enthralled by a primordial futurology. In fact, it is what feeds his work at "the Company" and fuels the whole business it involves:

> [H]adn't the West also been awaiting a re-arrival from the skies, and not just for fifty years? Didn't we, too, have our own, Nazarene John Frum? They were, of course, correct. Nor was this Messianism confined to Christians. It strikes me that our entire social organism—its economy, its social policy, its civil order—… is down to their being reined in, held in alignment, by a yoking to this notion of the Future … Certainly, each brief the Company worked on, every pitch we made, involved an invocation of, a genuflection to the Future: explaining how social media will become the new press-baronage, or suburbia the new town center, or how emerging economies would bypass the analogue to plunge straight into the post-digital phase—using the Future to confer the seal of truth on these scenarios and assertions … that's how we won contracts. Everything, as Peyman said, may be a fiction—but the Future is the biggest shaggy-dog story of all.[282]

According to the narrator, the Company's—"let's continue to call it that,"[283] he says—business can be summarized as "draw[ing] up blueprints for the future of the world"[284] and "managing uncertainty … [through] somehow joining isolated dots into a constellation-pattern people could just—*just*—recognize, and be seduced by."[285] The Company conducts future planning and

[282] Ibid., 90-91.

[283] Ibid., 14.

[284] Ibid., 46.

[285] Ibid., 53.

research for a variety of clients, whose list includes corporations, city councils, political entities, international organizations, and what not (for example, some of their past projects are "to compile a dossier on jeans … [for] Levi's"[286] and "the EU commissioned … [report] to imagine what a concrete affirmation of a European commonality might look like"[287]); in this way, the Company's profit actually relies on the invocation of the future and the enchanting charisma it conjures. And this modern Messianism for the corporate tribe is conducted through "scenarios," the dossiers and reports full of future *stories* that can flesh out the blueprints and weave through the isolated dots, to provoke the image of the future in their clients' minds and "confer the seal of truth" on it.

Stuck in a room in the basement of a shiny office building in the Company's London premises, the narrator's job is to write "The Great Report." Peyman, the aptronymically named head of the firm, hired the young promising scholar in anthropology who just published his first book, to come up with the Report, which the narrator calls "this beautiful, magnificent Report; this book, *the* book, the fucking Book, that was to *name* our era, *sum it up* … that is Present-Tense Anthropology™."[288] As the narrator's "hero" Lévi-Strauss had done, so well as the Vanuatu islanders aspired to do, he is bound to uncover "a grand pattern" of the socio-cultural phenomena that seem to "withhold, in its layers and strata, some kind of infrastructural master-meaning."[289] However, as his exasperating agony over the project demonstrates, finding "a

[286] Ibid., 32.

[287] Ibid., 48.

[288] Ibid., 127.

[289] Ibid., 31.

mechanism capable of managing and arresting, let alone pinning down and *mapping* the dynamics, processes and patterns—social, anthropological, historical, micro- and macro, what-you-will—that the Report would have to somehow turn into its content"[290] was an impossible, doomed task so much as the Emperor's desire to create a perfect map in Borges's story. Nonetheless, at the end, the Report gets written and becomes a huge success. Yet, it is only after the narrator's "grotesque realization … that it had *already been written*. Not by a person, nor even by some nefarious cabal, but simply by a neutral and indifferent binary system that had given rise to itself, moved by itself and would perpetuate itself." As in Carroll's earlier version of the Borges story, the reality itself is already working pretty well as a self-reporting, self-demarcating, and self-modifying map-country. Part of the narrator's realization is that in this corporate anthropology, which is simultaneously a performative futurology, what gives life to the patterns and blueprints of the future is *narrative* and its circulation. And, in this autotrophic mechanism, "we, far from being its authors, or its operators, or even its slaves … were no more than actions and commands within its key-chains."[291]

Peyman understands this well enough to publicly announce "what we (the Company, that is) essentially do" is "not *consultancy* or *design* or *urban planning*, but *fiction.*" Once a story, idea, or image was presented by the Company "purely speculatively,"[292] he explains, through the process of its circulation and dissemination, "the facts … followed from the fiction." And "[f]iction was what engendered them [the facts] and held them in formation."[293] Nonetheless,

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[290] Ibid., 126-7.

[291] Ibid., 133-4.

[292] Ibid., 48.

[293] Ibid., 59.

Peyman argues, it is nothing like fabricating facts or creating pseudo-prophecy, as one may easily assume; rather, the Company presents plainly fictional and "useless" ideas, images, or stories, and then "its uselessness sets it to work: as symbol, cipher, spur to the imagination, to productiveness."[294] Thus, as the head of the Company, Peyman's job is to choreograph the collective in-house generation of concepts with the enlistment of "economists, philosophers, mathematicians, architects and who knows what else on the book"[295] working for the Company and then "to put ideas out, put them in circulation." Like "currency," the narrator notes, Peyman "traded in them, converting them, via the Company, into tangible undertakings that had measurable outcomes, which in turn helped spawn more concepts and more aphorisms, always at a profit."[296] In this way, as Peyman proudly states, "[l]ots of Company's projects have been fictions that became real."[297] And what mobilizes and reinforces this "general—and generative—mechanism" of the positive "feedback loop"[298] between the corporate storification and the materiality of the real world is "[a]nother concept he put about a lot, that was much quoted: narrative."[299]

"[U]n-plottable, un-framable, unrealizable … [and] *un-writable*"[300] the Great Report seemed to the narrator of *Satin Island,* driving him to extreme anxiousness and frustration.

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[294] Ibid., 47.

[295] Ibid., 44.

[296] Ibid., 43.

[297] Ibid., 48.

[298] Ibid., 44.

[299] Ibid., 48.

[300] Ibid., 127.

Ted Newland—a very real person in the history of corporate reality, not in the world of fiction—felt similarly when he was first deployed to "start an activity called Long-Term Studies at the London headquarters"[301] of Royal Dutch Shell in 1965. "I was placed in a little cubicle on the 18th floor and told to think about the future. With no real indications of what was required of me," he recalls.[302] Newland's task to "think about the future" was part of Shell's efforts—the weakest among the major "seven sisters" in the global oil market at that time[303]—to find a viable future business model against the ever increasing uncertainty and complexity of the market. In fact, facing the slowdown of the business's growth and the impending instability in the Middle East, Shell launched two very different future strategy programs in 1965: the first was "the Unified Planning Machinery (UPM), a computer-driven system" that was "rational, model-based financial forecasting … very much in vogue in the 1960s"[304]; and the second was an experimental project to look into the future in a more creative way, the one that put Newland into the tiny office cubicle, which was "perceived as a dangerous substitute for real thinking"[305]

[301] Angela Wilkinson and Roland Kupers, "Living in the Futures: How Scenario Planning Changed Corporate Strategy," *Harvard Business Review* (May 2013), 119.

[302] Ibid., 118-9.

[303] "Seven sisters" refer to the seven leading international oil companies that occupied ninety percent of the global market share in the 1960s. It included Standard Oil of New Jersey (Exxon), Standard Oil of California (Chevron), Socony (Mobil), Texaco, Gulf Oil, and British Petroleum. Royal Dutch/Shell was the seventh. See Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Shaped* (New York: Viking Press, 1975).

[304] Wilkinson and Kupers, "Living in the Futures," 119.

[305] Pierre Wack, "Scenarios: Uncharted Waters Ahead," *Harvard Business Review* (September - October 1985), 77.

around the mid-1960s, but in the following decades would become one of the most popular technologies for business planning and strategic management—that is, *scenario planning*.[306]

For this unprecedented, experimental in-house future studies, the board members of Shell wanted to find "someone with imagination." Ted Newland was "the man they found … a staffer in Royal Dutch/Shell's planning department,"[307] and a few years later Pierre Wack joined from Shell Française and led the team from 1971 to 1981 for the most turbulent decade in Shell's history. Later, in "Scenarios: Uncharted Waters Ahead," Wack comments that it seemed inevitable that the methods of future planning most of the companies were using at that time had to go through a fundamental, qualitative change. He points out that the traditional calculative and mechanical model to find "*the* right forecast" was already revealing its limits to respond to the rapidly changing and unpredictable business environment in the early 1970s, often with "forecasting errors [that] have become more frequent and occasionally of dramatic and

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[306] Scenario planning was first developed by Herman Kahn, a cybernetician at the RAND corporation, as part of the military future planning to prepare the United States military for potential nuclear wars. After its introduction into the corporate world as a breakthrough future management method, Royal Dutch/Shell's active and extensive application has set the theoretical and practical foundation of the practice of scenario planning to be followed by numerous corporations and organizations in the following decades. Art Kleiner's *The Age of Heretics* provides a detailed early history of the development of scenario planning at Shell. Also, a series of articles Pierre Wack published in *Harvard Business Review* in 1985 offer a first-hand account of the process of how Shell first implemented the method and modified its protocols and theoretical principles. See Art Kleiner, *The Age of Heretics: A History of the Radical Thinkers Who Reinvented Corporate Management* (San Francisco: Jossey-Bass, 2008); Pierre Wack, "Scenarios: Uncharted Waters Ahead," *Harvard Business Review* (September – October 1985): 73-89; and "Scenarios: Shooting the Rapids," *Harvard Business Review* (November - December 1985): 139-150. For the case study of Shell's successful utilization of the method, see Paul J.H. Schoemaker and C.A.J.M. van de Heijden, "Integrating Scenarios into Strategic Planning at Royal Dutch/Shell," *Planning Review* 20. 3 (1992): 41-46 and Wilkinson and Kupers, "Living in the Futures." Also, Wilkinson and Kupers's *The Essence of Scenarios: Learning from the Shell Experience* offers a detailed account of Shell's decades-long practice of scenario planning with an insiders' view on its cultural and theoretical evolution as well as summaries of each scenario Shell has produced until the early 2010s. Angela Wilkinson and Roland Kupers, *The Essence of Scenarios: Learning from the Shell Experience* (Amsterdam: Amsterdam University Press, 2014).

[307] Kleiner, *The Age of Heretics*, 123.

unprecedented magnitude."[308] What the companies needed was a more flexible and creative model, Wack thought, that could help the managers see beyond the known and familiar trajectory of events and ultimately 'think outside the box' so that they could adapt to the unpredictable futures more nimbly.

The solution Wack and his team came up with was scenario planning—using fictional yet plausible and provocative narratives about possible futures. This new future planning methodology was developed by Herman Kahn, a cybernetician and former war-strategist at the RAND corporation and the co-founder of Hudson institute, who had just begun to be known in the corporate world around the early 1970s.[309] We will take a closer look at the historical origin of scenario planning, as well as its narratological and literary implications and the significance of this turn in systemic thinking later in this chapter. For now, it is important to note that Shell's adoption of scenario planning signals a crucial shift of direction in corporate strategic planning, and by extension the characteristics of capitalist operation, in the following decades. As *Satin Island*'s description of contemporary capitalism demonstrates, before long, we will see the autonomous and performative operation of the storifying-storified machines everywhere in the business world. And, like Peyman, the guru of the yet-to-come ideas, Pierre Wack, dubbed "the Father of Scenarios" in Shell's special publication celebrating its forty year milestone of scenario

[308] Wack, "Scenarios: Uncharted Waters Ahead," 73.

[309] For Kahn's work at the RAND corporation and later at Hudson Institute as well as his development of scenario planning, see Jenny Andersson, *The Future of the World: Futurology, Futurists, and the Struggle for the Post-Cold War Imagination* (Oxford: Oxford University Press, 2018), 71-121; B. Bruce Briggs, *Supergenius: The Mega-Worlds of Herman Kahn* (New York: North American Policy Press, 2000); Kleiner, *The Age of Heretics*, 121-154 and 226-268; R. John Williams, "World Futures," *Critical Inquiry* 42. 3 (Spring 2016): 473-546; and Kent Puckett, "RAND Narratology," *Representations* 149. 1 (Winter 2020): 31-72.

planning,[310] brought an artistic charisma and enchanting affective force (and even some level of spiritual reverence) to corporate scenarios its formative years.

Soon after the commencement of their future studies, Wack and Newland, with the twenty-odd members of their team, produced four exploratory scenarios in 1971 and six more stories about the possible near futures in 1972, and they were shared through reports and presentations, first to the managing directors, then to the managers at Shell offices all around the world. Around the same time, after a few years of co-operation of the UPM and the scenario planning, Shell's managing board finally decided to drop the UPM, marking a watershed moment in the company's future strategy as well as its management culture in general.[311] The outcome of this decision has now become a legendary success story well-known in the history of the corporate planning and strategic management. As many business theorists point out, the turn from the computational and rationalistic future management method to the creative and flexible one brought about a dramatic increase in Shell's global market share throughout the following decades.[312] The new approach, based on imagination, speculation, and creativity, was at first regarded as "dangerous" compared to the "real thinking" of the scientific method; yet, it has provided Shell with tangible visions of the future and successfully prepared the company for the imminent turbulence of the market, such as "the oil crisis of the 1970s to the financial crash of

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[310] *40 Years of Shell Scenarios* (Netherlands: Royal Dutch/Shell, 2013), URL = http://s05.static-shell.com/content/dam/shell-new/local/corporate/corporate/downloads/pdf/shell-scenarios-40yearsbook080213.pdf.

[311] Kleiner, *The Age of Heretics*, 121-154; Wilkinson and Kupers, "Living in the Futures," 119-122; and Wack, "Scenarios: Uncharted Waters Ahead," 73-77.

[312] See Robbie E. Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," *Corporate Futures: The Diffusion of the Culturally Sensitive Corporate Form*, ed. George E. Marcus (Chicago: University of Chicago Press, 1998), 143-146 and Art Kleiner, "The Man Who Saw the Future," *strategy+business* 30 (Spring 2003), URL = https://www.strategy-business.com/article/8220?gko=4447f.

2008," as Shell's official website announces.[313] As Art Kleiner points out in an article on Pierre Wack, the self-initiated shift in its future thinking "alerted Shell's managing directors (its committee of CEO equivalents) in advance about some of the most confounding events of their times: the 1973 energy crisis, the more severe price shock of 1979, the collapse of the oil market in 1986,"[314] which kept "Shell … consistently better in its oil forecasts than the other oil companies" as another management theorist observes.[315]

However, as I mentioned, the significance of Shell's turn away from the UPM to scenario planning is far from one single company's exceptional business choice that ended up with a fortuitous success. Rather, it was an early manifestation of a certain shift that was already happening in capitalist managerialism—a kind of cultural, as well as institutional, change in attitudes approaching the unpredictability and complexity in systemic operation. Thus, the rationale Pierre Wack had when he adopted the new method to Shell's future planning does not only apply to the corporate future management but also resonates with a larger turn in systemic thinking:

> My thesis - on which agreement may be less general - is this: the way to solve this problem is not to look for better forecasts by perfecting techniques or hiring more or better forecasters. Too many forces work against the possibility of getting *the* right

[313] "Earlier Scenarios," *Shell official website*, URL = https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/new-lenses-on-the-future/earlier-scenarios.html. Shell's official website provides electronic brochures and video clips explaining Shell's history of scenario planning as well as a selected number of previous global scenarios—shortened public versions of the hundreds-page long original scenarios for internal circulation.

[314] Art Kleiner, "The Man Who Saw the Future."

[315] Paul J.H. Schoemaker, "Scenario Planning: A Tool for Strategic Thinking," *Sloan Management Review* 36. 2 (Winter 1995), 25.

> forecast. The future is no longer stable; it has been a moving target. No single "right" projection can be deduced from past behavior. The better approach, I believe, is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just an occasional, temporary deviation from a reasonable predictability; it is a basic structural feature of the business environment. The method used to think about the plan for the future must be made appropriate to a changed business environment."[316]

Echoing Heinz von Foerster's principle of "order from noise," which saw the unpredictable disturbance to the order of a system as "intrinsic structural properties,"[317] Wack argues that strategic future planning should approach "uncertainty" not as something to eliminate but as "a basic structural feature of the business environment" and thus something we should embrace as "part of our reasoning." As Norbert Wiener tried to anticipate the next move of an enemy pilot in the 1940s, post-war corporate planners were also endeavoring to hit the "moving target," but, this time, secular and commercial ones—such as an upcoming trend in culture, the next 'big thing' in technology, the changes in customers' tastes, impending market crises, political or socio-economic upheavals, or even the future itself. However, according to Wack, it was no longer an attainable dream (or, rather, an always already impossible one, if we follow Borges's lesson). Corporate future management—as we have seen in the metamorphosis of cybernetics, whose most representative institutional transitions were happening around the same time or slightly earlier than Shell's inception of scenario planning—was also in need of a self-modification and self-update to embrace the intensifying volatility and contingency of the world. And the

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[316] Wack, "Scenarios: Uncharted Waters Ahead," 73.

[317] Heinz Von Foerster, "On Self-Organizing Systems and Their Environments," *Understanding Understanding: Essays on Cybernetics and Cognition* (New York: Springer, 2003), 13.

metamorphosis of corporate planning took a practical, theoretical, and ideological trajectory that undoubtedly parallels the cybernetic one, turning away from a calculative and mechanical control towards an incessantly self-mutating, self-reflexive, and autonomous system.

In opposition to the idea of hitting *the* right target, Wack suggested that corporate futurology should aim at "shooting the rapids." It was a term Wack liked to use to describe the elasticity in responding towards the uncertainties of the world and also a subtitle for one of his two-part introduction to scenario planning published in *Harvard Business Review* in 1985. Dealing with the extreme volatilities of the modern business world, according to him, requires an ability to undulate with the ever-changing flows of the market—in other words, to dance with the "moving target" or to "ride the wave"[318] as many contemporary business critics often say. It is the same kind of attitude Deleuze sees as a mandate for individuals (whether private or collective) to be flourishing in our contemporary world. With a corresponding metaphor of waves, Deleuze notes in "Postscripts on Control Societies," "*[s]urfing* has taken over from all the old *sports*" in our contemporary world, which makes everyone always have to be "undulat[ing], moving among a continuous range of different orbits."[319] Hence, in this new paradigm, one should put oneself under a program of continual self-renewal and autonomous re-adjustment. Scientific exactitude and stable fixity, once the guiding principles for any kind of systemic organization, start to lose their ascendancy and even to be deemed as a potential obstacle for the new model of successful business organizations: the free-floating, fluid, and self-modulating operation of a flexible and resilient system.

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[318] Boje, "Storytelling in Systemicity and Emergence," 181.

[319] Deleuze, "Postscript on Control Societies," 180.

Therefore, the goal of Wack and Shell's scenarios team was not to identify a singular plausible future (it can turn into something else at any given moment!) but to co-emerge with the rapids of the world and thus to cultivate an institutional pliancy to embrace the other, multiple, improbable, and unfamiliar futures. Indeed, Wack's innovation and contribution in scenario planning does *not* come from the fact that his early scenarios actually anticipated the imminent global oil crises in the 1970s, although it was a real game-changer for scenario planning as a strategic management technique to establish a solid foothold and popularity, especially among the managers who were very skeptical about these *irrational* and improbable future stories presented to them. Instead, Shell Scenarios have been considered to have such powerful impact and profound influence in the history of capitalist managerialism because of their shift of practical emphasis from designing 'plausible' future stories ("scenarios that we would not be ashamed of when we subsequently compared them with reality"[320] in Wack's words) to boldly challenging and changing the managers/readers/audiences' view of reality. After the first round of writing exploratory scenarios and sharing them with the executives and managers, Wack's team realized "without that *gut feel*, they could not act."[321] In order to make the managers "question their own model of reality" and eventually "come up with strategic insights beyond their mind's previous reach,"[322] the team somehow would have to make the alternate, purely speculative worlds vivid and tangible in their minds. For that task, as Wack puts, they needed not just logical and credible, but "[g]ood scenarios" that could supply the "vital 'bridge'" between

[320] Wack, "Scenarios: Uncharted Waters Ahead," 87.

[321] Kleiner, *The Age of Heretics*, 141. Emphasis added.

[322] Wack, "Scenarios: Uncharted Waters Ahead," 87.

"the new realities … [and] the managers' microcosm," the kind of "scenario [that] really touches a chord in the manager's mind - [creating] the moment at which it has real meaning for him or her."[323]

In short, the remedy for the shortcomings of the first phase of Shell's scenario practice was *good stories* that could "touch a chord" in the reader's mind, induce a "gut feel," and make the reader willing to cross the "bridge" between his or her world and the fictional one.[324] Hence, corporate future planning has become not just a matter of hard numbers, but about mobilizing affects and invigorating imaginative power through narratives, which is what Peyman in *Satin Island* says the fictions generated by his Company do: "a spur to the imagination, to productiveness … to liberate things—objects, situations, systems."[325] Juxtaposed to McCarthy's

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[323] Ibid., 139.

[324] The fictionality of scenarios is highlighted with great emphasis in almost every textbook or guidebook for the strategy of scenario planning, postulating the change in perspectives as its goal, not an accurate prediction or indisputable plausibility as one would expect. For example, a scenario planning guidebook published by Global Business Network underlines, "importantly, scenarios are not predictions. Rather, they are provocative and plausible *stories*"; also, Shell's *Scenarios: An Explorer's Guide* defines a scenario as "a *story* that describes a possible future." With a similar emphasis on the fictitiousness of the method, Angela Wilkins and Roland Kupers, former in-house consultants at Shell, argue that the main goal of scenario planning is "to help break the habit, ingrained in most corporate planning, of assuming that the future will look much like the present" by creating and providing a "safe space … for acknowledging uncertainty." Thus, as the GBN guidebook states, "[d]one well, scenarios are a medium through which great change can be envisioned and actualized." See Diana Scearce, Katherine Fulton, and the Global Business Network community, *What If?: The Art of Scenario Thinking for Nonprofits* (Emeryville, CA: Global Business Network, 2004), 7; *Scenarios: An Explorer's Guide* (The Hague: Shell International, 2008), 8; and Wilkinson and Kupers, "Living in the Futures," 121. Also, for basic principles of the method of scenario planning and practical guidelines, see Kees van der Heijden, *Scenarios: The Art of Strategic Conversation*, 2nd ed. (Chichester: John Willey & Sons, 2005); Kees van der Heiden, et al. *The Sixth Sense: Accelerating Organizational Learning with Scenarios* (Chichester: John Wiley & Sons, 2002); Thomas J. Chermack, *Scenario Planning in Organizations: How to Create, Use, and Assess Scenarios* (San Francisco: Berrett-Koehler, 2011); George Wright and George Cairns, *Scenario Thinking: Preparing Your Organization for the Future in an Unpredictable World* (New York: Palgrave Macmillan, 2011); and Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (New York: Currency Doubleday, 1991).

[325] McCarthy, *Satin Island*, 47.

mock-epic of the corporate saga in the age of "creative economy"[326] is indeed the real business-world success story of Shell, whose scenarios team has published more than thirty "Great Reports" ('Shell Scenarios' in their corporate language) that dauntlessly have "name[d] our era"[327] for almost half a century until today. The completed scenarios have been circulated, referenced, and presented in and out of the company all over the world; and with its growing influence, by the 1990s, one of the scenarios team members recalls, they have "been presented to the G7, and the UN, and the European community, and the French government here and there, and to different nations around the world, and the World Bank—just a lot of different places."[328]

In both the fictional and real-world corporate management of the future, *narrative* was certainly at the center of their business. Undoubtedly, this narratological turn in corporate futurology was part of and an extension of the aestheticization of capital that was contemporaneously happening and developing since the early 1970s. Spurred by the artistic critique from the 1960s and institutionalized by the managerial innovations throughout the 1970s and the 1980s, the aestheticization of capital, we might say, culminated in this unique form, the corporate art of storification. As we have seen in the case of the collective storifying project at Karmøy Fabrikker in the mid-1980s—carried out to transform and "lift the company to a new plateau"[329]—the practice of storification quickly gained prevalence to become a widely popular method for organizational and strategic management. Especially since the 1990s when the

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[326] See Sarah Brouillette, *Literature and the Creative Economy* (Stanford: Stanford University Press, 2014).

[327] McCarthy, *Satin Island*, 127.

[328] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," 171.

[329] Parker, *Creating Shared Vision,* 14.

practice of storification evolved into the so-called 'narrative turn' in business (which we will discuss in detail later), narrative has been adopted and institutionalized broadly in the corporate world, not only as a tool for strategic planning but as a general management technology for almost every aspect in business such as organization, marketing, worker training, advertisement and communication. Thus, as business theorists Fenton and Langley state in "Strategy as Practice and the Narrative Turn," in the recent business environment, "[n]arrative is believed to be critical to sense making in organizations" and "multiple levels and forms of narratives" are now considered essential and "inherent to strategic practices."[330] Put simply, as another theorist notes with a strong echo of Peyman, "storytelling is the preferred sense making currency now."[331]

Hence, in this chapter, we trace the historical metamorphosis of corporate managerialism that led to the narrative turn in business. Under the regime of corporate storification, managers are constantly pressured to come up with new, compelling narratives that can inspire executives, clients, customers, and workers change their mind and act. In short, with the new qualification of the creative ability to produce good and original narratives to sell, the corporate workers are required to be *pseudo-artists*, turning the desired model of 'artist-worker' into a mundane reality observable in any business organizations. While investigating the historical evolution and expansion of capitalist storification from scenario planning to narrative turn, we will also find that contemporary capitalism not only relies on the imaginative power narrative art retains, but also turns to utilize the professional skillset for fiction-writing and takes up the form of *pseudo-novel*. Through a close and extensive examination of management literature, we will see how

[330] Christopher Fenton and Ann Langley, "Strategy as Practice and the Narrative Turn," *Organization Studies* 32.9, 1171.

[331] Barry and Elmes, "Strategy Retold," 429.

scenario guidebooks and management textbooks encourage the practical and effective use of literary devices—for example, coherent and captivating plot structure, relatable and affective characterization, powerful setting, proper choice of genre, effective use of narrative voice, carefully chosen poetic language, and so on—instructed as an indispensable element for successful corporate narrativization.

Through the corporatization of narrative art, not only has capitalist storification become part of the solution to deal with the ever-increasing uncertainty and complexity in the world, but it also has created and accelerated the capitalist self-image as something creative, aesthetic, and even spiritual, turning capitalist activities into stylized aesthetic works. Yet, in the same way that the metamorphosis of managerialism under the artistic critique was not a dissociation from cybernetics but an active embodiment of its modified logic, capitalist storification, too, as an advanced manifestation of the process of aestheticization, is not extraneous to the cyberneticization of the post-1945 world. In this chapter, I will investigate how scenario planning first derived from the cybernetic projects to support American nuclear war preparation and subsequently has been grafted into corporate managerialism by the cyberneticians migrating from military projects to private institutions and think-tanks. In the process, we will see a leading cybernetician Herman Kahn played a pioneering role in designing the method of scenario planning, as well as refashioning it into a new breakthrough managerial technology, which was much needed by the corporations facing the multifaceted challenges gradually revealing themselves from the late 1960s.

Yet, the ramifications of this cybernetic turn to narrative adopted in capitalist managerialism does not only lie in the change of the mode of labor (from mechanical to creative, from material to immaterial, so to speak) or just in the fact that capital has appropriated the

literary as its own operational model and technical tool, putting literature into an ontological predicament. Furthermore, the rise of storification as one of the most widely used and effective managerial techniques in contemporary capitalism has prompted and vitalized the process that capital has gradually acquired the *performative* power to posit and cancel its own versions of realities. Once capitalist future planning and managerialism aim at creating certain images of the world in people' minds, rendered palpable and affective through its implementation of artistic media, they not only offer a blueprints that we may live as our future but also establish the conditions through which it would have come true. In this chapter, while investigating the historical development of capitalist storification from its 60's precursors to its universalization in the 2000s, we will also examine how it has created the performative middle ground for the capitalist images of the world to work as a description and a projection and at the same time as an enactment and establishment of the reality it envisages.

The peculiarities of contemporary capital engendered by its performative and autonomous operation make us ask questions such as: how does contemporary capital seem to move with its own logic and will, regardless of the fluctuations of material reality? Why does it feel like the creative, flexible and dynamic, new mode of capitalism that developed in the wake of the artistic critique, as discussed in detail in the chapter two, create more fixities and containment? Is the dominance of capital indeed so powerful and all-encompassing that there is no outside, as some critics of neoliberalism say? If the performative operation of capital conflates the boundaries between reality and representation, hegemony and autonomy, or subject and object, how can critique, based on such theoretical formations, assess the situation and answer the questions above? While finding answers to these questions, part of the goal of this chapter is to provide a cogent historical account of what brought critique to such an impasse and

to carefully suggest an alternate approach to the conundrums that contemporary capitalism casts before us. Last but not least, in the process of responding to these questions, we will also see how the historical developments in capitalism that we are describing place the novel in a paradoxical position in which it is mobilized to serve as a formal and practical model for capitalist activities and thus rendered indistinguishable from capitalist operations. We will see how the novel plays pivotal role in the self-regulating and self-evolving movement of capitalist system by forging counter-intuitive links between control and autopoiesis, cybernetics and storytelling, and the organizational and the artistic. However, the multifaceted interconnectedness and the formal homology between the novel and capitalism, I would argue, might also put the novel in a privileged place to suggest an alternate mode of critique to critically engage with the predicament of contemporary capitalism.

The Autopoiesis of Capital and the Novel

One of the common assumptions regarding the relation between capital and literature, often found in critiques of neoliberalism, presumes somewhat unidirectional and boundless dominance of capital, that we are now living in what Nicholas Brown calls 'the age of the real subsumption under capital.'[332] The editors of the special issue of *Textual Practice* on "Neoliberalism and the Novel" assert, this "seemingly monolithic ability to encompass and appropriate nearly all aspects of everyday life" is "the most characteristic element of neoliberalism," which, as a result, renders it unreasonable "to assume that the novel somehow

[332] See Nicholas Brown, "Close Reading and the Market," *Literary Materialisms*, eds. Mathias Nilges and Emilio Sauri (New York: Palgrave, 2013): 145-165.

avoids recapitulating the ideologies in which it is necessarily enmeshed."[333] It is true that the novel, or that art itself, is always part of and enmeshed in the larger socio-economic and political system, yet the history of capitalism proves that from the beginning it has ever been in an imbricated and mutual relationship with literature. Especially, with scenario planning and the subsequent ascendancy of storification in business practices, capitalism's affiliation with the literary takes a crucial turn, which makes it even more critical to address the complex interplay and interpenetration of capitalism and literature. When capital adopts narratological knowledge and literary strategies to narrate its own versions of reality, which are speculative but also generative of palpable materiality in the world, it not only subsumes, but certainly also relies on the literary—either as a rhetoric, imagination, or full-fledged narrative. Thus, the binary and unidirectional model of autonomy versus hegemony or the traditional view of the novel as a reflection of the socio-economic relations is far from enough to capture the multifaceted and complex interconnection between literature and economic systems.

In fact, capitalist utilization of the literary has its own prehistory and manifests itself in protean forms. The use of literary rhetoric to describe the operations of capital, for example, can be traced back as early as Marx's *Capital* or even to the writings of pre-Marxian British bankers and journalists.[334] As more recent examples, one might recall the kind of metanarratives like Francis Fukuyama's performative declaration of "the End of History" or the clichéd neoliberal slogans, one of the earliest examples of which would be Margaret Thatcher's "TINA (There is

[333] Emily Johansen and Alissa G. Karl, "Introduction: Reading and Writing the Economic Present," *Textual Practice* 29.2 (Mar 2015), 205.

[334] Anna Kornbluh provides an archival work tracing the literary rhetoric of "fictitious capital" used by nineteenth-century British bankers and journalists in chapter one of *Realizing Capital*. See Kornbluh, *Realizing Capital: Financial and Psychic Economies in Victorian Form*, 21-44.

No Alternative)." Aside from being used as a rhetorical device, as many contemporary critics of neoliberalism point out, the literary has also served as a discursive tool to restructure our socio-economic and political imagination and hence as an engine and source to extract more profitable labor from capitalist subjects. As Stanley Cohen and Laurie Taylor note, the so-called 'immaterial' labor in the latest mode of capitalism, for example, requires "the absorption and deployment of those areas traditionally seen as cultural - narratives, language, art, image, taste, style, leisure"[335]; or, as Franco Berardi puts it in a similar note, contemporary capitalism's "primary tools for the production of value" are "the mind, language, and creativity."[336] In other words, the willful ignorance and acceptance, what Neal Curtis calls "idiotism … which closes down thinking and practice,"[337] in capitalist subjects produced by such discourses is heavily depending on literary tropes and imagination for its successful operation.

Yet, long before the prevalence of capitalist storification and narrative turn, we can find the instances that the literary functions as an actual internal force mobilizing profit and value in the economic system. In the third volume of *Capital*, Marx analyzes the credit system and interest-bearing capital, which he calls "fictitious capital." The fictitiousness, or "the illusory process by which monetary circulation seems to promise an accumulation of value untethered from the underlying real economy,"[338] moves the economic system toward what Anna Kornbluh succinctly terms "the self-reflexivity of capital begetting capital."[339] And, of course, this

[335] Cohen and Taylor, *Escape Attempts*, 40.

[336] Franco Berardi, *The Soul at Work*, 21.

[337] Neal Curtis, *Idiotism*, 12.

[338] C.D. Blanton, Colleen Lye, and Kent Puckett, "Introduction," *Representations* 126.1 (Spring 2014), 2.

[339] Kornbluh, *Realizing Capital*, 78.

movement early in nineteenth-century fictitious capitalism presupposes the problem of representation and the speculativeness of wealth in contemporary financial capital, the consequences of which brings a serious professional and financial threat for the narrator of Don DeLillo's *Cosmopolis*. As a billionaire Wall Street finance expert, the narrator is well aware that "money has taken a turn. All wealth has become wealth for its own sake" and says that "Money has lost its narrative quality the way painting did once upon a time."[340] However, the apparent collapse of the link between money and value, price and goods, and representation and the real does not bother or frustrate him; instead, he finds bliss and awe in the incomprehensible, incessant, and seemingly autonomous movement of money, feeling piquant fascination by simply watching the endless series of numbers passing on the stock market ticker and finding organic patterns in them.

Opening his book, *The Specter of Capital* with a brief reading of *Cosmopolis*, Joseph Vogl raises the same kind of "semiotic questions" regarding finance capital, now the most ubiquitous and powerful form of capitalism: "what do the movements on the share market indicate? How are price fluctuations on stock exchanges and financial market to be read and interpreted? What do they have a power to represent?"[341] Tracing "the self-regulatory character of financial system" inducing and "securing the desired outcome of self-sustaining stability,"[342] Vogl demonstrates how financial market transactions such as trading with financial derivatives or hedging bring about "the redefinition of the nature and extent of speculation." As a result of the

[340] DeLillo, *Cosmopolis,* 77.

[341] Joseph Vogl, *The Specter of Capital*, trans. Joachim Redner and Robert Savage (Stanford: Stanford University Press, 2015), 12.

[342] Ibid., 79

reconfiguration, he states, "[w]here the criterion for distinguishing between real and imaginary value no longer applies, … not only does investment become indistinguishable from speculation but both gain a new lease of life as matching sides of one and the same operation."[343] Put differently, when the market trades in "what could, might, or probably will be"[344] rather than what is or has happened, it creates a semiotic void where the patterns, trends, or hidden rhythms of the market mean more than the actual prices or status quo. Furthermore, through the reciprocal movement between speculation and investment, as in the "general—and generative—mechanism" of feedback Peyman triggers through his circulation of ideas, the financial market sets up an automated mechanism continuously reinforcing its self-reflexive movement between real and fictitious transactions.

The speculative and reflexive structure of modern finance economy thus gains a prospective and performative force to install the fictitious into reality, turning the capitalist system into an autotropic machine in an incessant movement of self-generation and self-reinforcement. Vogl continues:

> Its realism is prospective; it is always anticipating a virtual reality which it projects into objects and relations. That is the distinguishing feature of the dual structure of modern economic science or, if you can put it this way, its performative force: the concept of the market is at once a model *and* a "truth program" (Foucault) … as far as the project of political economy is concerned, it can be said that here "the prophet himself occasions and produces the events he predicts."[345]

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[343] Ibid., 67.

[344] Ibid., 113.

[345] Ibid., 36.

The performative aspect of contemporary capital thus comes to fore through the reciprocal mechanism between the real and the imaginative, the actual and the virtual, and reality and representation. Through this new operational logic, which presents a prognosis of the market and at the same time an establishment of the protocols by which the prognosis could come true, capitalism achieves the kind of flexible adaptability for constant self-organization and self-expansion Heinz von Foerster suggested as a characteristic of a second-order cybernetic machine as we have seen in chapter two.[346] The distinctive qualities of contemporary capital that distinguishes it from its previous modes—such that it keeps moving and self-evolving as if it was a living organism with its own will; it seems to only aim at its incessant movement and perpetuation with no apparent teleology or ideology; and, its control does not regulate but still works enough to sustain the balance despite its endless self-mutation—have been deemed as incomprehensible and perplexing peculiarities to many; yet, from the perspective of second-order cybernetics, it could indicate a near completion of an autopoietic cybernetic system, a self-generating and self-regulating machine the second order cyberneticians have dreamed of.

Humberto Maturana and Francisco Varela, former students of Foerster and the next generation second-order cyberneticians, define "an autopoietic machine" as a system that "through their interactions and transformations continuously regenerate and realize the network of processes (relations) that produce them" and "constitute it (the machine) as a concrete unity" through this constant topological demarcation.[347] In the preface to their *Autopoiesis and*

[346] See Foerster, *Understanding Understanding.* Also, Glanville, "Second Order Cybernetics" and Bernard Scott, "Second-Order Cybernetics: An Historical Introduction."

[347] Humberto R. Maturana and Francisco J. Varela, *Autopoiesis and Cognition: The Realization of the Living*, Boston Studies in the Philosophy of Science, vol. 42 (Dordrecht: D. Reidel, 1980), 78.

Cognition: The Realization of the Living, Stafford Beer claims that a social institution with autopoietic qualities (and he says "many seem to answer to the proper criteria") is "not just the random assemblage of interested parties that it is thought to be," but "it is necessarily alive." One might say "[t]hat certainly sounds odd," Beer adds, "but it cannot be helped." Despite its oddity or absurdity, it is not only Beer who has sensed a kind of active organic force in autonomously working social institutions such as "a country's economy" or "the Company."[348] As we have seen earlier, the narrator of *Cosmopolis* finds a "soulful and glowing … life process"[349] in the ever appearing and dissolving numbers on the stock market ticker; meanwhile, in real world, Deleuze also says, more or less oddly, "a business is a soul, a gas" in "Postscript: Control Society."[350] Following this statement is his metaphorical description of the modified sense of control in contemporary societies as an endless self-(re)generation and self-transformation: "[c]onfinements are *molds*, different moldings, while controls are a *modulation* like a self-transmuting molding continuously changing from one moment to the next."[351] According to Deleuze, this autopoietic quality of the contemporary world puts everything in "a sort of universal transmutation"; hence, "in control societies, you never finish anything"[352] and in this way capitalism becomes "an immanent system that's constantly overcoming its own limitations."[353]

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[348] Stafford Beer, "Preface," Humberto R. Maturana and Francisco J. Varela, *Autopoiesis and Cognition*, 17.

[349] DeLillo, *Cosmopolis*, 74.

[350] Deleuze, "Postscript on Control Society," 179.

[351] Ibid., 178-9.

[352] Ibid., 179.

[353] Ibid., 171.

As Katherine Hayles succinctly encapsulates, whereas "it is the system's *behavior* that counts" in first-order cybernetics, in second-order cybernetics "it is the *autopoietic processes generating behavior* that count." While the first-wave researchers like Norbert Wiener, John von Newman, Claude Shannon, and others wanted to build a homeostatic system "that would behave as cybernetic mechanisms," it still "does not count as an autopoietic machine because it does not produce the components that produce its organization."[354] Indeed, the system's "one and only goal is continually to produce and reproduce the organization that defines them as systems,"[355] and it is the self-generating and self-perpetuating, circular feedback logic that derives and operates contemporary capitalism. Since its introduction in the 1940s, the logic of cybernetics has consistently coalesced into the *modus operandi* of capitalism. As we have seen in previous chapters, for example, the earlier mode of capitalism desired a working body that "is not simply analogous to, but essentially identical with a thermodynamic machine,"[356] which would be called an anthropomorpholized version of the first-order cybernetic system based on exactitude, discipline, mechanical movement and order. Yet, the victory of the artistic critique Boltanski and Chiapello delineated in *The New Spirit of Capitalism*, which had been heavily influenced by the theoretical and ideological shifts in second-order cybernetics as we have discussed in chapter two, has generated major qualitative changes in the way capitalism works and controls its subjects; hence, we now see the self-managing and self-updating workers passionate to perform and the self-regulating and self-mutating system that works according to its internally programmed logic.

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[354] Hayles, *How We Became Posthuman,* 141.

[355] Ibid., 10.

[356] Rabinbach, *The Human Motor*, 61.

The contemporary financial capitalism is the epitome of the logic of second-order cybernetics that wanted to construct an autonomous system that works like a living organism, constantly adapting itself to its ever-changing environment and finding adequate balance between itself and the external world. Enabled by the technological advances also brought by the development in cybernetic research, the contemporary capitalist system enacts the logic of cybernetics and thus creates a situation in which the binaries between reality and representation, control and autonomy, and the real and imagination become synthesized or conflated. We will consider the deeper epistemological and theoretical influence of cybernetics on the collapse of the traditional distinctions such as subject-object, word-world, and art-work in the following part, but here it would be enough to say the cybernetic restructuring of the world supplants the real with the reality-effects and the subject with subject-functions, creating functional equivalents that operate as well as the 'real' reality does. And this fundamentally *formal* cybernetic reconfiguration of the world shapes and endorses the desired image of capitalism as an autonomously working self-sufficient system.

Yet, we have to note here that it is the *image* of capital presented and empowered by its own autotropic operation, rather than the actual state of affairs. The essentially self-reflexive structure of the cybernetic operation of contemporary capitalism does not allow us to see outside of "the global capitalist interior," not because *there is no outside* as the widely spread neoliberal idiom insists, but because the capitalist system works in a way that replaces "the need to go outside" with "the self-reflexive and narcissistic world-experience of the West" that ever expands and thus provides the satisfying feeling of openness. In this way, the cosmopolitanism, which in actuality denotes "the provincialism of the pampered"[357] as Peter Sloterdijk neatly puts it, could

[357] Sloterdijk, *In the World Interior of Capital*, 195.

amount to a real-world enactment of the cybernetic principles Maturana and Varela formulate as follows: "[w]e do not see what we do not see and what we do not see does not exist."[358] In a similar way, the contemporary capitalist system instigates a belief that *everything is now speculative, virtual, and immaterial*; so to speak, as McKenzie Wark mockingly states, "there used to be material labor; now there is immaterial labor. It's a different kind of labor. It's the opposite!"[359] Yet, of course, the more traditional forms of labor relying on physical and mechanical work or the repetitive bureaucratic processes are still alive and constitute an essential part of the economy—think about the industrial manufacturing lines like GE auto parts factories or Tyson food processing facilities, Shell's drilling locations and refineries all around the world, the highly labor-intensive work at Amazon's sorting facilities, or the administrative work done every day in the offices of DMV or USPS.

Thus, as Diedrich Diederichsen describes, we still see the "confrontation between these two worlds," yet it is the old order of things "being reshuffled into a society where all these relations are reversed": from the labor-intensive, disciplined work at the top and the self-managing, "creatively intense" entrepreneurism at the bottom to a configuration upside-down. The "upper echelon" in this rearranged constitution are the ones like the narrator of *Cosmopolis* or Peyman in *Satin Island,* or the investment banker and protagonist in *American Psycho*, as Diederichsen suggests, whose "type has circulated, at first as a fictional pathological monster, now as a reality."[360] What these characters have in common is not only the Nietzschean intensity

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[358] Humberto R. Maturana and Francisco Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding* (Boston: New Science Library, 1987), 242.

[359] McKenzie Wark, "The Sublime of Language of My Century," *Public Seminar* (14 May 2016) URL = https://publicseminar.org/2016/05/the-sublime-language-of-my-century/.

[360] Diedrich Diederichsen, "People of Intensity, People of Power: The Nietzsche Economy."

for pragmatic efficiency, as Diederichsen points out, but also the odd, or pathological, ability to be fascinated by the blurred boundary between the real and the virtual. In contemporary capitalist operation, where projections are both indicative and imperative at the same time, it is hard to tell what is circulated and disseminated is speculation or actualization, description or establishment, or, in other words, fiction or reality. When the binaries are conflated into "matching sides of one and the same operation,"[361] to borrow Vogl's words again, navigating the ambiguous space of synthesis, or more preferably joyfully free-floating in the indecisiveness of the market, becomes a prime competence for a successful capitalist worker.

Hence, as a genre believed to have the power to bridge the fictional world and reality and to be effective for subject-formation and world-building, the novel has emerged as an important medium through which capitalism can attain performative power. If capital generates alternate realities and desired futurities by utilizing narratological devices in order to activate the self-reinforcing performative mechanisms, we could say the same about novels; novels create their own fictional worlds and distinctive temporalities that exclude other possibilities to establish a sense of truth in the self-referential and self-framing structure of their internal relations. In a word, the formal premises for a novelistic world to be conceived of as real are the same premises for the capitalist storification to be effective. Therefore, when corporate scenarios put great emphasis on fictionality and aim at writing 'good stories' that can elicit affective responses and changes in worldview from their readers, it is not just another example of a cultural category appropriated and taken over by capital. Rather, we could say it is a timely and dynamic activation of the long-held formal affinity between the novel and capital. From the beginning, both the novel and the capitalist system have emerged as self-referential realities and always

[361] Vogl, *The Specter of Capital*, 67.

been under mutual influence. And it is this shared internal formal logic that makes the novel a perfect medium for capital in occupying the middle ground between representation and the real, which has been considered as the terrain of "the artist" who "gives shape to the world through the work of art."[362]

Therefore, the morphological affinity between the novel and capitalism does not simply point to the novel's reflection of the economic relations or the lives of capitalist subjects in its fictional stories, nor the capital's unilateral usurpation of the literary. As Anna Kornbluh shows in *Realizing Capital: Financial and Psychic Economics in Victorian Form*, the history of early financial capital and the formal characteristics of the nineteenth century realist novel already proves that it is, most of all, the formal qualities that capital and literature have shared and saturated each other with. Kornbluh argues "[f]inancial formalism esteems figurative language as a mode of thinking about finance,"[363] tracing the literary in the nineteenth century financial capital, while also pointing out the sublimation of the logic of finance into the structure of Victorian novels. With the historical analysis of how the nineteenth century novel "engages economics" through its "narratological, rhetorical, and temporal structures," she concludes that the "truly financial element in realism" was nothing but its form.[364] Thus, the question Fredric Jameson postulates in *The Antinomies of Realism,* "whether that form simply registers the advanced state of a given society or plays a part in society's awareness of that advanced state and

[362] Robert T. Tally Jr., "In the Deserts of Cartography: Building, Dwelling, Mapping," eds. Shyam Wuppuluri and Francisco Antonio Doria, *The Map and the Territory: Exploring the Foundations of Science, Thought and Reality* (Förlag: *Springer* International Publishing, 2018), 608.

[363] Kornbluh, *Realizing Capital*, 15.

[364] Ibid., 13.

its potentialities (political and otherwise),"[365] cannot be resolved in an either-this-or-that answer. Rather, as Jameson himself demonstrates with the example of the emergence of free indirect discourse in the nineteenth-century novel in relation to the rise of bourgeois capitalism, capitalist system and the novelistic construction have influenced and organized each other, especially through their forms, always in reciprocal relations.

To reiterate, the reason why the contemporary novel should play an important role in discussions of the present mode of capitalist operation and its affiliated cyberneticization of the post-1945 world is neither only because it testifies to the indisputable dominance of market logic in commodifying art and literature, nor to simply depict and dramatize the damage done to individual lives by current economic system. While noticing the apparent novelistic demonstration of the plights created by the contemporary capital, acknowledging and investigating *the shared formal qualities* between the novel and capitalism will be key to understanding not only certain peculiarities in the current mode of capitalism but also the literary logic of contemporary novels themselves. On the other hand, as capitalist managerialism enlists and mimics the narratological structure, poetic language, and ideological mandates of the novel, it has put the novel into a paradoxical position where what novels do is hardly distinguishable from what capital does. In this morphological de-differentiation between the novel and capitalist activities, novels encounter a predicament in which they cannot do what they have been doing (narrativization, telling a story) without recapitulating or reaffirming the current capitalist operations, and this impasse has generated an ontological challenge for the genre, which often results in the critical lamentation of the 'crisis' or the 'failure' of the novel.

[365] Jameson, *The Antinomies of Realism* (New York: Verso, 2013), 4.

It is from this aporia that a group of contemporary novels, I would argue, turn away from writing 'good stories' (which has become one of the most effective tools for capitalist managerialism and already being done pretty well by corporations) and experiment with a new narrative mode as an alternate way to stage and interrogate the workings of capitalism. In an acute awareness of their complicity that capitalist activities are now modeled after the formal logic of the genre, some contemporary novels make a conscious narratological choice to *formally mimic, stage, and perform* the contemporary capitalist operations, rather than *telling a story* of what they perform. As we will see in detail with specific textual examples in the following chapter, when traditionally expected narratological qualities for a 'good' novel cannot be distinguished from the capitalist tactics to convince more clients, customers, workers, and managers, these novels choose to mobilize their novelistic forms to stage the fundamentally cybernetic movements of the contemporary capital. The awkwardness and inhumanness contemporary novels are often criticized for, or sometimes taken as forthright evidence of an artistic failure, therefore, can be considered the result of the novel's strictly formal enactment of the contemporary capitalist logic. In the following chapter, I will analyze in detail how the novelistic peculiarities—such as the meandering plot with meaningless and repetitive events, unreliable inhuman characters without psychological depth, or the inability or refusal to provide affective and aesthetic experience—are part of the novel's critical and artistic endeavor to find an alternate way to demonstrate the flattening and depoliticizing effects of contemporary capital. But, by investigating how narratology has become first incorporated into the military future planning and ultimately into corporate futurology and managerialism, we will first trace the historical process of how another metamorphosis in cybernetics has generated the generic impasse of the novel.

Scenario Planning: From Herman Kahn to Betty Sue Flowers

In *The Year 2000: A Framework for Speculation on the Next Thirty-Three Years* (1967), Herman Kahn and his Hudson Institute colleague Anthony J. Wiener define and explain scenarios as follows:

> Scenarios are hypothetical sequences of events constructed for the purpose of focusing attention on causal processes and decision-points. They answer two kind of questions: (1) Precisely how might some hypothetical situation come about, step by step? and (2) What alternatives exist, for each actor, at each step, for preventing, diverting, or facilitating the process?"[366]

Amid the increasing interest in the future worlds with the rapid social changes and post-war nuclear anxiety during the mid-1960s, the American Academy of Arts and Science created the Commission on The Year 2000 in 1964. Chaired by Daniel Bell, this comprehensive and interdisciplinary project gathered "over thirty formal members from varying professional fields and over fifty scholars who participated in some capacity"[367] to set the "baselines for the future"[368] and "to sketch 'alternative futures' … the likely results of different choices, so that the policy can understand the costs and consequences of different desires."[369] Herman Kahn, who

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[366] Herman Kahn and Anthony J. Wiener, *The Year 2000: A Framework for Speculation on the Next Thirty- Three Years* (New York: McMillan, 1967), 6.

[367] "Commission on the Year 2000," *American Academy of Arts and Sciences*, URL = https://www.amacad.org/archives/gallery/commission-year-2000/.

[368] Daniel Bell, "introduction," Herman Kahn and Anthony J. Wiener, *The Year 2000,* xxvii.

[369] Ibid., xxvi. In his introduction, Bell clarifies, although "men have always tried to chart the stars … in order to know their fate" (xxiv), their new future studies do not aim "to 'predict' the future." Rather, "the heart of the present future studies," he claims, "is the effort to chart 'alternative futures' as the condition for policy choices." With this conceptual shift in futurology, "a new sophistication in methodology"

had co-founded the Hudson Institute just a few years before but was gaining increasing prominence for his innovative approach for futurology, was one of the committee members. Bell asked him to write a report to provide a blueprint and plotline for the upcoming thirty-three years as an end product of the project. Kahn and his Hudson associates worked on generating future models and "hypothetical sequences of events" based on the year-long discussions and meetings of the committee members, and the result was *The Year 2000,* a series of *scenarios*—an emerging new technology in future studies in the 1960s that later became one of the most popular techniques for corporate managerialism.

Before he founded the Hudson Institute with Max Singer and other former colleagues, Herman Kahn had been an expert nuclear war planner for more than a decade at the RAND Corporation, the military think tank established just after the Second World War, to provide research and analysis for the United States Army.[370] During and in the immediate aftermath of the war, computational simulation was one of the key tasks given to the cyberneticians at many military research institutions, for its various usage from "training pilots" or anticipating the enemy plane's next move to developing war strategy in preparation for a possible nuclear attack. The Monte Carlo method, for example, was one of the most critical tools at RAND, a program that "arose during World War II for stochastic simulations of models of atomic collisions,"[371]

(xxvi) has come, which he explains: "We have begun to assemble statistical time-series both to plot trend lines and to extrapolate likely developments. The existence of a trend is no necessary guarantee that it will continue; but knowledge of *trends* and *curves* gives us more knowledge of likely developments. Along with time-series, we have begun to construct '*models*' or likely combinations and causal relations between variables" (xxvi-xxvii, emphasis added).

[370] See Sharon Ghamari-Tabrizi, *The Worlds of Herman Kahn: The Intuitive Science of Thermonuclear War* (Cambridge, Mass.: Harvard University Press, 2005); Andersson, *The Future of the World*, 70-121; and Kleiner, *The Age of Heretics*, 128-131.

[371] Brian D. Ripley, *Stochastic Simulation* (New York: John Wiley and Sons, 1987), 1.

running massive sample data by mechanical calculation to identify the "optimum response" through "mathematical analysis."[372] After joining RAND in 1947, Kahn passionately had taken up the work to describe and practice this calculative method, writing articles and book drafts on its systemic analysis, as a result of which he soon became "one of the first-rank authorities on Monte Carlo methods."[373]

However, as he reveals in *On Thermonuclear War* (1960), throughout the 1950s, Kahn and other researchers at RAND began to see the limitations of the conventional computational methods in military simulations widely used at that time:

> About six or seven years ago there was a "technological break-through" at The RAND Corporation in the art of doing Systems Analysis and Military Studies. … The nature of the breakthrough was simple. In the early days at RAND most studies involved an attempt to find the "optimum" system, given some reasonably definite set of circumstances, objectives, and criteria. The emphasis was on comparing thousands, sometimes tens of thousands, of different systems under idealized conditions; then the "best" one would be picked. … Naturally, the high-speed computer often played a central role in all this.
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> Sometimes our researchers took a curious pride in the prowess of their high-speed computers. They would make such remarks as, "More than a million campaign calculations went into this analysis." … Or even a more extreme boast, "These results came out of a complicated calculation performed by the most modern high-speed

[372] Ibid., 3.

[373] Briggs, *Supergenius: The Mega-Worlds of Herman Kahn*, 18.

> computers using the most advanced mathematical techniques available. Do you want to argue with an electronic machine backed up by all the resources of modern science?" The only possible answer to that question is, "Yes."[374]

Kahn's "breakthrough" in the field of futurology was indeed the shift from the calculative, singular future model to a non-computational, plural futures one. As in Monte Carlo methods, the traditional future planning relied on scientific analysis and mechanical calculation to identify a singular, most-likely future (whose model was also followed by Shell's Unified Planning Machinery in the mid-1960s). Yet, while working in the frontline with "the most advanced mathematical techniques available" for future simulations, Kahn gradually but certainly realized that there must be a qualitative change in the methodologies of futurology. In order to deal with the extreme contingency or real uncertainties that fall outside of the algorithmically programed models, Kahn thought, they needed a more flexible method to cultivate the ability to imagine and manage multiple, and even unthinkable, futures. "[T]o put policy-makers in a position to deal with whatever future actually arises," Kahn states in *The Year 2000*, "one clearly cannot be satisfied with linear or simple projections: a range of futures must be considered."[375] Upon acknowledging that "imagination has always been one of the principal means for dealing in various ways with the future," Kahn looked into narratives, "one of many devices useful in stimulating and disciplining the imagination" and decided to call his new method of adopting speculative storification into future management "the *scenario.*"[376]

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[374] Herman Kahn, *On Thermonuclear War*, 2nd ed. (Princeton, N.J.: Princeton University Press, 1961), 119.

[375] Kahn and Wiener, *The Year 2000*, 3.

[376] Herman Kahn, "A Methodological Framework: The Alternative World Futures Approach," *The Essential Herman Kahn: In Defense of Thinking*, ed. Paul Dragos Aligica and Kenneth R. Weinstein

Although the futurology at RAND was mainly devoted to and guided by the rationalistic and calculative paradigm, it does not mean that different theoretical orientations and approaches were non-existent. Especially the emphasis on imagination and narrative quality, which would later acquire full significance in Kahn's scenario method, were already observable in the war-gaming, another simulation method widely used at RAND at that time. As Kent Puckett's recent historical analysis illustrates, the early nuclear war-gaming at RAND deeply relied on "the relative and imaginative power" of narrative through "the bare but nonetheless real narrativity"[377] in their game designing. For example, "the prisoner's dilemma" suggested by the early '50s game theorists demonstrates "a zero-degree narrative expression of conflicts," grounding the construction of the game on the minimal narrative set-up about "characters and intention, the essential narratability of conflict, and the plotted, Aristotelian relation between discursive beginning, middles, and ends."[378]

This kind of "bare narrativity,"[379] as Puckett calls it, is also found in Kahn's nuclear war strategy published as *On Escalation: Metaphors and Scenarios* (1965). As an extension of his earlier work at RAND, the book features the "Escalation Ladder," a hypothetical and metaphorical ladder expressing escalating levels of conflicts in the case of international nuclear threats. With forty-four "rungs" indicating different levels of conflicts or physical violence, at the bottom of the ladder is "Ostensible Crisis," which proceeds upwards to "Political, Economic, and

(Lanham, MD: Lexington, 2009), 196.

[377] Puckett, "RAND Narratology," 34.

[378] Ibid., 38.

[379] Ibid., 36.

Diplomatic Gestures," "Solemn and Formal Declarations," and at the top of the list "Spasm or Intense War." Yet, the goal of presenting such a schematic model was not to forecast the actual unfolding of a possible nuclear war, as Kahn himself emphasizes several times throughout the book; for, as he readily concedes, "[m]any readers will doubtless find it implausible, since it is quite clear that in most circumstances this crisis would more likely be stopped at any given moment in its development."[380] Instead, what Kahn wanted to achieve through this "implausible" scenario was to stimulate the imagination of researchers, planners, and decision-makers so that they would "be able to invent or work out easily and quickly what seems in normal times … hypothetical, unreal, complex, or otherwise difficult."

Kahn there advises that the Escalation Ladder should be understood as a "*metaphor*" that "is supposed to stretch and stir the imagination, not confine it."[381] For the purpose of making "thinking about the unthinkable" possible, the forty-four "rungs" could function as minimum narrative units to be developed into fully-fledged individual scenarios, while combinations and synthesis between each of the units would also produce an endless series of scenarios. This way, Kahn asserts, "the ladder can be considered a *scenario generator,*"[382] a kind of ready-made narratological skeleton with rich metaphors and crisscrossing units of narrative. Thus, as Philip Green points out, it was more a sort of literary fiction than a scientific prediction, a defining quality of all the corporate and secular scenarios that would follow Kahn's prototypes in the future. According to Green, "[w]hat Kahn has produced is not scientific analysis … but prophetic

[380] Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965), 36.

[381] Ibid., 38. Emphasis added.

[382] Ibid., 40.

science fiction; unless it strikes our literary imagination, it has neither more nor less merit than any other of its kind." And, indeed, the technique of scenario planning in its institutionalization and corporatization in the following decades would put more and more emphasis on its literary qualities and poetic imagination.

The method of scenario planning comes to the front as a prime tool for the future researches at the Hudson Institute, where Herman Kahn expanded his technique beyond the military future simulations. As we have seen in the case of the Escalation Ladder, "making the unthinkable thinkable meant making it *narratable*"[383] for the planners, and the series of future reports produced by the Hudson Institute progressively revealed such literary efforts. Yet, as R. John Williams points out in "World Futures," it was the success of *The Year 2000* that "brought the scenario onto the world stage" with more explicit formal consideration of the literariness and narratological techniques implemented in scenarios:

> What did Kahn mean by scenario? ... realist narratives, in other words, that "in impressionistic tones" provide a "feeling for events and the branding points dependent upon critical choices" (*Y2K*, p. 262). They are used to "dramatize and illustrate" the "larger range of possibilities that must be considered in the analysis of the future," forcing the analyst to "deal with details and dynamics that he might easily avoid treating if he restricted himself to abstract considerations" (*Y2K,* p. 263). Kahn described the practice as taking "God's view," generating stories that are "Big. Aerial. Global. Galactic. Ethereal. Spatial. Over-all … miniature masterpieces, *Finnegan's Wake* written on the head of a pin" (quoted in "TTM," pp. 110B, 110B-23).[384]

[383] Puckett, "RAND narratology," 48.

[384] Williams, "World Futures," 521-22.

The desire to write "realist narratives" that can induce dramatic feelings and impressions for the speculated stories from the reader (what Pierre Wack called a "gut feel") comes into clear view here, turning the work of future planning into an aesthetic activity of narrativization. To imbue their stories with such literary pathos, the scenario planners at Hudson did not hesitate to employ narratological devices and knowledge in their stories. For example, "the conditionality of the narrative diegesis," "present tense," and occasionally "the more traditional, future past-tense grammatical voice of speculative fiction" were adopted, which Williams sees as "the formal elements … that set them apart as a distinctive genre."[385] In this way, scenario planning, originated from cybernetic projects for military future planning, started to mimic the narratological maneuvers of novel-writing. Indeed, Kahn's aspiration to attain "miniature masterpieces" or "*Finnegan's Wake* written on the head of a pin" in his scenarios was active and alive when he worked on *The Year 2000,* at the beginning of which he remarks: "while only the great novelists and prophets can impart the intense sense of drama and excitement, even quite minor poets, seers, and publicists may achieve some of this quality. We hope that in this venture into speculation we have not been so austere as to exclude this flavor entirely."[386]

As Neil Pickett delineates in *A History of Hudson Institute*, the "success of *The Year 2000* uncovered a large, untapped market for information about the future 'corporate environment.'" Thus, in the late 1960s, "to serve this demand, Hudson established the Corporate Environment Study," led by the director of the institute, Kahn himself. Through this program, Hudson produced "the Future of the Corporation" scenarios that were later sold to corporate clients such

[385] Ibid., 523.

[386] Kahn and Wiener, *The Year 2000,* 5.

as IBM, Xerox, Ford, GE, Kodak, Mobil Oil and many others. It also held presentations and seminars to share the scenarios and educate the in-house planners and CEOs of corporations on the secrets of scenario planning.[387] Ted Newland, the man who was put in the "little cubicle … to think about the future" at Shell's London headquarter office, was one of the regular attendees at these seminars as well as its precursor meetings for corporate sponsors which began a few years earlier. Thus, when Newland was joined by Pierre Wack, who later told he was "already familiar with the late Herman Kahn's scenario approach" and "intrigued by its possibilities for corporate planning"[388] enough to experiment with it for Shell's heating oil business while he was still at Shell Française, it seemed to be enough reason to try out this brand-new technology for Shell's experimental future studies, which they had just taken charge of. Not long after, as we have discussed above, scenario planning had taken the place of the major future planning methodology at Shell over the traditional computational method of the UPM.[389]

Since Shell's breakthrough success with scenario planning, the technique of scenarios has flourished as one of the most popular and widely used methods for institutional planning and business strategy, especially thanks to the practical development and technical sophistication achieved by Shell's decades-long scenario practice. Through the dozens of global scenarios they have produced for half a century until now, Shell Scenarios have advanced the basic principles and philosophies Herman Kahn had set forth in the 1960s into an institutionalized systemic

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[387] Neil Pickett, *A History of Hudson Institute* (Indianapolis: The Institute, 1992), 16. Also see Briggs, *Supergenius,* 304-5; Williams, "World Futures," 524; and Andersson, *The Future of the World*, 214.

[388] Wack, *"*Scenarios: uncharted waters ahead," 76.

[389] The early history of Shell's adaptation of Kahn's scenario planning method is well documented in Klein, *The Age of Heretics*, 121-54 and Wilkinson and Kupers, *The Essence of Scenarios*, 25-36.

process that is now taught at business schools and MBA programs and practiced at two-thirds of corporate entities in the 2000s.[390] As Pierre Wack once said, while business planning could be a "corporate rain dance," a kind of bureaucratic ritual seasonally repeated with no practical impact—not very much unlike the Vanuatuan Cargo Cult in *Satin Island,* which the narrator juxtaposes with corporate "Messianism"—Wack was "convinced that creativity could be institutionalized in corporate strategic planning, avoiding the rain dance."[391] Accordingly, as the first head of Shell's scenarios team, "Wack … brought the use of scenarios to a new level"[392] in its practical applicability, theoretical development, general acceptance and influence. He also played an irreplaceable role cultivating the artistic and even spiritual charisma of the method. And this aesthetic aspect has become one of the core qualities which all subsequent Shell Scenarios succeeded in maintaining.

In 1992, breaking the tradition of keeping their future scenarios confidential, only for internal and limited circulation, Shell started to "release smaller, public versions of its global scenarios" to the general public.[393] Yet, in the same year, there was another important shift in their mode of scenario-writing, which was the involvement of a professional literary scholar/poet

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[390] A Bain & Company report tracking the corporations' usage of various management tools and techniques demonstrates that, in 2002, seventy percent of the companies were using scenario planning tools "to anticipate potential crises and disasters, as well as for creating simulation models for business growth," the trend of which continued in their "2006 survey, 72% in North and Latin America, 74% in Europe, and 64% in Asia-Pacific" with executives "ranking their satisfaction with its performance at eighth out of 25." Barbara Bilodeau and Darrel K. Rigby, "A Growing Focus on Preparedness," *Harvard Business Review* (July – August 2007), URL = https://hbr.org/2007/07/a-growing-focus-on-preparedness.

[391] Wilkinson and Kupers, "Living in the Futures," 126.

[392] Scearce, et al., *What If?,* 11.

[393] Wilkinson and Kupers, "Living in the Futures," 125. Wilkinson and Kupers see this change of policy as a sign of Shell's confidence in its implementation of the technique, cultivated through the competitive advantage they had gained from the internal digestion and use for the previous twenty years.

in the process of scenario generation. At the center of this major literary turn in Shell Scenarios was Betty Sue Flowers, a literary scholar who worked on Victorian poets such as Browning and Rossetti and also a poet herself who had published two volumes of poetry by that time.[394] After she was asked to join the team as "a writer who had a kind of poetic vision,"[395] her job at Shell was to create "highly nuanced stories"[396] with sophisticated literary skills and sensitivity. In an interview conducted in the early 1990s, Flowers recalls that she was in an office "alone for 10-12 hours every day"[397] writing stories, doing "a draft of several pages every day and have the team tear them apart" and going back to write "the next version of the story." She says, since "*every* word mattered"[398] in the final report, they wanted her to infuse "the intense, imagistic brevity of poetry"[399] into the corporate stories. One might see her work at Shell as an instance of corporate sourcing or appropriation of creativity from the disciplines of humanities. As Sarah Brouillette states with regret, "our own expert knowledge of the aesthetic terminologies and priorities [are]

[394] Betty Sue Flowers is a professor in English at the University of Texas at Austin. After the publication of the global scenario in 1992, she wrote three more sets of scenarios for Shell (in 1995, 1998, and 2001). For the next thirty years, she has been working with the CIA, the World Bank, Wall Street, IBM, Exxon, and the Global Business Network, to name a few, to write stories about the future and has collaborated with many former-Shell planners (futurologists, economists, systems scientists, and management theorists) publishing books and lecturing on scenario planning.

[395] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios,"148. It is a transcript of two interviews David-Floyd conducted with Flowers in 1992 and 1993.

[396] Ibid., 150.

[397] Ibid., 154.

[398] Ibid., 150.

[399] Betty Sue Flowers, "The Art and Strategy of Scenario Writing," *Strategy and Leadership* 31. 2 (2003), 31.

absorbed by capitalist management."[400] Yet, Flowers herself considered it "a form of literary criticism,"[401] practiced on the "myths the company was consciously creating,"[402] thus not necessarily contradictory to or different from what she does as a literary scholar.

Just a few years before she joined Shell's scenarios team, Flowers edited and published *The Power of Myth* (1989), Bill Moyers's interview with Joseph Campbell. Expressing her deep interest in myth during the interview, Flowers reveals what fascinates her is "a myth … [as] a story that organizes experience through telling something explicitly … where we're going, where we came from, or who we are"[403] more than the cultural encodings in it. In terms of the power a myth can wield, although "we have a light dose of Christian myth still going on," she states, "when it comes down to the bottom line, it's the economic myth that's the myth of value" in our contemporary world. And, when she detected a deficiency of literariness in the real-world, "truly global myth,"[404] she found how her professional knowledge and creative ability could be used for this corporate mythology: "the great cultural stories, which to my mind were the stories of business as it was happening, were not told in literary ways, and it struck me that if I wanted to study the stories that were influencing now, they were not the stories from religion,"[405] but the corporate ones.

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[400] Sarah Brouillette, "Academic Labor, the Aesthetics of Management, and the Promise of Autonomous Work." *nonsite* 9, 1 May 2013. URL = https://nonsite.org/academic-labor-the-aesthetics-of-management-and-the-promise-of-autonomous-work.

[401] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," 164.

[402] Ibid., 142.

[403] Ibid., 146.

[404] Ibid., 147.

[405] Ibid., 168.

After the publication of Shell's *Global Scenarios* (1992), she "could see these stories, mere stories, begin to take on life, vitality, depth," even "though they don't even exist—those futures," which she finds "*really* fascinating." With an interesting echo of Peyman's formulation on the performative power of corporate storification, she agrees that it is "a very strong cognitive feedback loop"[406] working in this process and asserts her belief that "stories … can actually make things happen in the world, in a way that laws cannot."[407] As we have already seen in the fictional operation of the Company's narrative in *Satin Island*, Flowers's own experience witnessing the purely speculative stories "getting disseminated, in various forms," "leaking out in various journal articles … [and] speeches," and generating tangible changes in real world seemed to substantiate the "power and palpability" she believed her corporate stories would have. Not long after the release of the first global scenario she participated in creating, she started traveling all over the world with the team to give presentations and in the following years worked on three more Shell Scenarios as well as "scenarios for the CIA, the World Bank, Wall Street, IBM, Exxon, and the Global Business Network (to name only a few)."[408] With these scenarios, Flowers has attained fame as one of the most renowned experts in scenario planning, one that is referred to in almost every business strategy textbook on the subject.

In this way, literariness has always been a central aspect of scenario planning since its inception at RAND. However, through the evolution and dissemination of the technique in an increasing number of business institutions and organizations during the 1970s to the 1990s, it has

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[406] Ibid., 160.

[407] Ibid., 164.

[408] Williams, "World Futures," 533n133.

become a mandate to adopt and employ full-scaled narratological knowledge, rather than an additional component for its aesthetic appeal. In contemporary business and management theory, scholars openly proclaim that "effective scenarios need to be like good literature." One can easily find in any textbook of strategic management or business planning specific guidelines and advice about how to use narrative techniques to write a good scenario to create "more real *imagined* futures than an actually real, existing present."[409] In other words, it is now a requirement that "strategic authors employ … various narrative devices to make strategic bodies appear as something other than made up. Materiality, voice, perspective, ordering, setting and readership targeting are among some of the key devices"[410] not only for novelists, but for the storifying artist-workers for their successful performance.

In *Business Planning for Turbulent Times: New Methods for Applying Scenarios*, for example, a kind of narrative checklist is provided for "writers in developing scenario narratives." After citing Flowers on the importance of the effective use of point of view, the authors encourage the scenario writers to ask themselves the questions below:

- What is the nature of the activity, especially the driving forces, being described in the scenario (the *transformation* in SSM language)? What is the plot of the tale, the conflict and resolution within the scenario? (T)
- What is the declared worldview or point of view from which the scenario is being told? Who should be the narrator and why are the plot and activities in the scenario important? (W)

[409] Rafael Ramirez and Angela Wilkinson, *Strategic Reframing: The Oxford Scenario Planning Approach,* (Oxford: Oxford University Press, 2016), 44.

[410] Barry and Elmes. "Strategy Retold: Toward a Narrative View of Strategic Discourse," 435.

- Who are the victims or beneficiaries of the main activity being pursued in the scenario and what are their perspectives? (C)
- Who are the main actors of this point of view who would undertake the activity within the scenario? What are the relationships between them? (A)
- Who are the people who could present the main activity or transformation in the scenario from occurring? Who is in charge of this world? (O)
- What are the predetermined factors and other information that the scenario narrative should take as given? (E)[411]

Oddly reminiscent of structuralist theories of mythology or Propp's thirty-one functions of Russian folktale,[412] it breaks down the structural components of the narrative into constituent units, creating a kind of "scenario generator"[413] and mobilizing a *corporate-type narratology.* The authors of "Exploring the Arts of Crafting and Delivering Scenarios" recommend that a "wise" scenario planner should "look to other forms of literature that work toward that same purpose"[414]; and indeed the authors of corporate narratives have wisely turned to the novel to take up how to achieve the aesthetic and ideological objectives that juxtapose with what novels have been believed to aspire for. Rendering alternate realities palpable by imagination, appealing to readers through style, creativity, and aesthetics, (re)formulating the sense of identity and

[411] Trudy Lang and Lynn Allen, "Reflecting on Scenario Practice: The Contribution of a Soft Systems Perspective," eds. Rafael Ramírez, John W. Selsky, and Kees van der Heijden, *Business Planning for Turbulent Times: New Methods for Applying Scenarios* (Sterling, VA: Earthscan Publications, 2008), 54.

[412] Vladimir Propp, *Morphology of the Folktale*, 2nd ed., trans. Laurence Scott (Austin, TX: University of Texas Press, 2009).

[413] Kahn, *On Escalation*, 40.

[414] Thomas J. Chermack and Laura Coons, "Exploring the Arts of Crafting and Delivering Scenarios," *International Journal of Technology Intelligence and Planning,* 8.3 (2012), 244.

selfhood, reorganizing the relation between individuals and communities, and so on—the list of which sounds like they are coming from a traditional novel theory; yet, they are undoubtedly part of the essential managerial and marketing formula in the contemporary business environment.

As we have seen, scenario planning was a breakthrough future management technique developed in cybernetic labs for war strategies. However, as earlier cybernetic turns have brought qualitative changes in capitalist managerialism, the unexpected narratological metamorphosis of cybernetics has also engendered a fundamental shift in how capitalism will present, characterize, and operate its activities in the future. Once capital starts the lucrative process of institutionalizing and corporatizing the artistic creativity of the literary genre of the novel to forge the most profitable and marketable futures, it is no longer just a matter of capital extracting profit from the laborer's creativity and mind (although it *is* one of the most important ramifications of the aesthetic turn), but it fundamentally changes the nature of the capitalist system by turning it into an autonomous storifying-storified machine. In 2008, a business theorist announces that capitalist storification has been spread so boundlessly that now "[e]very workplace, school, government office or logical religious group"—basically all systemic organizations—has become "a Storytelling Organization."[415] In this altered workplace environment, he argues, "[w]here you work, you become known by your story, become promoted and fired for your story." And it is this 'narrative turn' in business that we should trace to properly account for the peculiarities of contemporary capital and understand how we got here.

[415] David M. Boje, *Storytelling Organizations* (Los Angeles: SAGE Publications, 2008), 4.

Narrative Turn in Business

Since the first corporate application of scenario planning in the late 1960s, the technique of narrativization has become a dominant tool for reshaping, organizing, and utilizing human forces and relations in every dimension of capitalist activity. In the 1990s especially, business theorists started to notice "the rapid expansion of narrative approaches in management and organization,"[416] which they later coined "narrative turn" in business management.[417] Under the narrative turn, it was no longer only in the strategic future planning that storification is considered a breakthrough managerial technology; rather, "the ability to create plausible, even original narratives of the world in various representational forms"[418] has become one of the most crucial qualifications for successful organization, management, marketing, leadership, worker-training, product development, and so on. In other words, the aestheticization of capital, started under the artistic critique inside and outside of the business world in the late 1960 and early 1970s, has come to a full bloom in this narratological turn in business, where "storytelling" has become "the preferred sense making currency of human relationship among internal and external stakeholders."[419]

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[416] Carl Rhodes and Andrew D. Brown, "Narrative, Organizations and Research," *International Journal of Management Reviews*, 7.3 (2005), 167.

[417] See Jane M. Perkins and Nancy Blyer, "Introduction: Taking a Narrative Turn in Professional Communication," eds. Jane M. Perkins and Nancy Blyer, *Narrative and Professional Communication* (Stamford, CT: Ablex, 1999): 1-34; Yiannis Gabriel, *Storytelling in Organizations, Facts, Fictions, and Fantasies* (Oxford: Oxford University Press, 2000); Barbara Czarniawska-Joerges, *Narrating the organization: Dramas of Institutional Identity* (Chicago: University of Chicago Press, 1996); and Barry and Elmes, "Strategy Retold: Toward a Narrative View of Strategic Discourse" (1997).

[418] David M. Atkinson, *Thinking the Art of Management: Stepping into 'Heidegger's Shoes'* (Hampshire: Palgrave, 2007), 299.

[419] David M. Boje, "The Storytelling Organization: A Study of Story Performance in an Office-Supply Firm," *Administrative Science Quarterly*, 36.1 (1991): 106.

In consequence, the education of art has become an indispensable qualification for successful job candidates. As the authors of *Good Novels, Better Management* point out, nowadays "[o]ne finds literary texts on the reading lists of management schools" and we see "such lists and such courses in Edmonton, at Stanford, at Harvard and in Stockholm,"[420] while companies are hiring writers, artists, and scholars in humanities with no previous experience in business—so to speak, the contemporary Betty Sue Flowers. Furthermore, as Daniel H. Pink writes, a "master of fine arts, an MFA, is now one of the hottest credentials"; hence, "[c]orporate recruiters have begun visiting the top arts grad schools—places such as the Rhode Island School of Design, the School of the Art Institute of Chicago, Michigan's Cranbrook Academy of Art—in search for talent. And this broadened approach has often come at the expense of more traditional business graduates." After all, he concludes, "the rules have changed: the MFA is the new MBA."[421]

Thus, borrowing Stefano Harney's words, under the 'narrative turn,' we witness a "movement from art as a trope for management activity, to art as the objective of management."[422] Hence, it is not only the strategic planners or workers in so-called creative business sectors such as entertainment or advertisement who are required to be an artist-worker, but contemporary capitalism wants artist-managers, artist-marketers, artist-leaders, and all. A professor at London Business School states that nowadays "a good leader must also be a good

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[420] Pierre Guillet de Monthoux and Barbara Czarniawska-Joerges, eds., *Good Novels, Better Management: Reading Organizational Realities in Fiction* (Chur: Harwood Academic Publishers, 1994), 2.

[421] Pink, *A Whole New Mind,* 54.

[422] Harney, "The Creative Industries Debate," 434.

storyteller," quoting a head of a company saying "I am not really the company's CEO; what I really am is its Chief Story Teller"[423]—something Peyman would have said proudly. In this emphasis on the aesthetic or, more specifically, narrative ability in business, as business critics often argue, "[t]he demand seems clear - to be effective in times of increasing complexity, ambiguity and uncertainty, leaders need to create and present new, original narratives, *conscious works of fiction* that are plausible enough to act as a basis for confident judgment and action."[424] Put differently, as Fenton and Langley claim in "Strategy as Practice and the Narrative Turn," in the contemporary business world, "narrative is seen as a way of giving meaning to the practice that emerges from sensemaking activities, of constructing an overall sense of direction or purpose, of refocusing organizational identity, and of enabling and constraining the ongoing activities of actors."[425] These narratives "do not need to be true; in fact the truth quality of them cannot be determined. These narratives only need to be plausible enough to provide the necessary basis for collective judgment."[426] After all, as Flowers comments, they are just fictional stories, on which "you're judging on what fits, and not what's good"[427] or true, like novels.

Therefore, in order to create more effective stories that can work for managers, workers, or customers, corporate storification has put increasing importance and priority on sourcing

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[423] Freek Vermeulen, "Strategy is the Story," *London Business School Review* 23.3 (2012), 55.

[424] J. Brian Woodward and Colin Funk, "Developing the Artist-leader," *Leadership* 6.3 (2010): 299. Emphasis added.

[425] Fenton and Langley, "Strategy as Practice and the Narrative Turn," 1173.

[426] Woodward and Funk. "Developing the Artist-leader," 299.

[427] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," 164.

professional literary techniques and narratological knowledge. On the understanding that "[a]s authors of fiction, strategists are subject to the same basic challenges facing other fictionalist writers,"[428] many business textbooks or strategic management guidebooks devote quite substantial portions to introduce how to use "formal narrative concepts or models,"[429] often with introductory yet extensive investigation of contemporary literary theories or traditional narratology from Aristotle to Paul Ricoeur. It is not too hard to find in business literature references to classical narrative theorists such as Aristotle, Todorov, Bakhtin, Chatman, Genette or novelists like Dostoyevsky, Zola, Kafka, Bellow, or Heller among others. Indeed, we can encounter unequivocal use of literary or humanities knowledge in almost every management literature regarding strategic narrativization. Just to give a sense, for instance: in an article published in *International Journal of Management Reviews* in 2005, the list of references includes Paul Ricoeur's *Time and Narrative*, Kenneth Burke's *Language as Symbolic Action*, Mark Currie's *Postmodern Narrative Theory*, W. J. T. Mitchell's *On Narrative* as well as works by Foucault, Gramsci, Althusser, and Habermas among others.[430]

On the other hand, as it has become a general perspective in business to see "strategic management as a form of fiction,"[431] an increasing number of business theorists claim that corporate strategists should pore over "how authors create effective stories,"[432] often providing practical guidelines and tips for writers, which makes the management literature almost look like

[428] Barry and Elmes. "Strategy Retold: Toward a Narrative View of Strategic Discourse," 433.

[429] Ibid., 430.

[430] Rhode and Brown, "Narrative, Organizations and Research."

[431] Barry and Elmes. "Strategy Retold: Toward a Narrative View of Strategic Discourse," 429.

[432] Ibid., 434.

a writer's handbook. In "Strategy Retold: Toward a Narrative View of Strategic Discourse," David Barry and Michael Elmes underline "the role of language in strategic decision making," specifically discussing how to use literary devices such as characterization, plot, narrative voice, motifs, and genres in corporate storification. After stating that "as a narrative form, strategy seems to stand somewhere between theatrical drama, the historical novel, futurist fantasy, and autobiography,"[433] the authors go over each of the novelistic techniques with detailed advice and technical tips. On "perspective and voice," for example, they recommend one to ask "'Who sees' (i.e. is an internal or an external perspective used?) and 'Who says' (i.e. is the narrator a character in the story or not?),"[434] and on "ordering and plots" they give more detailed advice that one can use "[r]omantcist plots" when "the company is portrayed as recovering from a fall from grace, "[w]hereas the Hero's journey [plot] results in a new self/company." The instructions of this corporate narratology also include considering the "reader/response theory" since "the meaning of a text resides not just 'in the text itself' or in the 'author's intent' but also in the 'backgrounds and experiences' that readers bring to the text and how 'these color their interpretations of the text'."[435] Finally, on "characterization," the authors reiterate the conventional rule in novel-writing that an effective story should present "round [characters] … (i.e. complex, rich, 'alive' portrayals; cf. Chatman, 1978: 75-76),"[436] while giving a comparison between "the epic" and "the technofuturist" for the use of genre, citing Fredric Jameson.[437]

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[433] Ibid., 433.

[434] Ibid., 436.

[435] Ibid., 438.

[436] Ibid., 441.

[437] Ibid., 440.

Most of these management textbooks and guides make it clear that narrativization is a solution to the problems and restraints of the previous management model. In *The Leader's Guide to Storytelling: Mastering the Art and Discipline of Business Narrative*, Stephen Denning identifies the "dysfunctionality of traditional management" as the main reason why narrativization has become "not just a core competence of leadership … [but] also central component of management itself."[438] As Roger M. Martin notes,"[u]nderlying the practice and study of business" was "the belief that management is a science and that business decisions must be driven by rigorous analysis of data."[439] And many business critics find "the roots" of such scientific, rationalist, and calculative approach to managerialism lying "as far back as the beginning of the industrial revolution and the philosophy of rational-positivism."[440] The computational future planning systems, such as Shell's Unified Planning Machinery (UPM) and RAND's Monte Carlo methods, indeed marked the culmination of the long capitalist endeavor to establish 'scientific management' in business organizations and to achieve the optimal 'rationalization' of capitalist operations. However, the increasing complexity, uncertainty, and ambiguity of the contemporary world, especially under the intensifying intricacy of the global socio-economic relations during the second half of the twentieth century, revealed the traditional rationalist model's limits and necessitated a more flexible, creative, and organic paradigm of managerialism. In other words, as Boje claims in "Storytelling in Systemicity and Emergence,"

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[438] Stephen Denning, *The Leader's Guide to Storytelling: Mastering the Art and Discipline of Business Narrative* (San Francisco: Jossey-Bass, 2005), x.

[439] Roger M. Martin and Tony Golsby-Smith, "Management is Much More Than a Science: The Limits of Data-Driven Decision Making," *Harvard Business Review* (September – October 2017), 129.

[440] Woodward and Funk. "Developing the Artist-leader," 296.

due to the present business environment full of capricious and unpredictable emergences, "those managing organizational change" needed "to transcend traditional approaches to contingency planning and explore how complex self-organizing social systems adapt to, navigate, and ultimately use emergent phenomena."[441]

As we have seen, the first-generation of corporate future planners, as well as the cyberneticians designing potential nuclear war strategies, came to find a solution in *storification* to deal with the ever-growing uncertainties and rapidly fleeting emergences in the contemporary world. When "the complexity of the system within which we live and operate challenges our conceptions of control and management,"[442] as Woodward and Funk note, storification has risen as a breakthrough control technology to supplant the previous rigid, hierarchical, calculative and mechanical model of management. Since "narrativity emphasizes the simultaneous presence of multiple, interlinked realities, and it thus well positioned for capturing the diversity and complexity present in strategic discourse,"[443] it could be readily activated and mobilized as a satisfactory medium for the new paradigm of managerialism. Hence, as Windle argues, "the language of information—accounting, policy manuals, financial reports—aimed at 'delineating, defining, separating' for the purpose of measurement and control" were to be considered anachronistic in the corporate culture calling for a "[d]evelopment of richer poetic language in business world."[444] Accordingly, the "portrait of a manager (after rationalism)," as Atkins puts it in *Thinking the Art of Management*, has also gone through a change from "skills which, having

[441] Boje, "Storytelling in Systemicity and Emergence," 177.

[442] Woodward and Funk. "Developing the Artist-leader," 296.

[443] Barry and Elmes. "Strategy Retold: Toward a Narrative View of Strategic Discourse," 430.

[444] Ralph Windle, *The Poetry of Business Life: An Anthology* (San Francisco: Berrett-Koehler, 1994), 2.

been identified, empirically rationalized and generalized into some "theory" or other, can be taught"[445] to "the expertise to produce new affects … that is, the creation of fiction."[446] In this way, in the changed business environment, corporations have found a breakthrough again to refashion the disposition of their managerialism through an unexpected but effective method to achieve a more dynamic, creative, and elastic structure of organization to imagine multiple possible futures and get along with the unpredictable emergences.

The history of cybernetics, after all, has been a technical and ideological development to control the contingency, noise, uncertainty, and complexity that disrupt the orderly operation of a system. As a "control and communication theory, whether in the machine or in the animal,"[447] cybernetics has consistently strived to remove, curb, or at least tame the unexpected disruptions in the system, such as the erratic movement of an enemy pilot, the noise unsettling the operation of a self-organizing mechanism, or the random human factors slowing down the optimal movement of the Taylorist production line. Thus, the challenges confronting the corporate planners and strategists were not too different from the challenges cyberneticians grappled with to build an autonomous, insistently self-mutating, self-regulating machine. The second-order cyberneticians' dream to actualize autopoietic machines, which can "through their interactions and transformations continuously regenerate and realize the network of processes (relations) that produce them,"[448] was not too far from the neoliberal ideal of capitalist system the corporations

[445] Atkins, *Thinking the Art of Management*, 57.

[446] Ibid., 201.

[447] Wiener, *Cybernetics,* 11.

[448] Maturana and Varela, *Autopoiesis and Cognition,* 78.

wanted to achieve through constant renovation of their operational logic and structure. As we have seen in previous chapters, the history of capitalist managerialism has always been in an intimate alliance and multifaceted interrelation with the logic of cybernetics, and this latest metamorphosis of capitalist managerialism, once again, banked on the breakthrough in cybernetics that brought about fundamental shifts in the way we understand the complexity of the system and the idea of control itself. Acknowledging the long-standing relationship between cybernetic and capitalist metamorphoses, some contemporary business theorists even want to label the turn to narrative in corporate systems thinking as "third-order cybernetics" and argues that a new model of system with "dynamic, dissipative structures that thrive on environmental variation"[449] can be superseded only by "the complexity and nuance of *storytelling*."[450]

The extreme and ever-increasing complexity of the world—especially the cybernetically built technological advances and functional differentiations of the socio-political institutions propelled by the rationalization of the modern world—is indeed at the center of this qualitative shift in the conception of control. In her interview with Davis-Floyd in the early 1990s, Betty Sue Flowers points out the rapidly growing global connectivity and interactions as a core quality of modern economic systems and the reason "why Shell does its scenarios." She explains:

> we see now such complications and entanglements with the different monetary systems around the world … where you can't predict any individual thing, much as we try, but you can see patterns. You can't predict their patterns, you can only observe them, because structures are so complex. And you can assume that if you influence one side of the

[449] Boje, "Storytelling in Systemicity and Emergence," 173.

[450] Ibid., 171. Emphasis added.

pattern, you're influencing it all. So you can't make decisions in a less than global context. Companies are just now beginning to realize that they can't make decisions for themselves or even for their country. They can only make decisions in a global context.[451]

Flowers's statement reveals an acute and practical awareness of the systematicity where every economic actant is so deeply entangled with each other that no objective decision or observation can be made without inducing adaptations in the total system. With an interesting echo of Werner Heisenberg's uncertainty principle—the essence of which is that it is theoretically and practically not possible to predict the velocity and future position of a particle because the measurement or observation cannot happen without influencing the system[452]—Flowers is trying to argue that in order to respond to this kind of complex environment, corporations need "a system's approach to things … to look at how one part of the system affects the whole, to look ecologically at our world."[453] And it was this renewed perspective on the complexity and unpredictability of the market that drove Shell into the experimental practice of scenario planning earlier than other companies, helping it gain a competitive advantage in the unprecedented turmoil of the oil market during the following decades.

Put differently, acknowledging the inclusiveness of an observer (the corporate planner) as part of the system (the global market) and the mutual modification and (re-)construction between them also induced the pivotal turn in cybernetics. The problem of self-reflexivity was one of the key questions second order cyberneticians such as Heinz von Foerster, Margaret Mead, and

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[451] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," 147-8.

[452] See Werner Heisenberg, *Physics and Philosophy: The Revolution in Modern Science* (New York: Harper, 2007).

[453] Davis-Floyd, "Storying Corporate Futures: The Shell Scenarios," 147.

Gregory Bateson took seriously and re-centered their theory around. Instead of considering the system as an object of regulation separate from the observer, they wanted to see an observer as a discrete but interconnected system inside the larger system of an organism while regarding the operation of the system as a communicative process working in a positive feedback loop. Once the systematicity of an organization is acknowledged this way, one can no longer assume a God-like position outside the system, confident in its objective measurement and control of the material world. The metamorphosis of capitalist future planning—from scientific analysis to identify the most statistically probable future to creative storification flexibly moving along with unpredictable emergences—has happened within this conceptual shift in understanding systemic complexity and control.

In other words, the narratological turn in managerialism reveals a philosophical re-centering in capitalist systems thinking (as well as in cybernetics) from the epistemological to the performative. In the aporia of system, one can no longer maintain the boundary separating the presumed subject and the material world as its object, which has been the basis of the Western metaphysical thinking. Hence, as Heidegger claimed, while cybernetics has brought "the completion of metaphysics"[454] by its scientific rationalization of the world "in its most extreme possibility," it has also engendered the "dissolution of philosophy"[455] by putting everything fixed into a constant flux of transformations and demarcation. The conflation between reality and representation by the performative operation of contemporary capitalism is indeed part of the larger paradigmatic shift in the cybernetic logic as well as a dynamic force in itself, accelerating

[454] Heidegger, "The End of Philosophy and the Task of Thought," 56.

[455] Ibid., 57.

the cybernetic disintegration of the categories such as subject-object, reality-representation, and control-autonomy.

Stafford Beer, who was a cybernetician *and* business theorist, identified the observer's aporia in complex systems and pointed out the limits of the Cartesian representational model of management early on. In *Cybernetics and Management* (1959), Beer classifies systems into three different categories: "simple but dynamic," "complex but describable," and "exceedingly complex systems."[456] While the first two are knowable, predictable, and thus manageable with modern control technologies such as "production engineering" or "applied statistics,"[457] he argues the systems that belong to the last category are too complex and versatile to be grasped by the "contemporary orthodoxy in the matter of organizing science." The examples of the third category Beer suggests are "the country's economy," "the human brain," and "the Company itself," emphasizing their structural complexities that can never be fully described in our representational modes. As "a cross [system] between the first two examples," according to Beer, "[t]he Company is certainly not alive, but it has to *behave* very much like a living organism,"[458] challenging the managers with problems that are unsolvable with their usual management methods. In a "world built from exceedingly complex systems," beings will "always center on performative dance of agency and finding-out, where neither knowledge nor anything else would constitute a still, reliable center,"[459] as Pickering states on Beer. What corporations should do to

[456] Stafford Beer, *Cybernetics and Management* (London: English Universities Press, 1959), 12.

[457] Ibid., 18.

[458] Ibid., 17.

[459] Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Chicago: University of Chicago Press, 2010), 381.

survive in this environment is "*getting along performatively* with systems that can always surprise us."[460] This way, "the cybernetic sense of control" exceeds the hierarchical, linear, and mechanical command and regulation and becomes "one of getting along with, coping with, even taking advantage and enjoying, a world that one cannot push around."[461]

The irony of contemporary capitalism—that it keeps operating regardless of its material reality, without a telos, and according to its own logic, *as if* it had a life or soul of its own—is thus a condition for and at the same time a result of the performative metamorphosis of capitalist managerialism. In a world that cannot be pushed around by rationalistic order and control, narrativization provided an alternate way to deal with the "zombie-like character of this society," as Brian Holmes puts it.[462] Thus, "the novel's special contribution," or "one of many reasons why we should use novels when learning about organizations," the authors of *Good Novels, Better Management* argue, is that it "helps to restore what the professional-scientific [management] literature necessarily omits or slights: the concrete, the sensual, the emotional, the subjective, the valuational."[463] What they say the narrative turn brought back to the business world are the same qualities Diedrich Diederichsen asserts that the "global cyberneticization of the epistemological-technological apparatuses of Western modernity after 1945" brought back to the modern world. According to him, the cybernetic reconfiguration of the world gave rise to "a slow embrace of what was previously excluded from the constitution of the modern social and

[460] Ibid., 23. Emphasis added.

[461] Ibid., 383.

[462] Holmes, "The Affectivist Manifesto: Artistic Critique in the 21st Century."

[463] Monthoux and Joerges, *Good Novels, Better Management,* 7.

epistemological order: the irrational, the mimetic (contagious or playful), the animistic." In other words, once the modern world, frustrated by "the compulsory construction of reason paranoia and its totalizations,"[464] turns away from its thwarted expectations of order and embraces the autotropic feedback movement as its *modus operandi*, it makes "once fixed, objectified, reified world begin to be dynamic, talkative, and transformative again"[465]

Thus, what capitalism has achieved through the technology of narrativization is the uncontrolled control of the system, or the control that is "not awkward, acquired, second-hand, but natural"[466] as the narrator/enactor in *Remainder* says. Instead of grappling with the unattainable dream to make a perfect map of the world, capitalist narrativization has turned the world into storifying-storified templates with no distinction between the map and the reality, as in Lewis Carroll's version of Borges's emperor story. And the *map-country* that works "nearly as well" as the reality itself is the contemporary capitalist world achieved through the performative operation of capital, successfully getting along with the ever-fluctuating emergences of the world.

The Impasse of Critique

While the performative operation of capital has allowed the once fixed and objectified world to be re-animated and dynamic again, the resulting self-piloting movement of contemporary capital has perplexed many people. When the global market was hit by the 2008

[464] Sloterdijk, *Not Saved*, 83.

[465] Diederichsen and Franke, "The Whole Earth."

[466] McCarthy, *Remainder*, 67.

financial crisis, the expert financial analysts in the Wall Street as well as the authorities of powerful economic organizations had to admit the "world has become unreadable, its interconnections blurred. Things in general are running out of control."[467] Facing the sheer unexpectedness and inexplicability of the outcome of the economic activities now operating like a black-box, then president Bush wondered in panic, "how we ended up with a system like this," while the C.E.O of Lehman Brothers admitted his blindness by saying "I don't know how this happened."[468] Meanwhile, for the opposite camp on the other side, the millennial enthusiasts, eager to devote themselves to the boundless deployment of their productivity, equally perplexed the critics of capitalism. These capitalist subjects' voluntary dedication of their time and passion, their embrace of the idea of perpetual self-mutation and self-development into their life itself, has appeared a baffling conundrum unaccountable by the traditional frames of Marxist political-economy such as hegemony-autonomy or superstructure-infrastructure.

When the eternal movement, ceaseless metamorphosis, self-organization, and self-development has become the operational logic of capitalism, corporate institutions as well as individual subjects are put in a forced liberation from fixed identities and reified stability. Now they are compelled to activate the inexhaustible possibility to become anything, floating freely between ever-fluctuating positions and states. As Peter Sloterdijk aptly puts it in *In the World Interior of Capital*, the "psychological hallmark of successful groups in the world interior of capital lies in the adjustment," the ability to flexibilize one's self beyond the confinement of traditional categories, under the paradigm of which "[o]nly losers still require fixed natures" and

[467] Vogl, *The Specter of Capital,* 9.

[468] Stewart, "A Reporter at Large: Eight Days, The Battle to Save the American Financial System."

"[b]elonging" becomes one of "the losers' catchwords in the twenty-first century."[469] Yet, at the same time, in the deluge of the commercial catchphrases to 'find yourself' or 'tell your stories', as well as the professional exhortation to boost one's creativity and subjectivity, individuals somehow still feel more contained and fixated in their place in the given system, with a sense that they are drifting even further away from the glorified purpose of self-realization.

In *Not Saved: Essays After Heidegger,* Sloterdijk claims that this subjectification without subject is an epiphenomenon of the culture of complexity. Unlike the Kantian sovereign subject, the contemporary subject "does not operate with a private reservoir of sovereign derision but rather with a precise attentiveness to the positional differences between subjectivities"[470] with the requirement to "understand itself as an epiphenomenon in a system of systems that is much too complex and tenacious to be posited or canceled by a subject." Therefore, he argues, in the current state of affairs, one can only be "a subject that doubts its ability to be a subject" or even "a subject discredited as a subject." Yet, since this discredited subject can still somehow "carry out operations that, as before, seem to demonstrate his sovereignty," despite knowing its ironized position as a subject, "it constantly misunderstands itself,"[471] generating "a veering knowledge from the canceled self to the recurring self-effect."[472] Referring to Heinz von Foerster, Sloterdijk characterizes the irony of the contemporary subject as fundamentally *cybernetic*: "[t]his irony is cybernetic, because it is involved with the finitude of subjectivities that are viewed 'externally' in

[469] Sloterdijk, *In the World Interior of Capital*, 208.

[470] Sloterdijk, *Not Saved,* 80.

[471] Ibid., 78.

[472] Ibid., 79.

the second instance of observation." As Foerster has shown in the formal presuppositions of second-order cybernetics, Sloterdijk asserts, when a subject is aware of itself "being an observer that is forever an observable observer," the observation can never "reinforce the stance of wanton presumption."[473] Instead, the subjectivity in doubt always remains partial in its relation to the other, "never bringing all sides of the foreign subject before oneself at the same time," which consequently ironizes "immersion" and belonging, turning its impossibility into "a new criterion of civilization"[474] in contemporary world.

Thus, in the extremely complex system of systems, the ironized subject that is always partial and in flux can only exist as a 'self-*effect*' and only through '*positional differences* between subjectivities.' In a system that operates in the logic of cybernetics, the ontological or semantic questions of 'who you are' or 'what it means' no longer matter, as long as one fulfills the required function or creates an equivalent effect of what it is supposed to be. As the first-generation cybernetician Claude Shannon clarified, "semantic aspects of communication are irrelevant"[475] in a cybernetic system due to its mathematical advantage (as long as the equation works, what the value of the term refers to does not matter); or, as in Turing's "Imitation Game," if the machine can statistically mimic the interrelations between inputs and outputs of the mechanism of human behavior, the ontological difference between human consciousness and the mathematically produced consciousness-equivalent has no practical meaning in the operation of a system.[476]

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[473] Ibid., 80.

[474] Ibid., 81.

[475] Shannon and Weaver, *The Mathematical Theory of Communication,* 3.

[476] Turing, "Computing Machinery and Intelligence," 433.

In the same manner, the workings of financial capital as well as the mechanism of capitalist storification depend on the reality-*effect* that the speculative relations of things generate. Once it starts functioning in the system, creating and moving through differences between signs and units, its ontological status is completely and sufficiently substituted by its cybernetic function. Capital's performative enactment of reality, in this way, conflates the differences between business planning, design, production, dissemination, and consumption as well as the binaries between the real and representation, or the actual and the virtual, by simultaneously describing, performing, and positing the realities of contemporary capitalism. When the "economy's ontological displacement towards instrumental phenomenology" is put into effect in such a way, Lars Bang Larsen states, "the exchange of information itself determines communicative form" and the "nature of what is exchanged recedes in favor of the significance of distribution and dissemination."[477] In other words, as Nicklas Luhmann famously formulates, in complex social systems, "[o]nly communication can communicate."[478] Thus, under this liquidation of the problems of Being generated by the cybernetic reconfiguration of the world, ideology or minority politics grounded on identity or subjectivity hardly can find its relevance or practical denotation.

The peculiarities of contemporary capital—that it seems to "free and enslave us"[479] at the same time with no apparent guiding principles or ideology, but its operation is somehow so

[477] Larsen, "Zombies of Immaterial Labor."

[478] Niklas Luhmann, "How Can the Mind Participate in Communication?" eds. Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, *Materialities of Communication* (Stanford: Stanford University Press, 1994), 371.

[479] Deleuze, "Postscript on Control Society," 178.

consistent and powerful that any attempt of resistance or critique turns moot—hence cannot be fully grasped by the conventional critical explanations, like the ones accusing the all-encompassing dominance of 'neoliberalism,' the lack or weakness of class-consciousness, or the hidden relations of power the laymen has no access to (a frequent presumption of which is, once it is exposed, it will somehow magically overturn the state of affairs). Yet, as we have seen, the contemporary capitalist system in advanced Western economies—"in the world interior of capital" in Sloterdijk's words—no longer depends on oppressive exploitative measures or the subjects under ideological illusion for its successful operation. Rather, it exerts control through seemingly irreproachable mathematical simplicity and transparency and mechanical indifference to subjective qualities, as long as they function in the capitalist system playing the given role, the most important of which is the consumer. Thus, the quagmire which contemporary capitalist subjects find themselves in is less like a wage-earner's frustration or anger at the exploitive capitalist system than the puzzlement of a clerk in *No Country for Old Men* when he faces the mathematical principle of the ghost-like serial killer Chigurh. The seemingly fair game of flipping a coin—Chigurh presses the clerk to "call it"—strictly follows mathematical and statistical "[p]rinciples that transcend money or drugs or anything like that"[480]; yet, there is no way out of the eternal repetitive performance of the mechanical logic, that is in actuality a matter of life and death.

If we remember the '60s countercultural' utopian vision of cybernetics, one might want to say the liberating metaphors and possibilities they saw in cybernetics have finally come to realization in contemporary capitalism. Expecting a "nonhierarchical model of governance and

[480] Cormac McCarthy, *No Country for Old Men*, (New York: Vintage, 2005), 153.

power,"[481] they celebrated the potentialities of egalitarianism in the functional flattening of cybernetic actants, the decentralized and nonhierarchical communication in the movement of feedback loops, and the harmonious co-existence of beings in networks and infinite connectedness. Yet, "what the Nineties made of the ideas of the Sixties" was "the fantasy of a completely organic capitalism," which "went one step further into a kind of beyond/delirium mix" that has raised the "call to move beyond binaries" and "a tendency that tries to forget the schizoid condition that prevails." Thus, as Diederichsen delineates, it could be said that the pathological prevalence of forced self-liberation in the contemporary world results from the success of the '60s "attempt at self-therapy, an effort to recover from … the trauma of linear planning in the twentieth century."[482] Through the active embrace and enactment of cybernetic logic, which in itself has gone through metamorphoses from the linear to the circular and from the rational to the creative, capitalism has been revitalized as creative, dynamic, and talkative.

The new mode of capitalist operation engenders the emergence of reality-effects through event-equivalents and subject-functions. The metamorphosis of capitalist managerialism, whose central theme has moved from "Rationality" and "Discipline"[483] to "think outside the box" and "ride the wave,"[484] brought about a capitalist world that narrates its own versions of realities. Under this cybernetic reconfiguration of the world, we also witness a "metamorphosis of the modern psyche"[485]—an example of which is the transformation of the capitalist workers whose

[481] Turner, *From Counterculture to Cyberculture*, 38.

[482] Diederichsen and Franke, "The Whole Earth."

[483] Thompson, "Time, Work-Discipline, and Industrial Capitalism," 94.

[484] Boje, "Storytelling in Systemicity and Emergence," 181.

[485] Sloterdijk, *In the World Interior of Capital*, 209.

motto has changed from “I prefer not to” to “Rise and Grind”—that no longer works within the traditional categories that used to provide individuals with access to the others and the world. When “the task of the individual in the capital universe is to become involved in ever more numerous commodity offers, ever more diverse role play, ever more invasive advertising and ever more arbitrary art environments,”[486] the flexibility to fit oneself in any given position and get along with the emergences of the world has gained precedence over the old—and practically counter-productive—notions of fixed identities.

Therefore, the critique that sticks to the accepted forms and stable positions based on theoretical formations—such as hegemony-autonomy, subject-object, and reality-representation— inevitably finds itself inadequate to address current capitalist operations and the ironies of contemporary world. When the previous critical frames are dismantled by the cybernetic synthesis of opposites, it indeed seems to make most of the current leftist critique irrelevant or inappropriate. When the ironized subjects in the contemporary world only perform subject-functions with little sense of belonging (except as consumers), the appeal to subjectivity and identity, apart from providing alternate critical insight, even fails to appropriately acknowledge the predicament current capitalist subjects face. Or, the critical approach to reveal a rupture in the meta-narrative of the dominant ideology or the existing structures of power—the hermeneutics-of-suspicion kind of critique that prevailed during the twentieth century—also loses its strength in a system which does not hide anything and whose only aim is the perpetuation of its autonomous movement. Furthermore, given that the self-generating operation of the capitalist system actively embraces crises and disorder as a nourishment for its ever-expanding movement, unmasking a rupture of a system as a leftist tactic would always risk the

[486] Ibid., 210.

ready and joyous reterriorialization of the disruption into a new trend or an emergence that the capitalist system could cope with and take advantage of for its rejuvenation.

On the other hand, as an antithesis to capitalist realism, some critics want to emphasize the materiality of the dominant power structure with claims like: "it seems like no one understands and controls the system, and things happen by themselves. But, in truth, there are still tangible and potent power-groups accusable for the predicaments of the contemporary world." It is indeed important to acknowledge the actually existing material structures of socio-economic power, and such critical work should be done; however, this kind of critique that designates an easy *culpable outside* leaves behind and untouched the far more complicated and intractable problem of the contemporary situation—that the cybernetically reshaped system of capitalism, in part, actually operates in an autopoietic way and creates the most crucial, ironic predicaments for contemporary (discredited-)subjects. Similarly, as a critique of the notion of self-generating society, critics like Bruno Latour trace the (re-)assemblage of human and nonhuman actants, assuming a critical stance of scientific objectivity. Yet, despite the light it sheds on the cyberneticized world of relations, the social graphs of assemblage only re-present the status quo without addressing the difficult but essential problems of the ironies of a world generated by such interactions and reconfigurations.[487]

Lastly, there are the recent critical 'turns' to affect and materiality in academia as an attempt to restore the vitality and valence of critique whose previous methodologies and critical

[487] See Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005). John Durham Peters also criticizes the inadequacy of "actor-network theory" as a constructive critique arguing that "Bruno Latour's cheerful slogan … that 'things are people too'" (19) or "its interest in the agency of things and the thingliness of agents," disregards the real critical issues by merely "saying things that most people already know" (20). John Durham Peters, "'You Mean My Whole Fallacy Is Wrong': On Technological Determinism," *Representations* 140. (Fall 2017): 10-26.

categories seem to have become inadequate to address the contemporary critical issues some time ago. Contrary to the leftist and innovative hue of such critical approaches, however, they could be seen as a belated recapitulation of the cybernetic turn already embraced by capitalist managerialism decades ago. As we have seen above, when the corporate planners realized "the presumed finality of epistemological 'representation'"[488] and rationalization of the order of things, they turned to the performative mobilization of "the concrete, the sensual, the emotional, the subjective, the valuational"[489] through a corporate art of narrativization (we might even call it a corporate humanities). In the larger historical context, this managerial turn was part of the process of modern subject's "withdrawing oneself [itself] from the compulsory construction of reason paranoia and its totalization"[490] and restoring "what was previously excluded from the constitution of the modern social and epistemological order."[491] Thus, likewise, turning to 'stories' today as a way to revitalize the humanities reveals an irony. It is not only that it cannot be a convincing alternative for the outmoded critique, but it actually mimics and follows the path capitalist managerialism has taken to reinvigorate the system, turning the critical efforts into a mere, belated imitation of capitalist activities.

Hence, the cyberneticization of the post-1945 Western world not only brought about the changes in the mode of labor or the metamorphosis in corporate managerialism but also a general impasse of critique itself. The cybernetic irony of the contemporary world has made the accepted

[488] R. John Williams, "World Futures," 498.

[489] Monthoux and Joerges, *Good Novels, Better Management,* 7.

[490] Sloterdijk, *Not Saved*, 83.

[491] Diederichsen and Franke, "The Whole Earth."

critical formulations irrelevant, necessitating a fundamentally different approach to be able to grasp this cybernetically refashioned mode of capitalism as well as a new spirit of the time. When the performative operation of capitalism synthesizes the binaries between subject-object, autonomy-hegemony, and word-world and incessantly creates reality-functions and subject-effects, we need a new critical frame and attitude to investigate and tolerate the system as it is. Critique of the contemporary world first of all should untether itself from the desired 'God-like' position of an observer that judges, moralizes, and condemns; instead, a critic who wants to clearly see *what the system is actually doing,* as a first step for a more effective analysis and constructive critique, should hold a "presumption of innocence in the face of system"[492] with an acknowledgement of one's own complicity and systemic involvement. Only when we let the performative movement of contemporary capital appear as what it is—as a mere phenomenon with no moral judgment—can we study its workings and ramifications without grave misunderstandings and misconceptions.

In the following chapter, we will consider the formal performance of a group of contemporary novels as a novelistic form of such a new model of critique. Instead of *speaking for* the individual subjects or telling affective stories that could *represent* the realities of contemporary lives, these novels do not assume a detached position of the novel to see the 'outside' world as an priori and an object of representation, denunciation, or redemption; rather, they just *enact and perform* through their novelistic forms contemporary capitalism's operations. With a deep self-awareness of their paradoxical position, where it is part of the larger system saturated by the cybernetically reconfigured market logic, but also a model for the narratological

[492] Sloterdijk, *Not Saved*, 67.

workings of contemporary capitalism, *novels that enact* resolutely renounce the privileged position of the novel as a medium for world-building, subject-forming, and meaning-making (what the capitalist activities are seeking to achieve) and turn to the awkward formal enactment of the cybernetic logic of contemporary capitalism. This enactment may seem conformist, too formalist, or inhuman and frustrating to some, as many literary critics have complained. I would argue, however, that this strictly formal and neutral approach is exactly what it means to let the life of system appear as it is, to foreground the awkwardness and inhumanness of contemporary capital, and "to teach the norm to fear its own perversity."[493]

[493] Jeffrey T. Nealon, *Post-Postmodernism: Or, the Cultural Logic of Just-In-Time Capitalism* (Stanford, CA: Stanford UP, 2012).

CHAPTER FOUR

NOVELS THAT ENACT: THE 'CRISIS' OF THE NOVEL AND EMERGING FORMS

Tom McCarthy once said *Satin Island* was his attempt to "sit and think about the general impossibility of writing a novel about the general impossibility of etc."[494] When the capitalist world narrates its own fictional versions of alternate realities and the novel is self-aware of its morphological de-differentiation from capitalist activities, it indeed seems impossible to write a novel, at least in a way that is familiar. The second impossibility—which he puts in the business-like, matter-of-fact abbreviation of "etc."—carries an even more dire tone about the predicament facing the ironized subjects of the contemporary world. As we discussed in previous chapters, the cyberneticization of the world brought about the reconfiguration of the epistemological and institutional apparatus of the post-1945 Western world. That renders any conversation about subjectivity, identity, autonomy, or resistance without ironies extremely difficult, except when they are enlisted as an advertisement tactic for corporate commercials. Since the critical foundations that the contemporary capitalist system dismantled through its speculative and performative operation are also the ideological and epistemological ground the novel has established itself upon, the "general impossibility of the etc." inevitably creates an ontological quagmire for the novel as well.

Many literary critics have noticed this "general impossibility" in contemporary novels and have been trying to determine its precise significance. There are attempts to define "the

[494] McCarthy, "Acknowledgement," *Satin Island*, 191.

contemporary" itself,[495] efforts to uncover the 'unprecedented' socio-economic vectors that refashion or undo the novel as a genre,[496] or endeavors to explain the emerging novelistic protocols with brand-new generic categories such as speculative realism, posthumanism, Anthropocene novels, network novels and so on. Despite the array (or disarray) of these different approaches, what cuts across the various attempts to respond to the question of the contemporary novel is a shared sense of crisis—that contemporary novels fail to fulfill the expected aesthetic, cultural, and political mandates that they used to do—which often leads to the fatalistic diagnosis of 'the end of the novel.' Such critical postulations of the *crisis* of the genre are, of course, perennial, often mobilized as a premise for critics' attempts to identify 'new' cultural or literary configurations. Yet, the observation of the abnormalities and deviations in the contemporary novel form—especially its *inhuman* and *anti-narrative* quality—is distinct from past criticisms of the novel in recent decades.

One of the notable moments in recent literary criticism regarding the *failure* of the novel is James Wood's well-known accusation, as I briefly mentioned in the introduction. In "Human, All Too Inhuman" (2000), which was a purported review of Zadie Smith's *White Teeth* (2000), he criticizes the prominent tendencies in the "recent novels … full of *in*human stories" with "an

[495] For the rise in scholarship on "the contemporary," see the "Series in Contemporary Literature and Culture" by University of Iowa Press, the "Literature Now" series by Columbia University Press, the "Flash Points" series by Northwestern University Press, Stanford University's "The Contemporary" working group, and Yale University's web journal *Post 45*.

[496] The concerns about the novel's diminishing political and cultural power, especially in relation to economic conditions, are visible in major academic journals' recent special issues on the nexus between neoliberalism and the novel. See "Speculative Finance/Speculative Fiction," a special issue of *CR: The New Centennial Review* 19.1 (Spring 2019); "The Novel and Neoliberalism," a special issue of *NOVEL: A Forum on Fiction* 51.2 (August 2018); "Neoliberalism and the Novel," a special issue of *Textual Practice* 29.2 (2015); "Financialization and the Cultural Industry," a special issue of *Representations* 126.1 (Spring 2014); "Genres of Neoliberalism," a special issue of *Social Text* 31.2 (Summer 2013); and "Neoliberal Culture," a special issue of *New Formations* 80-81 (2013).

awkwardness about the possibility of novelistic storytelling … and the representation of character." According to him, "the characters in these novels are not really alive" and do "not develop at all," denoting the "crisis of character, and how to represent it in fiction" and thus revealing a novelistic failure of those "writers unable, or unwilling, to create characters who are fully human." Contrary to novels by Dickens (which he takes up as an exemplary model for novelistic formal criteria), where the character "feels, and he makes us feel," the contemporary novel, he argues, fails to provide "immediate access to strong feeling," making readers "spend hours and hours within a fictional world, without experiencing anything really affecting, sublime, or beautiful." This lack of affective ability is also due to the awkwardness of the plot, which loops around "repetitive leitmotifs" without a sense of development or plausible causality between events, as well as the novelist's lack of interest in "language and the representation of consciousness."[497]

Despite his dismissive and frustrated tone, most of Wood's diagnosis perfectly captures the narratological characteristics that are increasingly found in novels in recent decades. The formal peculiarities that frustrated Wood in 2000—inhuman characters with no psychological depth that fail to elicit the reader's identification or sympathy, looping or meandering plots based on a random series of events that do not lead to a meaningful conclusion, prose styles that are not necessarily lyrical or poetic, and the refusal to provide expected affective responses—are noticed by a growing number of contemporary literary critics, generating a strong critical impulse to interpret them as the emergence of a new narrative mode. In fact, the reason why contemporary novels make such "awkward" narratological choices is already suggested in Zadie Smith's

[497] Wood, "Human, All Too Inhuman."

remark that Wood himself quotes in his essay: "It is not the writer's job … to tell us how somebody felt about something, it's to tell us *how the world works*."[498] In this chapter, we will investigate in detail the performative formal enactment of contemporary novels to foreground the ways the current capitalist world operates. For now, it would be enough to say "the representation of consciousness" or rendering something "affecting, sublime, or beautiful" is indeed less the quarry of these contemporary authors than staging and enacting the formal workings of the system itself.

Zadie Smith, later in her now famous article "Two Paths for the Novel" (which can be read as a belated response to Wood), enthusiastically endorses these unconventional formal features in contemporary novels. Comparing Joseph O'Neill's *Netherland* and Tom McCarthy's *Remainder* in their respective tradition of lyrical realism and avant-garde novel, she asks, "the Balzac-Flaubert model … Is it really the closest model we have to our condition? Or simply the bedtime story that comforts us most?" Both of the novels already know, she argues, "the world has changed and we do not stand in the same relation to it as we did when Balzac was writing"; however, *Netherland* chooses to remain in the "credos upon which Realism is built: … the incantatory power of language to reveal truth, the essential fullness and continuity of the self," while *Remainder* takes a completely different—presumably awkward or even perverse—direction that could anticipate "the future for the Anglophone novel."[499] Though from disparate methodologies and theoretical orientations, Smith was followed by more critical endeavors to explain the formal reconfigurations in contemporary novels, which are not limited to the formal features I described above but definitely engage with them in some critical ways. The

[498] Ibid., emphasis added.

[499] Smith, "Two Paths for the Novel."

reformulation of narrative forms in the contemporary novel is sometimes interpreted as a modification of the preexisting genres as in "speculative realism" (Saldívar), "cosmic realism" (Robinson and Mari), or "posthuman comedy" (McGurl); scholars like Ursula K. Heise and Jeffrey T. Nealon propose to see them as an extension or mutation of postmodernism; there are also attempts to understand these new narrative modes as part of a larger turn in the humanities towards the "Anthropocene" (Marshall) or the "Posthuman" (Hayles).[500]

Whereas the first moment above concerns the novelistic failure to fulfill predetermined aesthetic mandates as a literary genre, the second moment I propose to look at regards the novel's political inability to critically engage with the external world. In 2009, Walter Benn Michaels announced that "the past twenty-five years have been a pretty sad time for the American novel." According to Michaels, American novels since the Thatcher-Reagan era of globalization of free trade economics have failed to deal with "the actual struggle of American society." For example, he argues, the rise of historical novels such as *Beloved*, *Underworld*, and *The Plot Against America* during that time makes us committed to "bad things that happened in the past (done to and by our ancestors)" and unattentive to "everything to do with bad things happening right now (done to and by us)." His criticism also falls on the "increasing appeal to memoir," and literary critics arguing over its generic classification and authenticity, even as they

[500] See Ramón Saldívar, "The Second Elevation of the Novel: Race, Form, and the Postrace Aesthetic in Contemporary Narrative," *Narrative* 21.1 (January 2013): 1-18 and "Historical Fantasy, Speculative Realism, and Postrace Aesthetics in Contemporary American Fiction," *American Literary History* 23.3 (Fall 2011): 574-599; Francesca Mari, "Cosmic Realism," *New Republic*, 27 May 2008, URL = https://newrepublic.com/article/62425/cosmic-realism; Mark McGurl, "Posthuman Comedy," *Critical Inquiry* 38.3 (Spring 2012): 533-553; Ursula K. Heise, "Postmodern Novels," *The Cambridge History of the American Novel*, eds. Leonard Cassuto, Clare Virginia Eby and Benjamin Reiss (Cambridge: Cambridge UP, 2011), 964-985; Jeffrey T. Nealon, *Post-Postmodernism: Or, the Cultural Logic of Just-In-Time Capitalism* (2012); Kate Marshall, "What Are the Novels of Anthropocene?: American Fiction in Geological Time," *American Literary History* 27.3 (Fall 2015): 523 -538; and Katherine T. Hayles, *How We Became Posthuman* (1999).

recapitulate the neoliberal idiom that "There is no such thing as society. There are individual men and women, and there are families." The list of the novels that he claims "make the reality of our social arrangement invisible" expands to also include "books like *The Corrections*" (the depiction of white-middle class everyday life), immigrant novels (often following the neoliberal tactic substituting systemic issues with cultural difference), or "the moving stories of the struggles of other people to overcome" personal hardships. Hence, he concludes, revealing his frustration in hyperbolic language, these kinds of novels "will have to go," with a bitter remark that "[t]he end of the novel is a sort of like the weather, people are always talking about it … but maybe this time, we'll get some results."[501]

With a deep resonance with Smith's criticism on the novels that refuse to acknowledge the dissolution of the traditional tenets of the sovereign subjectivity and the metaphysics of presence, what Michaels calls for is the novel "about the world neoliberalism has *actually produced* rather than the world our literature pretends it has."[502] The urgent imperative to recognize and address the changed socio-economic environment and epistemological apparatus the novels are embedded in has been shared by an increasing number of critics in the following years, critical efforts that are visible in major academic journals' recent special issues on the nexus between neoliberalism and the novel. For example, the editors of a special issue of *Textual Practice* on "Neoliberalism and Novel" (2015) state that the novel has "been prominently connected with the rise of liberal capitalism" as Ian Watt aptly demonstrated, but the conditions

[501] Walter Benn Michaels, "Going Boom," *Book Forum* (February/March 2009), URL = https://www.bookforum.com/print/1505/the-economic-collapse-points-up-how-little-our-literary-world-has-to-say-about-social-inequality-3274.

[502] Ibid., emphasis added.

contemporary novels are facing "are not the same as those of the liberal, classical capitalism."[503] In *Contemporary Literature and the End of the Novel*, Peter Vermeulen also points out, "neither these modern forms of life nor the novel's cultural power are quite what they used to be"; now the novel cannot retain "the distinction between individuals and communities, between the self and the social" and has to "suspend[s] particular assumptions of agency."[504] In short, as Jason Read clearly states, as "[c]apitalist production has undergone a profound mutation in the past thirty or so years," the "old [critical] terms ring hollow because they are not yet attuned to the fact that not only has their object changed—we are no longer living in the nineteenth century—but the very terms of critique have changed as well. It is no longer possible to critique capital according to the grand schemes of universal history or to oppose it from the last vestige of values and desires kept isolated from its sweeping mutations."[505]

Hence, the presumed crisis of the novel brings us back to the questions I proposed in my introduction: If the contemporary capitalist system has something peculiar, different from its previous forms, what is it? What is actually happening in the socio-economic, political, and cultural epoch we are living in, that is often too easily summed up as 'neoliberal'? What constitutes the predicament of the contemporary novel exactly? How does the novel respond to this situation? What is left for the novel to do now? Those are indeed the questions many contemporary critics are also asking. Yet, through the historical investigation of the cybernetic

[503] Johansen and Karl, "Introduction: Reading and Writing the Economic Present," 202.

[504] Peter Vermeulen, *Contemporary Literature and the End of the Novel: Creature, Affect, Form* (Basingstoke: Palgrave Macmillan, 2015), 2.

[505] Jason Read, *The Micro-Politics of Capital: Marx and the Prehistory of the Present* (Albany: State University of New York Press, 2003), 2.

reconfiguration of the post-1945 world and how it became the *modus operandi* of the current capitalist system, I wanted to demonstrate the present "impossibility"—to critique, resist, discuss subjectivity or autonomy, do art, write a novel, or even "prefer not to"—cannot be simply put down to the all-encompassing dominance of market logic or the so-called 'neoliberal' economic system. It is rather a shift in the spirit of the time, or a "metamorphosis of the modern psyche,"[506] generated by the aesthetic and performative metamorphosis of capitalist managerialism that no longer controls through imposed regulations and disciplines but achieves a perpetual self-generating movement through the self-managing, creative, and passionate operation of the actants in the system.

Under this "general impossibility," the novel finds itself in a bifold aporia due to capitalist storification, which creates a different kind of impossibility for the genre of the novel by its narratological practice creating reality-equivalents and reality-effects through the self-reinforcing feedback movement between capitalist fiction and reality. Therefore, the *formal* and *political* crises in the contemporary novel suggested by the two critical moments above are indeed two sides of the same coin. The capitalist creation of pseudo-novels actively looks into and takes up the formal qualities of a "good story" (with identifiable characters, reasonable and compelling plot, and heartfelt themes that can induce the reader/customer's action) and thus puts the novel in a dilemma that it cannot do what it does (narrativization, telling a story) without repeating and reaffirming what capital is doing. In this chapter, we will discuss what novels and literary criticism can do and have been doing under this situation. In the process, we will see how the cybernetic irony of the contemporary world has created a multifaceted impasse for the novel, as it did for critique and countless suffering subjectivities. However, I will argue that the shared

[506] Sloterdijk, *In the World Interior of Capital*, 209.

literariness and internal cybernetic logic in the novel and the capitalist system not only creates a quagmire for the novel, but might provide a space of possibility for the novel to critically stage and engage with the world the present capitalist mode has produced, with a deep consciousness of its own complicity and thus without easy rendering of culpability or judgement.

Impasse of the Novel and Literary Criticism

Despite Walter Benn Michaels's bitter criticism and the critics' heated debate on the possibilities of the novel under capitalist subsumption, of course, there are still novels that depict the everyday life of individuals and families with a desire to represent their authentic or generic experience of the world. Meanwhile, there are also novels that actively investigate the socio-economic, political, and cultural problems deeply connected to the ways in which contemporary capitalism works and take them as their main thematic concern. That makes for a great set of exemplary texts for the critics whose interests are in the relation between the novel and the 'neoliberal.' As an attempt to draw a chart of the various ways contemporary novels are responding (or not responding) to the present socio-economic condition, Emily Johansen and Alissa G. Karl have come up with a classification of different types of approaches novels are taking to deal with the political economic conditions of the contemporary world. Among several terminologies, they distinguish the "novel *of* globalization" from the "novel *about* globalization." By the former they denote the novel of "mimetic realism" that somehow reproduces the everyday experience under the current capitalist system through its realistic depiction—one might think of "books like *The Corrections*" by Jonathan Franzen here.[507] The latter "reflects known

[507] Jonathan Franzen, *The Corrections* (New York: Picador, 2002).

conditions," they argue, but also renders its own critical perspective and "adds to knowledge about and the understanding of the discourses and debates" around current socio-economic issues.[508] Despite the rather schematic formulation, the critical desire to emphasize and identify the novel's political awareness is obvious here, which characterizes much contemporary criticism of the novel, though what constitutes such awareness could be in discordance.

Among the novels invested in tackling the problems created by the contemporary capitalist system, Don DeLillo's 2003 novel *Cosmopolis* might easily take the top place on the list. As I briefly discussed in the introduction, it depicts an urban journey of a billionaire finance manager in his late twenties on a day of inexplicable anomalies in the financial market and a full-fledged anti-capitalist riot in New York City. Upon its publication, *Cosmopolis* was received as a novel that precisely captures "the essence of particular American moment: the solipsism of power, the paranoia of control, the inequities and immaterialities of wealth, the shock of recognition as a system begins to collapse."[509] And, in the following years, the novel has been brought back into critical attention as a work that anticipated the global economic crises and the Occupy Movement in 2008. In this regard, it is not surprising that Joseph Vogl opens *The Specter of Capital*, his book exploring the speculative nature of finance capital and its dominance over current society (as we have seen in chapter three), with an extended review of this novel. He dedicates the first full three paragraphs of the book to retelling the plot and quotes a long list of

[508] Johansen and Karl, "Introduction: Reading and Writing the Economic Present," 206.

[509] Robert McLaughlin, Review of *Cosmopolis*, by Don DeLillo, *Review of Contemporary Fiction* 23.2 (2003): 120.

examples of the novel's portrait of "the new capitalist mentality,"[510] most of which come from the narrator's lengthy musings on finance capitalist doxa.

Vogl reads *Cosmopolis* as a successful representation of "the riddle of the finance economy, its protagonists, and their operations," describing the novel as follows (the italics are all mine): "a *synopsis* of modes of perception and problems which must still be termed capitalist," "an *allegory* of modern finance capitalism, invoking both received historical ideas and contemporary economic theories,"[511] or "a *caricature*"[512] that "represent[s] this situation *symbolically.*"[513] The reason why I enumerate the bits of his critical language to discuss the novel here is to demonstrate the way in which *Cosmopolis* engages with the theme of financial capital and how Vogl approaches this novelistic embodiment. Of course, *Cosmopolis* is not a novel that uncritically recapitulates the operation of the current capitalist system and its embedded ways of thinking; yet, it provides critical "synopsis," "allegory," or "caricature," using Vogl's words again, of the economic present through the often lecture-like long monologues or dialogues of the narrator. As a 'novel *about* contemporary capitalism,' *Cosmopolis* mainly *talks about* the conditions of the current capitalist mode, which is a quality that distinguishes it from the group of *novels that enact* the formal movement of contemporary capital through its novelistic forms—rather than telling a story about what it performs—which I will discuss in detail in the following section.

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[510] Vogl, *The Specter of Capital*, 4.

[511] Ibid., 2.

[512] Ibid., 7.

[513] Ibid., 6.

Yet, a concern for the novels 'about' the workings of contemporary capitalism, as well as the critical approach to look for caricatures or allegories in the novel's fictional world of the realities it has created, is that they reduce the novel to a mimetic tool, a diorama of the external world. In "Neoliberalism and the Time of the Novel," Mathias Nilges indicates this problem as follows: "To be sure, there is certainly merit in analyses of the ways in which novels represent or thematically treat neoliberalism. But when it comes to the fundamental relation we suspect exist between neoliberalism and the novel, such accounts of representation or reflection of reality effectively reduce the novel to passive sociological evidence."[514] Nonetheless, it is not hard at all to find critics' "invitation to allegorical readings"[515] of such novels to "consider suggestive parallels between the textual worlds they create and current, contextual experiences of the neoliberal subject,"[516] which turns the novel into mere "miniature, capsule worlds that model the principles of individual subjectivity and society at large."[517]

However, as Jeffrey T. Nealon precisely states in *Post-postmodernism: Or, The Cultural Logic of Just-In-Time Capitalism,* while the mode of capitalism has undergone metamorphoses, as we have seen in previous chapters, "literature's privileged synecdochic role" has also experienced a historical shift: "in our critical work throughout the humanities we no longer tend to go to the revelatory 'part' in hopes of grasping the larger 'whole' (arguing, for example, that reading *Gravity's Rainbow* gives us a window into the workings of the world at large, the

[514] Mathias Nilges, "Neoliberalism and the Time of the Novel," *Textual Practice* 29.2 (Mar 2015), 360.

[515] Jane Elliot, "Suffering Agency: Imagining Neoliberal Personhood in North America and Britain," *Social Text* 31.2 (Summer 2013), 94.

[516] Ibid., 84.

[517] Ibid., 93.

contradictory logic of everyday life)."[518] Put differently, "[c]ontemporary capitalism … is not the sort of thing that hide[s]"[519] and we do not need a miniature model of reality to know what is going on; or, as Peters said about Latour, one might regard mimetic criticism "saying things that most people already know," which does not really help us investigate the actual mechanisms of the current capitalist world and address its acute ramifications. Yet, another, and more crucial, problem in considering the novel as a reference point for the issues in the real world is that it "can paradoxically obscure their own internalization of the values of their particular socio-historical moment."[520] In other words, this kind of approach obscures the fact that the novel itself *is*, and part of, a structure that operates by the same logic of the capitalist system. Like the narrator's almost schizophrenic detachment from what is going on in his surroundings in *Cosmopolis* and his never-ending sermons about the essence of finance capital, this kind of criticism attempts to put the novel into a position of a detached observer or reporter in the nonexistent exteriority of the system, from which it can reflect, talk about, and muse upon the world as an object of representation.

In fact, many literary critics are aware of these problems of the novel that 'talks about' the current capitalist world and accordingly turn their attention to identify how the novel critically engages with the socio-economic conditions *through its form*. However, even when the alleged goal of the project is to analyze how the novel interrogates and stages the economic present through its form, rather than considering the multilayered and reciprocal ways in which

[518] Nealon, *Post-postmodernism,* 150.

[519] Ibid., 96.

[520] Johansen and Karl, "Introduction: Reading and Writing the Economic Present," 206.

the novel form and capitalism engage with and imbricate each other, they often fall into a homologic simplification. This kind of formalist mimetics introduces us "to a formal aspect of neoliberalism and then proceeds to trace similar aspects in the formal structures of a set of novels,"[521] which could be deemed as a formalistic version of the parallelism we have just discussed above. What these criticisms of formalist mimetics leaves us with at the end is another affirmation of the novel's subsumption under capital while sacrificing an organic analysis of the narrative structure as a whole. Furthermore, considering the formal appropriation and affinity that the capitalist logic and operation has achieved through its reciprocal relationship with the novel, it becomes even more ironic and not anywhere near sufficient for a meaningful formal analysis of the complex interconnectedness between capitalism and the novel.

Operating in a similar but reversed manner from the formalist mimetics is the approach to uncover a textual rupture or contradiction in the narrative and proceed to interpret it as a moment of disruption of the codified capitalist imagination. In an effort to find a political meaning in the purported crisis of contemporary novels, this kind of approach, for instance, reads a set of contemporary novels that deconstruct the generic "template" of a specific novelistic genre or "frustrate the expectation of a significant emotional experience" of the readers, and argues that these "moments of misalignment"[522] dismantle the capitalist codification of human experience and "demonstrate[s] the limits of the market by … a reading event that momentarily escape pre-programming."[523] Even if we put aside the question of how the experimental formal

[521] Nilges, "Neoliberalism and the Time of the Novel," 360.

[522] Peter Vermeulen, "Reading Alongside the Market: Affect and Mobility in Contemporary American Migrant Fiction," *Textual Practice* 29.2 (Mar 2015), 278.

[523] Ibid., 279.

qualities of the novel—cutting across the conventions of the genre or frustrating the reader's expectation that can be found in any work in the history of experimental novel—are necessarily a response to the socio-historically specific condition, a more fundamental issue here is that the deconstructionist strategy to expose a moment of rupture, in which the system fails or reveals its disjointedness, is no longer as revolutionary as once believed.

In the cybernetic logic of the contemporary capitalist operation, the crisis, noise, disruption, or unexpected happenings are not a moment that threatens the order of the system, but rather an emergence that would be joyously embraced as an opportunity to rejuvenate the system and expand its demarcations once again. As we have seen in the previous chapter, the motto for corporate management has already changed over decades from rationalization and discipline to 'ride the wave' and 'get along with' the other, unpredictable, and undefinable futures. Furthermore, during recent global economic crises and international resistance movements, we have indeed witnessed this cybernetic movement of constant (re-)demarcation—how socio-economic and political crises, which seemed to divulge the inevitable limits and irrevocable failures of the system, have been smoothly embraced and neutralized by the system. Indeed, it is what Jim McGuigan calls "cool capitalism," which is "defined by the incorporation, and thereby neutralization, of cultural criticism and anti-capitalism into the theory of capitalism itself."[524] And this dialectic of capitalist self-transformation has been visible since the 1970s, when capitalism acquired a "new spirit" through the active embodiment of artistic critique.[525] As Deleuze and Guattari write, certainly "[c]apitalism is inseparable from the movement of

[524] Jim McGuigan, *Cool Capitalism* (London: Pluto Press, 2009), 38.

[525] See Boltanski and Chiapello, *The New Spirit of Capitalism.*

deterritorialization, but this movement is exorcised through factitious and artificial reterritorializations."[526]

Lastly, there are novels that cease to rely on the precarious beliefs and order of things that formerly provided an epistemological foundation for the genre of the novel and actively stage the changed socio-cultural relations by reshaping their narrative forms. A group of contemporary novels such as Jennifer Egan's *A Visit from the Goon Squad* (2010), Ruth Ozeki's *A Tale for the Time Being* (2013), David Mitchell's *Cloud Atlas* (2004) and Karen Tei Yamashita's *Tropic of Orange* (1997) present narrative formations that draw a social graph of our contemporary lives—which include multiple focal points dispersed across time, geo-political locations, identities, cultures; fragmented emplotment emphasizing connectivity and networks; and stylistic and generic mixtures—often suggesting an alternate possibility of imagining human relations and the world in the new environment of the global connectedness. As the editors of *Neoliberalism and Contemporary Literary Culture* explain, these authors are "producing texts that challenge readers to imagine what it would mean to mean differently, for meaning and value to derive not from referential acts of representation but from being's relation to other beings, as well as its relative position in space,"[527] while "exploring its affective, bodily, networked way of being in the world."[528]

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[526] Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia, Volume I,* trans. Robert Hurley et al. (Minneapolis: University of Minnesota Press, 1983), 303.

[527] Mitchum Huehls and Rachel Greenwald Smith, eds. *Neoliberalism and Contemporary Literary Criticism* (Baltimore: Johns Hopkins University Press, 2017), 10-11.

[528] Ibid., 11.

One might want to say these so-called "network novels"[529] propose a new humanism reshaped and restored for our networked and cyberneticized contemporary world. They indeed respond to the changed mode of communication, socio-cultural apparatus, and the ways of being in the contemporary world—for example, in *A Visit from the Goon Squad,* a post on a Social Network Service works as a crucial narrative device that draws together the dispersed characters throughout the text and ties together the multiple plot lines that have been loosely connected to each other. The hopeful or cheerful depiction of the ever more complex and messier networks found in these novels, however, somehow reminds us of the '60s countercultural cybernetic utopianism, especially with its democratic desire and optimistic belief in network. Although we set aside the potential criticism that the novelistic formalization of the networked world (for example, structuring the narrative as a horizontal web of indefinite units as *Tropic of Orange* does) is a belated adoption of what capital is already utilizing so well, rather than a breaking literary innovation, it always runs the risk of creating another morphological homology between its narrative and the operational mode of contemporary capitalism. Even when the novel is keenly aware of the capitalist implementation of such technological advances (as *A Visit from the Goon Squad* surely is), it leaves behind the essential but difficult question of what actually has brought such a world about. When these novels become nothing more than a reaffirmation of the *algorithmically situated humanism* the contemporary capitalist activities have created and constantly taken advantage of, the obfuscated, dissimilated and thus normalized cybernetic ironies at the center of the contemporary impasse, once again, remain untouched and natural.

[529] See Patrick Jagoda, *Network Aesthetics* (Chicago: University of Chicago Press, 2016). Jagoda defines "the network novel" as "a late twentieth-century genre that reworks and intensifies the cultural concerns regarding a world interconnected by communication and transportation networks, and made unprecedentedly dependent upon an informational economy" (43), presenting Thomas Pynchon's *Gravity's Rainbow* as a precursor of the genre that has come to the apex in the 1990s.

And, of course, in addition to all these critical predicaments, we have the fundamental problem that now the novel's most elementary and essential activity—telling a story, narrativization—has become one of the major tools for capitalist managerialism. In fact, this shared morphology between the novel and the operational logic of capitalism does not simply denote one more example of capitalist appropriation of the socio-cultural categories working somehow autonomously in the past but now subsumed under capital. The formal affinity between the novel and capitalism is not just a result of a historical coincidence, by which the capitalist planners turn to the novel as a medium and tool to update their managerial technologies. The performative operation of capital creating its versions of realities and generating the cybernetic impasse for the ironized subjects in the contemporary world is in fact not that different from what the novel has always been doing from the beginning: the emergence of reality-effect through virtual operations of subject-functions (characters), event-equivalents (plot), and their relational positions in the system (of language). The meaning of literature comes from the relations of the elements above and discrete units of language and its organization; and what literary criticism does is to activate such internal relations as a kind of circular self-corrective system. Indeed, as a system of relations of difference, the syntactic property of cybernetics has been pointed out by many thinkers as well as cyberneticians. as Lévi-Strauss once claimed in response to Norbert Wiener, "the conditions which he sets as a requirement for a valid mathematical study seem to be rigorously met … [in] the field of language"[530] as a network that can be represented mathematically through the functions and positions of its units.

[530] Claude Lévi-Strauss, "Language and the Analysis of Social Laws," *Structural Anthology*, trans. Claire Jacobson and Brooke Grundfest Schoepf (New York: Basic Books, 1963), 56.

Given the shared cybernetic quality between literature and capitalism, what brought the novel into the paradoxical predicament under the current capitalist mode is neither just the 'fictitiousness' or 'speculativeness' of contemporary capital nor the novel being one of the many genres of art that capitalism has been utilizing since the artistic critique in the 1970s. The novel and capitalist system have co-emerged as self-reflexive systems based on the internal encodings of its self-organizing properties and thus as a self-sufficient system of reality, whose isomorphic relation has been activated and has culminated in capitalist storification under the narrative turn. In the following sections, I will discuss a group of contemporary novels that radically foreground the cybernetic internal logic of the novel—which is also the operational logic of contemporary capital—through their formal enactment, while investigating the possibility for them to embody an alternate form of critique and novel writing.

Novels that Enact

What is left for the novel when the capitalist world not only narrates its own versions of realities, but also has been utilizing the narrative templates and devices intended to counteract its flattening and depoliticizing effect? How does the novel find a way to still critically engage with the external world without reaffirming the capitalist logic of formalization that has become hardly distinguishable from the narrative logic of its own? When the world is already filled with storifying sub-universes and the novel is aware of its formal affinity and complicity, how does the novel respond to this conundrum? These questions gain even greater importance, or require more scrupulousness to answer, when we consider the cybernetic ironies engendered by recent capitalist operations. The new style of subjectivity constantly creates the internal imperatives for individuals to put themselves into an endless flux and to 'rise and grind' their soul into work;

capital itself constantly goes through its self-initiated metamorphosis in a perpetual feedback movement of an autopoietic cybernetic machine; corporatized humanism has ever been so 'cooler' and more 'creative' than the critical efforts that it turns them into a mere mimicry of what capital has already been doing; and in that process all that solid has melt into air and all that is profaned has attained a renewed spirituality and enchantment once again, with men engrossed in the endless circular movement in the world interior of capital.

Exploring what literature can do in this "odd open totality" in which "there is no transhistorical 'human nature' existing somehow 'outside' contemporary capitalism,"[531] Jeffrey T. Nealon claims, it is "this movement of capital, this flow, that forces us to confront a different kind of power, and thereby to search for something other than the weak weapon of humanism." Calling "the resentful judgments and condemnations of moralism"[532] an obsolete critical approach rooted in humanism, Nealon writes:

> Rather than churn toward an inevitable moral conclusion (an outmoded understanding of dialectic), the transcoding or overcoding job becomes working out the connections, the sites of homology and difference, and the difference they make. If, as everyone seemingly agrees, there is no "outside"—if, as Jameson writes, "we are no longer in the position of evaluating whether a given thought system or aesthetic form is progressive or reactionary" (358)—then the question necessarily becomes, how are these various modes of production related: how do they configure a kind of odd, multiple totality? And what

[531] Nealon, *Post-postmodernism*, 153.

[532] Ibid., 98.

> nodes of resistance and/or critique are locatable within such an altered diagnosis of the field itself?[533]

Thus, as a new weapon for the new mode of capitalism, whose cybernetic operation has conflated the epistemological grounds such as subject and object, reality and representation, hegemony and autonomy, inside and outside, the actual and the virtual, and so on, Nealon calls for "an ethics that *does something*, produce effects, over against the transcendental ethics of resentment, judgement, and condemnation … not applying metaphysical ethical standards in a uniform way, but giving oneself over to the complexity of the situation, responding rather than handling down predetermined judgements." As "what formations 'mean' is of as little relevance for contemporary poetics as it is for economics or cultural studies"[534]—especially when capital itself is in a perpetual movement without apparent teleology or ideological goals, while 'meaning' only seems to have some valence in corporate humanism enlisted for the capitalist (re)configuration of the modern psyche—"[w]hat does it mean?" indeed seems like "the wrong question to ask," as Nealon asserts.

Hence, according to Nealon, "what remains culturally singular and potentially critical about 'ambitious' literature at this historical juncture" is an active involvement with the ironies and complexities of the situation to *do something* with a boldness and neutrality not to be afraid of its own proximity to what it is trying to stage and foreground. In other words, what could enable the novel to find a way to critically engage with the cybernetically refashioned world of ironies is "not some negative notion of its contentlessness, or its inexorable frustration of

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[533] Ibid., 24. The quoted passage is from Fredric Jameson, *Marxism and Form* (Princeton: Princeton University Press, 1971), 358.

[534] Ibid., 153.

meaning," and "not by its distance from *dominant culture*, but its *imbrication with* contemporary socioeconomic forces."[535] In order to stage how the current capitalist system actually works, I argue, a group of contemporary novels blatantly involve themselves in the formal enactment of the contemporary capitalist logic. Rather than settling for the comforting realm of representation or remaining in the mimetic function that often becomes a reaffirmation of the status quo, these novels 'imbricate' themselves with the dominant capitalist logic through their novelistic performance, from a deep awareness of their involvement and complicity with the current capitalist operations.

Yet, acknowledging its intrinsic formal affinity to contemporary capitalist activities, these *novels that enact* avoid recapitulating capitalist affect management and reproducing the creeds of corporate humanism by stripping off the narratological elements of 'good stories' from themselves. Instead, they perform the paradoxical and ironic operation of capital through their formal reconfiguration—the mechanical, unabashed formal enactment of plot, characters indistinguishable from things, week or lacking causalities between events, unlocatable or impossible points of view, and so on—which turns out to be as paradoxical and ironic as the system itself. Thus, judged on the criteria of the nineteenth century realist novel, it certainly appears inhuman, awkward, and aesthetically failing; yet, such confounding peculiarities in contemporary novel forms, I would argue, are indeed a medium and result of their efforts to make a still politically practical gesture. And the enactment as their response to the current capitalist system that is ever more flexible and quicker to get along with the emergences of the world is not an attempt to find a pure territory not yet tainted by the sweeping power of capital, to deny its totalizing operation, or to find and use a savvier position than the capitalist tactics.

[535] Ibid., 154.

Rather, it is the unreserved assertion and uncondemning positivity in which the novels that enact perform a critical staging of the ironies of the contemporary world by having their own narratological forms *become* the cybernetic logic of the world itself. As the capitalist world started to performatively get along with the world when it realized the limits of epistemological representation, the novel, too, starts to *get along with* the world that has been produced by such getting-alongs.

Thus, in these novels, for example, the characters become *enactors*, through which the workings of the system are recognized and whose movement itself registers the system's formal operations, rather than remain as fictional subjective positions or psychological references for the reader's identification. The inhuman, flat, affectless, or robotic characters we often encounter in contemporary novels, such as the alien-like absolutist Chigurh in *No Country For Old Men* (2005) or the emotionless re-enactment machine who is supposed to be the 'protagonist' of *Remainder* (2007), are not a result of the novelist's failure to create identifiable, full-fledged, round characters, but a mere 'character-function' or '-effect' that takes the place of a character to enact and literalize the mechanical logic of contemporary capitalism. Similarly, in these novels, "what matters is not so much the plot itself" or the drama of incidents, catharsis, pathos, and causality (basic principles of scenario planning and corporate storification); yet, "the major character's motivations and goals"[536] are often left untended or incomprehensible while the plot holes are left bare and unexplained. We do not really know what actually happened or why and how there are two different kinds of zombies in Colson Whitehead's *Zone One* (2011), and no one knows, or seems to be interested in, why Fan decides to go beyond the walled boundaries

[536] Heise, "What's the Matter with Dystopia?"

and into the wilderness—which fails in her role as a heroine of a dystopian novel—in Chang-Rae Lee's *On Such A Full Sea* (2014).

This way, in novels that enact, the character/enactors are moving around with no apparent intention, motivation, desire, or affect—which often seem just irrelevant to them—like the incessant movement of capital or the numbers on a stock market ticker, while there are only 'event-equivalents' that constantly come and go without meaning or coherence like the ever-undulating flux of the market. The accumulation of these loosely-linked event-equivalents creates a kind of looping structure with no climax, conclusion, beginning or end, which follows the endless movement of the 'virtuous circles' of modern societies that drives the self-reinforcing feedback movement of the capitalist system and individuals. The fact that the first sentence of *Open City* (2012) by Teju Cole, for example, begins with "And so"—a connective that seems to mark a causal relation but simultaneously signals a careless and casual transition of topic—denotes that we are entering an information processing machine of the internet age, whose sole aim is the endless circulation of bits and pieces of information through the ostensibly infinite 'openness' of the global connectivity.

In this way, the formal enactment of these contemporary novels becomes the expression of the capitalist system and novels that enact turn them against the system itself. In an interview conducted five years before he passed away, Gilles Deleuze was asked if new forms of resistance would be possible under the new kind of control with institutions breaking down and communication, speech, and imagination becoming new tools for more perfect form of dominance. After an equivocating answer leaving leeway—"Maybe, I don't know"—he conjectures: "But it would be nothing to do with minorities speaking out. Maybe speech and communication have been corrupted. They're thoroughly permeated by money—and not by

accident but by their very nature. We've got to *highjack* speech. … The key thing may be to create vacuoles of *noncommunication, circuit breakers*, so we can elude control."[537] By turning away from the corporatized storification and instead becoming an excess of the formal expression of contemporary capitalism, novels that enact undertake a kind of novelistic highjacking that attempts to short-circuit the self-perpetuating operation of the capitalist system. As Zadie Smith said about *Remainder*, novels that enact may "come to literature as an assassin" to "clear away a little of the dead wood, offering glimpse of an alternate road down which the novel might, with difficulty, travel forward."[538]

This alternate mode of novel writing that enacts, performs, and stages the actual operation and the logic of the contemporary capitalist world provides a sort of realism that allows the systems "to appear as what they are"—the first priority "to actually investigate systems," according to Sloterdijk.[539] In the cybernetic operation of the contemporary world where all formations are constantly self-transforming and self-modulating, what still remains to be called 'real' would be the operational processes of the production of such movements and conditions. In *Molecular Red: Theory for the Anthropocene*, tracing the epistemological grounds of the notion of subject and object, or the observer and the observed, via its theoretical construction in physic and metaphysics, McKenzie Wark proposes two distinctive models of realism. "One can be a realist about the object of knowledge or about the process of knowledge," Wark argues, and distinguishes them from each other as follows: "To be a realist about the object

[537] Deleuze, "Control and Becoming," *Negotiations*, 175. Emphasis added.

[538] Zadie Smith, "Two Paths for the Novel."

[539] Sloterdijk, *Not Saved*, 65.

of knowledge requires putting oneself in a quasi-Godlike position, outside of the process. To be a realist about the process of knowledge requires bracketing off the idea of the nominal object and engaging closely with practice and their particular point of view."[540]

As we have already seen through the paradox of the position of an observer in the second cybernetic turn as well as the theoretical premises to corporatize storification as a new managerial tool, a 'realism of object' is not a viable model to respond to the performatively moving, extremely complex systems of the contemporary world. Thus, "[t]he challenge is to abandon a realism of the object of knowledge, the idea of the real as a separate world," Wark claims, by accepting that the real is inseparable from the apparatus that produces "the process, the sensation, or the phenomena."[541] Thus, in a realism of process, or "realism of the means of production of knowledge,"[542] thinking or knowing becomes a kind of "intra-acting"[543] in which it always passes through or interacts with the cuts of realities produced by the apparatus, which turns thinking, knowing, or critique into constant engagements—always a form of *doing*—with a world of which they are just parts. In a similar way, a certain group of the contemporary novel, as a very complicit part of the world it observes and by which it is always observed, take up the position of the realist about the process of the production of the capitalist versions of realities. By approaching the process of cybernetic operation of the contemporary capitalist system as an actually existing process influencing courses of phenomena, novels that enact engage with its

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[540] McKenzie Wark, *Molecular Red: Theory for the Anthropocene* (London: Verso, 2015), 158.

[541] Ibid., 161.

[542] Ibid., 162. Wark also underlines that a process of realism is "neither a dogmatic nor speculative realism," noting that they "concern themselves with an object of knowledge that is metaphysical in nature" while the former "inquires closely into the means of its own production" (165).

[543] Ibid., 163.

mechanism and movement in a way that is "less hermeneutic operation than the kind of performance."[544] Thus, they sometimes look too inhuman, formal, awkward, or perverted, or they seem to just repeat meaningless patterns or movements; but by avoiding reproducing the expected 'meaning' of metaphysical epistemology and corporatized humanism, and instead carrying out a Situationist-like performance, novels that enact suggest an alternate form of critique as well as a new mode of novel writing. Thus, the question we should ask about the contemporary novel is not "what does it mean?" but "what does it do?,"[545] to which we will try to find an answer in the following part, analyzing Tom McCarthy's *Remainder,* Kazuo Ishiguro's *Never Let Me Go*, and Teju Cole's *Open City*, as incidents of the novelistic formal enactment of distinctive aspects of contemporary capitalism (speculative, creative, and techno-capitalism) and its associated cybernetic logic (enactment, feedback, and connectivity).

Enacting Enactment: Speculative Capitalism and the Looping Plot in Remainder

First published in 2005 by a small, independent French art publisher, *Remainder* has drawn keen attention from the reading public and literary critics with its narrative and formal peculiarities. The would-be-main-character is not given any personal qualities that the readers can take as a reference—no name, no past, no family—or psychological interiority that can help the reader identify with him, although the entire novel is narrated from his point of view. Instead, his first-person narrative is populated with his absurd desire for repetition and a random series of reenactments of real or imaginary events, rendering the narrative drift endlessly following a loop of repetition and accumulation. Such anti-narrative quality in *Remainder* is blatantly displayed

[544] Nealon, *Post-postmodernism*, 165.

[545] Ibid., 159.

through every layer of the narrative—from its emplotment and characterization to syntax level. For example, the novel begins with a narrative refusal of the enactor/narrator saying "About the accident itself I can say very little. Almost nothing. It involved something falling from the sky. Technology. Parts, bits. That's it, really: all I can divulge. Not much, I know."[546] An event has already happened before the narrative starts, and the nature of the accident—which sets the condition for his desire for reenactment and thus catalyzes the whole narrative—is never revealed or even discussed to the end of the novel, suggesting that the novel is not really interested in divulging hidden truth or providing a coherent explanation or causality for what will follow.

We can find a similar moment of dismissal when the enactor later says: "One day I got an urge to go and check up on the outside world myself. Nothing much to report."[547] This simple and terse refusal to provide a "report" of "the outside world" flatly turns down the mimetic claim of the novel, while also indicating that there might be no "real" "outside" world relevant to his narrative. *Remainder*'s rejection or subversion of conventional novelistic protocols even takes a form of a "series of narrative epiphany McGuffins," as Zadie Smith puts it, when the novel *pretends* to be what it is expected to be for the first fifty pages or so, and then overturns it to start the novel all over again. He goes to a pub with friends; a lukewarm love interest emerges; and there is a heated debate if he should donate the settlement money from the accident for philanthropy or enjoy himself—in which interaction with the world, affect, realistic dialogue on socio-political and personal issues written in meticulous prose (unlike the choppy, mechanical

[546] McCarthy, *Remainder*, 3.

[547] Ibid., 165.

listing of 'parts' and 'bits' in the very beginning the novel) are given almost as "a kind of anti-literature hoax, a wind-up."[548] Then, in the following new chapter, he finds a crack on a wall which he thinks he remembers from the past and starts his project of reenactments, which is also the real beginning of the novel. Almost like a syntax-level reenactment of what has just happened in the narrative, towards the end of the 'hoax' narrative, the enactor gives an absurd, contradictory description—"The waiter came back over. He was … She was young, with large dark glasses, an Italian woman. Large breasts. Small"[549]—with no further explanation.

The radical absurdity and violation of narrative norms in *Remainder* has attracted many literary critics' interest, which brought the novel into the center of the critical discourse on the emerging narrative modes in the contemporary novel. As Zadie Smith aptly puts it in her previously mentioned review of the novel, *Remainder* "comes to literature as an assassin," to "shake the novel out of its present complacency," meticulously working "through the things we expect of a novel."[550] The evacuated interiority and inhumanness of the enactor of *Remainder* is neither to 'reflect' the zombie-like state of the contemporary capitalist subjects nor to 'document' a psychological experience of a traumatized or neurotic individual, but an inevitable result of the narrative choice to *enact* the formal logic of the contemporary capitalist system. Here, the character is not a psychological position for readers to identify with—just as the capitalist storifying organizations expect its customers, managers, and workers to do with their stories—but a literalization and enactment of the speculative and performative operation of

[548] Smith, "Two Paths for the Novel."

[549] McCarthy, *Remainder*, 59.

[550] Smith, "Two Paths for the Novel."

finance capital and the current capitalist system's incessant operation of deterritorialization and reterritorialization.

By faithfully registering the processes of the endless reenactments that evolve from pursuing a scientific exactitude of re-presentation to enjoying the unpredictable emergences of disruption, *Remainder* stages the cybernetic reconfiguration of the world juxtaposed with the metamorphoses of capitalist managerialism. The totalitarian desire for ultimate rationalization of the world and its inevitable failure and ensuing frustration, which have made capitalist managerialism turn to performatively 'getting along' with the contingency of the world, as we have seen in previous chapters, are enacted in the enactor's obsessive process of the reenactments in the novel. The enactor's desire to be 'natural' is nothing but the ultimate goal of cybernetics, to build an autopoietic system that controls without control—not imposing predetermined rules but letting the system self-mutate, self-generate, and self-organize—the logic of which has brought about the often puzzling autonomous, self-reinforcing operation of current capitalist system. What the enactor is trying to achieve is a complete cyberneticization of the world as well as his own body, and he almost succeeds to realize it through his ceaseless reenactments.

What the enactor has to learn after being hit on the head by a thing falling from the sky is how to move his body again. The simplest bodily movements such as grabbing a carrot or walking are never simple when you have to "understand how it all works" first—"which tendon does what, how each joint rotates, how angles, upward force and gravity contend with and counterbalance on another"—and picture "yourself lifting the carrot to your mouth, again and again and again" in order to "cut[s] circuits through your brain that will eventually allow you to

perform the act itself."[551] This process to dissect each movement into units and parts, analyze scientifically, determine the most effective sequence of movements, and then have the human body practice it again and again "until he was it and it was him and there was nothing in between"[552] is a literalization of the mechanical rationalization of the human body in Taylorist factory floors. "No Doing without Understanding,"[553] the motto for the enactor's "rerouting"—which he explains is "finding a new route through the brain for commands to run along"—could also be a catchphrase for the practice of scientific management, which wants to 'reroute' the laborer's movement with "skills which, having been identified, empirically rationalized and generalized into some 'theory' or other, can be taught."[554]

Yet, what the enactor wants to embody through the rerouting practice is not the mechanical, robotic movement of Charlie Chaplin in *Modern Times*, but the "perfect, seamless" gestures of Robert De Niro in *Mean Streets*.[555] In fact, he does not belong to the world of laborers in Taylorist factories; instead, he is part of the speculative capital which has the power to create patterns, trends, and its desired versions of images of reality and to actualize them through performative enactments. Indeed, the cyberneticization of his own body turns out to be a mere practice run for him to build a performance-art-like model of an ideal cybernetic world, which dialectically supersedes its own limits of scientific rationalization and transforms itself into a system of autopoiesis. In this regard, Mark McGurl's supplement to Smith's reading of

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[551] McCarthy, *Remainder*, 20.

[552] Ibid., 23.

[553] Ibid., 22-23.

[554] Atkins, *Thinking the Art of Management*, 57.

[555] McCarthy, *Remainder*, 23.

Remainder is worth consideration. In a passing comment in his review of McCarthy's more recent novel *Satin Island*, McGurl rightly points out "that *Remainder*'s narrator is 'simply a bloke'," and "a powerful premonition of the soon-to-be identified 'one-percenter' of contemporary neoliberalism." Indeed, what sets off the narrative of *Remainder* is the "Eight and a half million pounds"[556] the enactor receives as a "*Settlement*" at the beginning of the novel,[557] and it is this money that finances his consecutive reenactments, thus enabling the narrative itself. As McGurl accurately observes, he is "[n]ot an artist but a rich client, an unlikely princeling of the postmodern service economy, bending the world toward the perfection of his own experience." Yet, a slight revision is needed to his argument: the enactor is not a capital-ist, but capital itself.

However, once he starts to put his ideal sequence of movements—of his own body as well as the bodies of a whole troop of his hired enactors—into action, it is always disrupted by some unexpected interruption of messy materiality or human factors. Unlike his imaginary, perfectly controlled sequence of events reflecting his Platonic ideal of how the system should operate, a carrot in reality is "gnarled, dirty, and irregular in ways your imaginary carrot never was." He wants his enactors/laborers to be like "zombies or robots" perfectly implementing his scenarios, "not to impose any personality at all,"[558] and to just function as a mechanical 'cog in the machine'; yet, the perfectly planned, calculated, and designed reenactment always encounters an accident that disturbs the smooth and seamless re-presentation of the script, making him

[556] Ibid., 7.

[557] Ibid., 4.

[558] Ibid., 176.

deeply frustrated and nauseated. Like the Emperor in Borges's story, the enactor wants to build his own version of the country under totalitarian control, whose subjects to subjugate include all organic and inorganic beings—at one point, the enactor says "The sunlight's not doing it right"[559]—putting the model, representation, and culture before the world, reality, and nature.

Indeed, as Seb Franklin points out, *Remainder* "is about the difficulty of configuring a world as a controllable system of information-processing loops"[560]—but only for the first half of the novel. In the process of the enactor's repeated and frustrated attempts for the complete cybernetic configuration of the world, something weird happens. Whenever the reenactment goes wrong unexpectedly, the enactor becomes gravely frustrated. However, at some point, he starts to simultaneously feel a sense of bliss: "the feeling intense and serene, tingling"[561] that the contingent happening brings about. He cannot reason or explain to anybody, but the sensation he feels in the moments of disruption triggers him to desire more and more of "a movement that had come about not through an orchestrated re-enactment, but by chance."[562] Ever since then, for him, "[r]e-enacting it wouldn't be enough; there'd be something missing, something fundamental,"[563] and it is a real event, contingency, the moment when fiction and reality collide, the moment of communication in which the system contacts and embraces the noise, crisis, or disruption from the outside and adjusts its boundaries. As Tom McCarthy once said in an

[559] Ibid., 228.

[560] Seb Franklin, "*Repetition; Reticulum*; Remainder," *Novel: A Forum on Fiction*, 50. 2 (Summer 2017), 173.

[561] McCarthy, *Remainder*, 108.

[562] Ibid., 241.

[563] Ibid., 242.

interview, it is the "aporia between the real event and its symbolic mapping" that has bothered the enactor throughout the whole process, and now "he tried to close that gap … He is committed to the event."[564]

Cybernetically speaking, the sense of "tingling" denotes the moment when the system communicates with the external environment and rejuvenates itself through its positive feedback movement. When the real, the irrational, contingency, or accident breaks the smooth and orderly operation of a homeostatic system, it brings a temporary crisis; yet, as we have seen in second-order cybernetics, the crisis itself is an essential, constructive part of an open system, one that keeps it alive as it constantly adjusts itself to 'get along' with the uncontrollable emergence of reality. This way, *Remainder* enacts the metamorphosis of capitalist managerialism from calculative, regulative, and rationalistic control to flexible, performative, and creative embracement of the unpredictability of the world. In this regard, it is important to note that the first moment the enactor feels the "tingling" is when he takes "the posture of a beggar, holding his hands out, asking passers-by for change,"[565] despite, as we know, not needing any more money. "Demanding money of which he most certainly had no need … That's what's made him feel most real" and made him feel almost "being on the other side of something."[566] It is a pure, authentic wanting or a desire for extension that drives the insatiable self-(re)generation of capital and the "tingling" is the excitement felt on the system demarcating, deterritorializing, and reterritorializing itself.

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[564] Tom McCarthy, "The Radical Ambiguity of Tom McCarthy," Interview by Clodagh Kinsella, *Dossier*, 22 July 2009.

[565] McCarthy, *Remainder*, 44.

[566] Ibid., 242.

The enactor's obsessive repetition of reenactments to "cut off the detour that sweeps us around what's fundamental to events"[567] finally leads him to a bizarre overturn of reenactment and the real. The violence and ethical obtuseness increasingly revealed in his reenactments culminates in his last (re)enactment of a bank robbery, which he decides at the last moment to (re)enact in a real bank. Of course, it goes wrong again; but this time the collapse is brought by the absence of matter, not by the attack of matter. In the (re)enactment of the bank heist superimposed on the real world, what fails the predetermined trajectory of the (re)enactment is the *imaginary* kink in the carpet which the hired enactors are accustomed to think is there, but was not in reality, creating havoc by killing a man on his staff. It is undoubtedly the messiest, biggest failure among his countless attempts of reenactments; however—or, expectedly—he finds the greatest sense of bliss and feels most real: "I was right inside the patterns merging, part of it as it changed and, duplicating itself yet again, here, now transformed itself and started to become real."[568] It is a moment when the repetitive movement of the system has taken a *speculative turn*, fundamentally shifting the relation between the real and representation—the performative enactment of fiction synthesized with the real world. His reenacted, cybernetcized world has become self-sufficient in this self-reflexive and self-generating performative movement of repetition. Thus, he—the formal logic of capitalist operation—no longer needs an outside. "A system," the enactor tells the cashier at the bank right after the tragic event, "And I don't have to learn it first. I'm *getting away* with it."[569]

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[567] Ibid., 265.

[568] Ibid., 286.

[569] Ibid., 289. Emphasis added.

Nonetheless, even when the cybernetic movement of speculative capital creates its own image of endlessly expanding, self-reflexive interior of capitalist world, the 'outside' still tangibly exists. Thus, the seemingly immaterial and self-sufficient world engendered by the self-reinforcing repetition of reenactment is still vulnerable to becoming out-of-joint again anytime by the emergence of materiality. In other words, while the plane highjacked by the enactor loops in the air drawing the shape of an infinity sign at the end of the novel, the seemingly eternal movement should be cut and collapsed when it runs out of fuel. Or, like capitalism which is a great deterritorialization machine, the 'parts' and 'bits' of the plane might hit the enactor's head again, prompting the novel to start all over again and again.

Enacting Subjectivity: Creative Capitalism and the Characterization in Never Let Me Go

As we have seen in chapter two, the artistic critique both inside and outside of the corporate world has brought about the aestheticization of capitalism since the early 1970s. The scientific and disciplinary mode of managerialism was not only criticized as dehumanizing and repressive by the '60s countercultural movements, it was also deemed anachronistic and counterproductive to respond to the increasing unpredictability and contingency in the market by corporate executives. Since then, corporations have increasingly pursued 'creativity' as an indispensable quality for successful business operation, which led to "a movement from art as a trope for management activity, to art as the objective of management."[570] This movement has also caused a shift in the image of a model worker into a self-controlling and self-managing individual passionately devoting themselves to work as a form of self-expression. In short, the

[570] Harney, "The Creative Industries Debate," 434.

artist has become a figure of the model employee. Accordingly, as I mentioned before, now corporations are hiring artists with no previous business experience and the recruiters are visiting top art schools, instead of MBA programs, looking for talent. In this aestheticized mode of contemporary capitalism, "the rule has changed: the MFA is the new MBA."[571]

In Kazuo Ishiguro's *Never Let Me Go*, we encounter art students at a boarding-school-like institution called Hailsham. They take art lessons, bring books everywhere they go, work hard on their art and poetry, and enjoy "meandering discussions around the table about Kafka or Picasso."[572] Furthermore, they are even taught how to exchange and sell their artworks at the trainee version of Art Fairs called 'Exchange' and 'Sales.' Art is a mandatory part of their education, and from early age they internalize that 'being creative' is critical to earn social credit. As an unspoken rule, as Kathy says, "how you were regarded at Hailsham, how much you were liked and respected, had to do with how good you were at 'creating.'"[573] Among these students, Kathy stands out in her keen ability to read the situation, to find patterns, to analyze characters, and to examine the plot to see if everything fits together. As an ardent reader herself, she sees "the signs before most of the others"[574] and, as Tommy says with astonishment, she "notice[s] everything"[575] as a good English student is supposed to do. Miss Emily, the former head of Hailsham, praises Kathy several times for being 'a mind-reader' when she meets her after they all left Hailsham. And reading someone's mind is, of course, the most desired talent in corporate

[571] Pink, *A Whole New Mind,* 54.

[572] Ishiguro, *Never Let Me Go*, 119.

[573] Ibid., 16.

[574] Ibid., 21.

[575] Ibid., 23.

culture—like reading trends, reading customers' needs—so, it is no wonder Kathy is one of the best 'carers,' and the institution is aware of that. In short, Hailsham prepares its students to turn into a group of most qualified artist-workers, except that, as it gradually unfolds, they are 'clones' reared only to become disposable bio-resources.

Then, what was all the art education for? Kathy also asks Miss Emily towards the end of the novel: "Why did we do all of that work in the first place? Why train us, encourage us, make us produce all of that? If we're just going to give donations anyway, then die, why all these lessons? Why all those books and discussions?"[576] The answer to this question is in Kathy herself, an art student and clone worker, who survives longer than any other fellow Hailsham students, and whose way of approaching, appropriating, and producing art mirrors the way capital employs and exploits it.

Given that Kathy is an outstanding English student with exceptional close-reading and analytical skills, the meandering and weirdly looping structure of her own narrative confounds the reader. Her narrative is pulled back to her reflections on past memories too often, and its accumulation constitutes the entire plot of *Never Let Me Go*. Fragments of memories are linked to each other by Kathy's signature-phrase "Anyways," while the inconsistency or contradiction in narrative does not seem to bother her. Most of all, as many reviewers have complained, the looping movement of her narrative does not seem to get anywhere, possessing little sense of development, growth, or conclusion. However, it is not only in the narrative structure of *Never Let Me Go* that we find this repetitive circular movement. Almost every artistic activity the students enjoy at Hailsham or at the Cottage demonstrates the same looping structure. Whatever

[576] Ibid., 259.

activity they do—reading novels, watching videos, listening to tapes, or thinking about their essays—they love to go back, repeat and re-live it. Kathy spends "a lot of time re-reading passages from books … going over the lines again and again,"[577] and when she listens to her favorite song, she keeps the tape wound to a spot and "listen[es] to it again and again."[578] Kathy describes the scene where the Hailsham students watch videos together: "There'd be a chant of: "Rewind! Rewind!" until someone got the remote and we'd see the portion again, sometimes three, four times."[579]

In "Living in the Loop," Diedich Diederichsen writes that before we moved beyond a Fordist mode of production—when social climbing was something still feasible and there was room to go up—"Everyone wanted to move forward, and now the loop is the central formal modus operandi of cultural production. … The loop is not mere opposite of meaningful history, nor is it simply the eternal return. The latter implies a process that once it began, it would not return to its starting point, but unfortunately it does exactly that: returning to the beginning every time, like a bad infinity. The friends and enemies of a philosophy of history have long wrestled over this. But the loop knows no process, it has never promised to go anywhere."[580] Returning to the beginning and starting it all over again is exactly what Kathy does with her ever-incomplete essay on Victorian novels as well as with her narrative. Whenever she goes back to her essay, what she enjoys is not making progress but "sitting there, going through it all again" with "a

[577] Ibid., 99.

[578] Ibid., 70.

[579] Ibid., 99.

[580] Diederichsen, "Living in the Loop."

completely new approach I [she] could have taken."[581] For the clones in *Never Let Me Go*, moving forward only means to 'complete'—to die—after going through several surgeries to harvest their organs. There is no room for them to go anywhere. And living in the loop is a system they evolved to deal with this traumatic life. Thus, it is no surprise the books Kathy chooses to read for Tommy are *The Odyssey* and *One Thousand and One Nights*. And it's also no surprise that she says she doesn't even really enjoy reading Victorian novels and has nothing much to say about them.

What matters to Kathy is neither the content of the novel nor the actual lyrics of her favorite song, but the external form of repetition that creates a sense of uniqueness and identity. By listening to a spot of the song again and again, by going through the loop of revisiting, reflecting, and retelling the past, it becomes something meaningful and unique for her. What is produced in this process of a positive feedback loop is a kind of passive individuality created by the micro-changes out of the bare repetition. As Diederichsen writes, "[u]susally, noticing you're going in circles implies that you are lost. But, many find this quite pleasant" because "[t]hanks to its supple and reliable consistency, our micro-changes suddenly become larger, and the world around the loop begins to grow."[582] Indeed, Kathy cherishes such micro-privileges and -changes—the puny sense of ownership of a mass-produced cassette tape or the feeble privilege to have "my bedsit, my car, above all, the way I get to pick and choose who I look after"[583] as she says—which gives reason for her to keep going. Plus, creativity, art, and narrativization

[581] Ishiguro, *Never Let Me Go*, 116.

[582] Diederichsen, "Living in the Loop."

[583] Ishiguro, *Never Let Me Go*, 4.

make this looping movement all the more enjoyable and easier, and Kathy is the one who finds it 'quite pleasant.' As a result, her narrative fails to 'get anywhere' and becomes a grotesque mimicry of the genre—a bildungsroman without a growth, a love story without love, and a science fiction without a future—but Kathy, just like most of us working in the office treadmill, finds it okay as long as she can keep going, even if deep down she knows she is not really getting anywhere.

Yet, the fact that she *knows* is crucial here. For, in her traumatizing ontological status denied of a full subjectivity, it is the ironic distance she maintains that enables her to somehow still manage to carry out the function of a subject. Hailsham students, as clones reared to 'donate' their organs, are born to be "a subject that doubts its ability to be a subject"; yet, it is also a general condition for the contemporary capitalist (ironized-)subject that "constantly misunderstands itself"[584] in its paradoxical status, as we have seen in chapter three. Therefore, the ontological dilemma of the clones in *Never Let Me Go* does not point to the problem of the bioethics of cloning or a critique of biopolitical dominance—leaving the technical issues of bioengineering such as how these clones are created or how they survive several donations untended, the novel does not hide its disinterest in this matter. Instead, what *Never Let Me Go* is doing is an enactment of the process in which capitalism fosters a new form of subjectivity and the cybernetic logic that creates and operates these ironized subjectivities.

Indeed, the process by which Kathy comes to embody the irony of a discredited subject, learns to enjoy the bare repetition, and becomes a model artist-worker with self-control and self-management, is fundamentally cybernetic. The repetitive looping movements found in her

[584] Sloterdijk, *Not Saved*, 78.

narrative structure are iterated in numerous micro-structures in the novel, as we have seen above, which is also the central operational logic of the contemporary capitalist system. Thus, it is not a coincidence that Herman Kahn said in an interview *One Thousand and One Nights* was one of his favorite stories, the book which Kathy goes back to time and again and whose structure also shapes Kathy's own narrative. Indeed, *On Thermonuclear War*, Kahn's nuclear war preparation scenarios developed at RAND, had "a Scheherazade-like architecture of nested stories that promised to continue indefinitely"[585]—something that Kathy, or any of the Hailsham students, would prefer. And the interviewer added: "Hermann Kahn may feel that, by inventing one Scenario after another, he is holding back the changes that would seal our doom."[586] The looping movements in the students' art projects, day dreaming, and games create a fictional sense of endlessness, ever-expanding alternate possibilities and worlds, which would delay the doomed moment for them to have to face reality. Kathy's meandering narrative enacts this cybernetic feedback movement that mirrors Kahn's scenario generator, while the textual microcosms re-enact the novel's enactment of this mechanical feedback loop of an ironized subjectivity, creating a multifaceted double-structure of enactment in *Never Let Me Go*.

Thus, despite Kathy's unquestionable thoughtfulness, creativity, and imagination, if her narrative makes one doubt her humanness, it is not because she is nonhuman, but too human—too close to the actual human condition functioning as a mere subject-effect in the contemporary capitalist world. Yet, as an ironized subject, what makes her exceptional is her ability to keep the ironic balance between *knowing but not knowing*. Even in the childhood games the Hailsham

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[585] Ghamari-Tabrizi, *The Worlds of Herman Kahn*, 203.

[586] William McWhirter, "'I Am One of the 10 Most Famous Obscure Americans,'" *Life,* 6 December 1968, 126.

students play to find refuge in fictional world-building—such as the imaginary horse game or Miss Geraldine's secret guards game—Kathy knows she "shouldn't get so serious about it"[587] and it is just "a bit of fun pretending."[588] However, unlike Kathy, Ruth "always wanted to believe in things," Kathy recollects. In the imaginary childhood games, finding her 'original,' and talking about their 'dream future,' Ruth never knows how to keep an ironic distance from their performing, or pretending, to be normal, to have a future to live, and to have a full subjectivity. She always "take[s] … these harmless daydreams a step further,"[589] sometimes takes it "further than anybody,"[590] which is probably why she 'completes' earlier than her fellow students, unable to survive the ironized world.

To the contrary, Tommy simply does not know how to pretend. His puzzlement, frustration, anger, or sadness is always, and almost immediately, manifested on his body even before he can verbalize it. And it makes Kathy and other students *embarrassed*. When all the other students are pretending not to know even when deep down they know their partial ontological status, Tommy's body registers in his uncontrollable tantrums the moments when their traumatized reality and comforting fictions confront each other—echoing the enactor's 'tingling' in *Remainder* when the speculation hits the boundary of the real. This unfiltered physical materialization of his anger, which does not know irony or cynicism, reveals the superficiality of Hailsham students' ironized status as subjects—which they want to avoid facing through careful euphemisms, daydreaming, and joking—thus making them embarrassed like kids

[587] Ishiguro, *Never Let Me Go*, 165.

[588] Ibid., 166.

[589] Ibid., 60.

[590] Ibid., 143.

caught in a silly game. In the sense of expressing one's true self through an artwork, Tommy might be the only true artist in *Never Let Me Go*; but, again, who survives to the end is Kathy. In fact, she does not even really care about art in the first place, especially art as the demonstration of one's inner self or revelation of soul. Tommy and Miss Emily repeatedly preach this idea, for the former naively and the latter hypocritically. However, when Kathy first hears it, she remembers a drawing Laura did of her intestines and laughs. And that is probably why Kathy is allowed to keep going a few more years: because she doesn't take art too seriously, but she is savvy enough to make good use of it. Creativity and story-telling—the artistic talents she has—are only useful tools for her to keep going as an exceptional worker, making the mechanical repetitive process more bearable or even 'quite pleasant.' For, as Kathy says, she knew not to go too far: "The fantasy never got beyond that—I didn't let it."[591]

Enacting Connectivity: Techno-Capitalism and Point of View in Open City

The narrative of *Open City* is strictly tied to the perspective of the Nigerian American first-person narrator, Julius, who presents himself for most of the novel as a perceptive and reliable cosmopolitan thinker, observer, aesthete, and intellectual. He rambles around the streets of New York and Brussels, musing on philosophy, literature, politics, and art with mature sensitivity and understanding (he reads Barthes, Deleuze, De Man, Said and loves to talk about Mahler, Chardin, Velázquez among many others), while encountering multifarious life stories from different geo-political locations, cultures, and histories all over the world.[592] The stories of

[591] Ibid., 288.

[592] In "Reading Alongside the Market: Affect and Mobility in Contemporary American Fiction," Peter Vermeulen describes the narrator "as an early twenty-first-century update of the figure of the *flâneur*, an aesthete who uniquely manages to engage with the realities of the modern city without fully surrendering

cosmopolitan suffering he comes upon and that populate his narrative constitute an encyclopedia of the history of violence in the modern world: the buried history of American natives; slavery; Holocaust; Armenian genocide; American imperialism and Hezbollah, Hamas, Al-Qaeda; African refugees and immigrants in Europe; the ongoing postcolonial exploitation between old European powers and African countries; and on and on. And he listens to all these stories with an incredible grasp of historical and contextual knowledge, political sensitivity, and balanced perspective, which indeed seems to make him an ideal cosmopolitan citizen of the globalized modern world.

Thus, when *Open City* was first published in 2011, most of the critics read the book as an exemplary cosmopolitan novel that embodies a polyphonous space where different cultures, histories, and races meet and converse. It was celebrated as "a proclamation of our age's disintegration of borders," as a reviewer says, making "the kinds of borderless connections between lives in different parts of the world that many of us have long been craving to see reflected in our literature." In other words, *Open City* was considered a novel that finally provides a due depiction of our endlessly connected world—"The city of his novel is blown wide open as our world these days is blown wide open"[593]—and a corresponding cosmopolitan ethics that could foster even more transcendence of national, cultural, and social boundaries. As another reviewer decidedly asserts, it is "precisely what literature should do: it brings together thoughts and beliefs, and blurs borders."[594]

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to them, and who exemplifies a cosmopolitan ethos that thrives on intercultural curiosity and on the virtues of the aesthetics" (281).

[593] Chantal James, "Open Questions in an Open City," *Paste*, 22 May 2012. URL = https://www.pastemagazine.com/articles/2012/05/open-city-by-teju-cole.html.

[594] Miguel Syjuco, "These Crowded Streets," *New York Times*, 25 February 2011. URL = https://

Although there might be some disagreement as to whether 'blurring borders' is what we need in literature now, undermining the novel's self-image as a celebration of global connectivity comes from nothing other than the novel's unfolding of narrative itself. As the plot goes on, the extreme connectivity across vast geo-political and cultural differences and the narrator's dexterity and the ease with which he handles them start to come across as awkward or uncomfortable, creating a sense of intensity, or even creepiness. From the beginning of the novel, for example, connecting with others beyond one's comfortable boundaries is *too easy* for the narrator. After musing upon his new habit to watch migrating birds and listening to overseas internet stations whose language he does not understand, he confidently states "it wasn't at all difficult to draw the comparison between myself, in my sparse apartment, and the radio host in his or her booth, during what must have been the middle of the night somewhere in Europe. Those disembodied voices remain connected in my mind, even now, with the apparition of migrating geese."[595] While leaving readers to wonder if he is speaking in a mocking cynicism or sincerity, as his rambling continues, his amazing ability to connect gains more practical and even ethical utility. Even when he has to engage himself with torturing personal stories and agonizing instances of injustice, he somehow always manages to retain the reassuring patience, calmness, and detachedness. As some reviewers read, it first feels like "a productive alienation"[596] that demonstrates his intellectual matureness, but soon starts to appear increasingly awkward and *inhuman*, when he promptly moves from one story to another with no sign of difficulty or

www.nytimes.com/2011/02/27/books/review/Syjuco-t.html

[595] Cole, *Open City*, 5.

[596] James Wood, "The Arrival of Enigmas," *New Yorker*, 28 February 2011. URL = https://www.newyorker.com/magazine/2011/02/28/the-arrival-of-enigmas.

emotional remnants, as if he could switch the circuit anytime he wants, while always remaining connected in the circuit of the network.

However, it is not until the end of the novel that the reader's increasing suspicion of the inhumanness of his narrative is corroborated. When Moji—whom the narrator casually introduces to the reader in passing comments as a childhood friend's sister and includes in his story now and again—reveals that she was raped by him in the past and the narrator simply dismisses her confrontation with silence and moves on to a lengthy musing on the beauty of Mahler's symphony, the reader painfully realizes the hollowness of his sophisticated cosmopolitanism and the superficiality of his purportedly sincere encounters with the other. It turns out the narrator has never been truly connected to any of the stories or persons with which he has populated his entire narrative. All the heartfelt stories of global sufferings just went *through* him as if a machine processed a series of information. He patiently and faithfully listens to and records the stories, but despite the plethora of communication and confrontations with the global others, it is clear that nothing has really changed or actually affected him.

In *The Soul at Work*, Franco Berardi discusses how the expanded connectivity and abundance of information under the current capitalist mode does not necessarily lead to a self- or world-transforming experience of the other, but rather works in the opposite way by turning the ever-increasing voices from the outside world into a kind of "white noise." Berardi writes, the "infocratic regime of Semiocapital found … its power on overloading: accelerating semiotic flows which let sources of information proliferate until they become the white noise of the indistinguishable, of the irrelevant, of the unintelligible" while the "hyper-stimulation of attention reduces the capacity for critical sequential interpretation, but also the time available for

the emotional elaboration of the other."[597] Thus, the problem of the cosmopolitan world of *Open City* is not the narrator's disconnection to the outside world or the deficiency of connection to the other, but that he is *too well connected* to everything. The loose emplotment that freely rambles about different geo-political locations, cultures, and histories might be interpreted as an embodiment of democratic heteroglossia, but it does not lead to any meaningful transformation of the narrator, and rather reinforces the perpetual mechanical operation of his self-enclosed world.

Therefore, even if the world of *Open City* seems "blown wide open," it is a false sense of openness generated by the endless self-reflexive movement of the algorithmic digital connectivity under techno-capitalism, in the same way that Sloterdijk criticizes the self-reflexive and narcissistic world-experience of the West, incessantly creating "the global capitalist interior"[598] by which cosmopolitanism becomes "the provincialism of the pampered."[599] The narrative mode of *Open City* mimics and enacts this ever-expanding-interior-creating movement of techno-capitalism, turning the real life experiences into mere information to be processed and circulated. Indeed, throughout the novel, the narrator's constant mobilization of attention, overloaded accounts of unrelated materials, vastness of scope, speedy transition, aesthetic delivery and stylization mark the characteristic of the internet age turned into a form of narrative structure, which creates an appeal to a sort of utopian open connectivity. Yet, at the end, it only reveals that the narrator is not an empathetic listener to the heartfelt stories, but rather a story-

[597] Berardi, *The Soul at Work,* 183.

[598] Sloterdijk, *In the World Interior of Capital*, 195.

[599] Ibid., 196.

processing machine the goal of which is only to keep connecting regardless of what it is connecting. As Neal Curtis rightly points out, such technical connectivity leads us to "not having oneself refigured through exposure to the outside world, but refiguring the outside world according to one's personal taste,"[600] and as a result, "you get stuck in a static, ever-narrowing version of yourself - an endless you-loop."[601]

What *Open City* enacts is the formation of this "you-loop," not only the "you" as a paranoid schizophrenic individual living in his self-enclosed reality, but the "you" as the system itself working like a huge data server through which reality is processed into information that can be adapted for its own versions of reality or simply passed through the system with no relevance. When the operation of this "you-loop" in the narrator—or, the story-processing-machine—is revealed through his first person narrative, it stages the bare mechanical process of its self-reflexive and self-sufficient movement, perplexing readers and creating an eerie sense in them as if one is experiencing the Uncanny Valley. The novel deliberately builds the expectation—however precarious and unstable purposefully at the same time—that the readers are entering the interiority of an intellectual, politically-sensitive, and open-minded global citizen and will experience heartfelt moments of connection with the other. Yet, it soon turns into a puzzlement and frustration with a realization that, while they are told so many incredible stories with historical importance and personal agonies, yet nothing sufficient to call 'an event' ever happens in the narrator's inner life. Hence, *Open City*'s first-person point of view evacuates human subjectivity and works as a hollow empty space through which the bits and pieces of information

[600] Curtis, *Idiotism*, 134.

[601] Eli Pariser, *The Filter Bubble: What the Internet is Hiding from You* (London: Penguin, 2011), 16; cited in Curtis, *Idiotism*, 136.

come and go, sometimes with professional commentary or contextual side notes, as the Internet often does. Thus, the inhumanness of the narrator does not come from his lack of moral responsibility—although he does lack it—rather it is because he does not function as a fictional rendering of an individuality which changes and grows in communication with his surrounding world, but as an enactor of what the contemporary techno-capitalism is doing: networking, data-processing, incessant connecting and commenting.

As we can see in the first paragraph of the novel, which begins with him saying "And so" followed by a maze of street names, his walking routes, and confusing directions, his narration—which is an enactment of information processing—is always already happening with no regard for its listener, content, or coherence and without an intention to actually get to know the lived experiences carried out inside the recorded stories. In this sense, his prose style of delivering the stories of others, which "is not marked by quotation marks, dashes, or paragraph breaks and is formally indistinguishable from the narrator's own language," which James Wood wants to read as a sign of the lyrical prose tradition, only denotes the cybernetic flattening of beings when they exist only as a node in the system. Wood is right to say "what moves the prose forward is not event or contrivance but … the desire to write"[602]; yet, again, it is far from an empathetic desire to listen to and record the individual histories of the other, rather it is more like a mechanical tendency to keep doing what it is set to do. In this way, *Open City*'s mechanical and inhuman narrative mode—although what it carries is full of aesthetic sensitivity and historical awareness—enacts the digital connectivity of current techno-capitalism, which boasts unlimited instant access to everything and ultimately turns everything meaningless. Thus, again, what we should ask is not "What does it mean?" but "What does it do?" And, only then, what the novel is

[602] Wood, "The Arrival of Enigmas."

trying to delineate—the ways in which techno-capitalism fetishizes the delusional self-image of open connectivity while actually foreclosing it through depoliticizing aestheticization and informatization of socio-cultural relations—would appear to us as it is.

BIBLIOGRAPHY

Adorno, Theodor W. *Aesthetic Theory.* Edited and translated by Robert Hullot-Kentor, Minneapolis: University of Minnesota Press, 1997.

---. *Minima Moralia: Reflections from a Damaged Life*. Translated by E.F.N. Jephcott, New York: Verso, 1974.

Andersson, Jenny. *The Future of the World: Futurology, Futurists, and the Struggle for the Post-Cold War Imagination.* Oxford: Oxford University Press, 2018.

Ashby, W. John. "The Effect of Controls on Stability." *Nature,* no. 155, 24 February 1945.

Atkinson, David M. *Thinking the Art of Management: Stepping into 'Heidegger's Shoes.'* Hampshire: Palgrave, 2007.

Barry, David and Michael Elmes. "Strategy Retold: Toward a Narrative View of Strategic Discourse." *The Academy of Management Review*, vol. 22, no. 2, 1997, pp. 429-30.

Barthes, Roland. *Image, Music, Texts*. Translated by Stephen Heath, New Yok: Hill and Wang, 1977.

Bateson, Gregory. *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology.* Chicago: University of Chicago Press, 2000.

Beer, Anthony Stafford. *Cybernetics and Management*. London: English Universities Press, 1959.

---. Preface. *Autopoiesis and Cognition: The Realization of the Living*, by Humberto R. Maturana and Francisco J. Varela. Boston Studies in the Philosophy of Science, vol. 42, Dordrecht: D. Reidel, 1980.

Bell, Daniel. *The Cultural Contradictions of Capitalism.* New York: Basic Books, 1976.

---. "Introduction." *The Year 2000: A Framework for Speculation on the Next Thirty-Three Years,* by Herman Kahn and Anthony J. Wiener. New York: McMillan, 1967.

Beniger, James R. *The Control Revolution: Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press, 1986.

Berardi, Franco. *The Soul at Work: From Alienation to Autonomy*. New York: Semiotext(e), 2009.

Bernes, Jasper. *The Work of Art in the Age of Deindustrialization*. Stanford: Stanford University Press, 2017.

Bilodeau, Barbara and Darrel K. Rigby. "A Growing Focus on Preparedness." *Harvard Business Review*, July – August 2007. https://hbr.org/2007/07/a-growing-focus-on-preparedness.

Blanton, C.D., Colleen Lye, and Kent Puckett. "Introduction." *Representations,* vol. 126, no.1, Spring 2014, pp. 1-8.

Boje, David M. "Storytelling in Systemicity and Emergence: A Third Order Cybernetic*." The Routledge Companion to Organizational Change*. Edited by David M. Boje, Bernard Burnes and John Hassard, London: Routledge, 2011.

---. *Storytelling Organizations.* Los Angeles: SAGE Publications, 2008.

---. "The Storytelling Organization: A Study of Story Performance in an Office-Supply Firm." *Administrative Science Quarterly*, vol. 36, no.1, 1991, pp. 106-126.

Boltanski, Luc and Eve Chiapello. *The New Spirit of Capitalism.* Translated by Gregory Elliott, London: Verso, 2007.

Borges, Jorge Luis. *Collected Fictions.* Translated by Andrew Hurley, New York: Penguin, 1999.

Briggs, B. Bruce. *Supergenius: The Mega-Worlds of Herman Kahn*. New York: North American Policy Press, 2000.

Brouillette, Sarah. "Academic Labor, the Aesthetics of Management, and the Promise of Autonomous Work." *nonsite,* no. 9, 1 May 2013. https://nonsite.org/article/academic-labor-the-aesthetics-of-management-and-the-promise-of-autonomous-work.

---. *Literature and the Creative Economy*. Stanford: Stanford University Press, 2014.

Brown, Nicholas. "Close Reading and the Market." *Literary Materialisms*. Edited by Mathias Nilges and Emilio Sauri. New York: Palgrave, 2013, pp. 145-165.

Buckermann, Paul. "Communication / Control / Communism: On Socialist Cybernetics, Accelerationist Dreams, and Tiqqun's Nightmares." *INC Longform,* 19 December 2016. http://networkcultures.org/longform/2016/12/19/communication-control-communism-on-socialist-cybernetics-accelerationist-dreams-and-tiqquns-nightmares/.

Bühlmann, Vera. *Mathematics and Information in the Philosophy of Michel Serres.* London: Bloomsbury Academic, 2020.

Caldwell, Bruce. *Hayek's Challenge: An Intellectual Biography of F.A. Hayek.* Chicago: University of Chicago Press, 2004.

Carroll, Lewis. *Sylvie and Bruno Concluded*. London: McMillan, 1893.

Chermack, Thomas J. *Scenario Planning in Organizations: How to Create, Use, and Assess Scenarios.* San Francisco: Berrett-Koehler, 2011.

Chermack, Thomas J. and Laura Coons. "Exploring the Arts of Crafting and Delivering Scenarios." *International Journal of Technology Intelligence and Planning,* vol. 8, no.3, 2012, pp. 233-253.

Cohen, Stanley and Laurie Taylor, *Escape Attempts: The Theory and Practice of Resistance in Everyday Life*. London: Routledge, 1992.

Cole, Teju. *Open City*. New York: Random House, 2012.

"Commission on the Year 2000." *American Academy of Arts and Sciences*. https://www.amacad.org/ archives/gallery/commission-year-2000.

Curtis, Neal. *Idiotism: Capitalism and the Privatisation of Life*. London: Pluto Press, 2012.

Cybernetics: the Macy Conferences 1946-1953. Edited by Claus Pias, Zurich-Berlin: Diaphanes, 2003.

Davis-Floyd, Robbie E. ""Storying Corporate Futures: The Shell Scenarios." *Corporate Futures: The Diffusion of the Culturally Sensitive Corporate Form*. Edited by George E. Marcus, Chicago: University of Chicago Press, 1998, pp. 141-176.

De Ciantis, Cheryl. *Using an Art Technique to Facilitate Leadership Development*. Greensboro, NC: Center for Creative Leadership, 1995.

Deleuze, Gilles. *Negotiations: 1972-1990*. Translated by Martin Joughin, New York: Columbia University Press, 1995.

Deleuze, Gilles, and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia, Volume I.* Translated by Robert Hurley et al., Minneapolis: University of Minnesota Press, 1983.

DeLillo, Don. *Cosmopolis*. New York: Scribner, 2003.

---. *Underworld: A Novel*. New York, Scribner, 1997.

Denning, Stephen. *The Leader's Guide to Storytelling: Mastering the Art and Discipline of Business Narrative.* San Francisco: Jossey-Bass, 2005.

Derrida, Jacque. *Of Grammatology.* Translated by Gayatri Spivak, Baltimore: The Johns Hopkins University Press, 1976.

Diederichsen, Diedrich. "Living in the Loop." *Fillip* 14, Summer 2011. https://fillip.ca/content/living-in-the-loop.

---. “People of Intensity, People of Power: The Nietzsche Economy.” *E-Flux*, no. 19, Oct. 2010. https://www.e-flux.com/journal/19/67482/people-of-intensity-people-of-power-the-nietzsche-economy/.

---. “Persecution and Self-Persecution: The SPUR Group and Its Texts: The Neo-Avant-Garde in the Province of Postfascism.” *Grey Room*, no. 26, Winter 2007, pp. 56-71.

Diederichsen Diedrich, and Anselm Franke. Interview by Ana Teixeira Pinto. “The Whole Earth: In Conversation with Diedrich Diederichsen and Anselm Franke.” *E-Flux,* no. 45, May 2013. https://www.e-flux.com/journal/45/60114/the-whole-earth-in-conversation-with-diedrich-diederichsen-and-anselm-franke/.

Draper, Hal. *Berkeley: The New Student Revolt*. New York: Grove Press, 1965.

Egan, Jennifer. *A Visit from the Goon Squad.* New York: Anchor Books, 2010.

Elliot, Jane. “Suffering Agency: Imagining Neoliberal Personhood in North America and Britain.” *Social Text*, vol. 31, no. 2, Summer 2013, pp. 83-101.

Ellis, Bret Easton. *American Psycho*. New York: Vintage, 1991.

Fenton, Christopher and Ann Langley. “Strategy as Practice and the Narrative Turn.” *Organization Studies*, vol. 32, no. 9, pp. 1171-1196.

Fink, Steven. *Crisis Management: Planning for the Inevitable*. New York: American Management Association, 1986.

Fisher, Mark and Jeremy Gilbert. “Capitalist Realism and Neoliberal Hegemony: A Dialogue.” *New Formations,* vol. 80-81, 2013, pp. 89-101.

Flowers, Betty Sue. “The Art and Strategy of Scenario Writing.” *Strategy and Leadership,* vol. 31, no. 2, 2003, pp. 29-33.

Foerster, Heinz Von. *Understanding Understanding: Essays on Cybernetics and Cognition.* New York: Springer, 2003.

40 Years of Shell Scenarios. Netherlands: Royal Dutch/Shell, 2013. http://s05.static-shell.com/content/dam/shell-new/local/corporate/corporate/downloads/pdf/shell-scenarios-40yearsbook080213.pdf.

Franklin, Seb. *Control: Digitality as Cultural Logic*. Cambridge, MA: MIT Press, 2015.

---. “*Repetition; Reticulum*; Remainder.” *Novel: A Forum on Fiction*, vol. 50, no. 2, Summer 2017, pp. 157-175.

Franzen, Jonathan. *The Corrections.* New York: Picador, 2002.

Frey, John P. “Scientific Management and Labor.” *The American Federationist,* XXIII (1), January 1916.

Galison, Peter. “The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision.” *Critical Inquiry,* vol. 21, no. 1, 1994, pp. 228-266.

Galloway, Alexander R. “The Cybernetic Hypothesis.” *differences: A Journal of Feminist Cultural Studies*, vol. 25, no. 1, 2014, pp. 107-131.

Geoghegan, Bernard Dionysius. “From Information Theory to French Theory: Jakobson, Lévi-Strauss, and the Cybernetic Apparatus.” *Critical Inquiry*, vol. 38, no. 1, 2011, pp. 96-126.

Gerovitch, Slava. *From Newspeak to Cyberspeak: A History of Soviet Cybernetics.* Cambridge, MA: MIT Press, 2002.

Ghamari-Tabrizi, Sharon. *The Worlds of Herman Kahn: The Intuitive Science of Thermonuclear War*. Cambridge, Mass.: Harvard University Press, 2005.

Glanville, Ranulph. “Second Order Cybernetics.” *Systems Science and Cybernetics Volume III*, edited by Francisco Parra-Luna, Oxford: Eolss Publishers, 2009, pp. 59-86.

Grant, Ian Hamilton. Introduction. *Libidinal Economy*, by Jean-Francois Lyotard, translated by Iain Hamilton Grant, Bloomington: Indiana University Press, 1993, pp. xvii-xxxiv.

Griffith, Erin. “Why Are Young People Pretend to Love Work?” *The New York Times*, 26 Jan 2019. https://www.nytimes.com/2019/01/26/business/against-hustle-culture-rise-and-grind-tgim.html/.

Guillet de Monthoux, Pierre and Barbara Czarniawska-Joerges. Eds. *Good Novels, Better Management: Reading Organizational Realities in Fiction*. Chur: Harwood Academic Publishers, 1994.

Habermas, Jurgen. *Philosophical Discourses of Modernity: Twelve Lectures.* Translated by Frederick Lawrence, Cambridge: Polity, 1990.

Hammond, Debora. “Systems Theory and Practice in Organizational Change and Development.” *Traditions of Systems Theory: Major Figures and Contemporary Developments*, edited by Darrell P. Arnold, New York: Routledge, 2014, pp. 326-344.

Haraway, Donna J. "The Biological Enterprise: Sex, Mind, and Profit from Human Engineering to Sociobiology." *Simians, Cyborgs, and Women: The Reinvention of Nature.* New York: Routledge, 1991, pp. 43-70.

Harney, Stefano. “The Creative Industries Debate,” *Cultural Studies,* vol.24, no.3, 2010, pp. 431-444.

Harvey, David. *A Brief History of Neoliberalism*. Oxford: Oxford University Press, 2005.

Hayek, Friedrich. A. *The Fatal Conceit: The Errors of Socialism.* London: Routledge, 1988.

---. "The Sensory Order after 25 Years." *Cognition and the Symbolic Processes*, vol. 2, edited by W.B. Weiner and D.S. Palermo, Hillsdale, NJ: Erlbaum, 1982, pp. 287-293.

---. *Law, Legislation, and Liberty Vol. 3: The Political Order of a Free People*. Chicago: University of Chicago Press, 1979.

Hayles, N. Katherine. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press, 1999.

Heidegger, Martin. *Zollikon Seminars: Protocols - Conversations - Letters*, edited by Medard Boss, Illinois: Northwestern University Press, 2001.

---. "The End of Philosophy and the Task of Thought." *On Time and Being*. Translated by John Stambaugh, Chicago: University of Chicago Press, 1972.

Heims, Steve J. *The Cybernetics Group*. Cambridge, MA: MIT Press, 1991.

---. *John von Neumann and Norbert Wiener: From Mathematics to the Technologies of Life and Death*. Cambridge, MA; MIT Press, 1980.

Heise, Ursula K. "What's the Matter with Dystopia?" *Public Books*, 1 Feb 2015. https://www.publicbooks.org/whats-the-matter-with-dystopia/.

---. "Postmodern Novels." *The Cambridge History of the American Novel*, edited by Leonard Cassuto, Clare Virginia Eby and Benjamin Reiss. Cambridge: Cambridge UP, 2011, pp. 964-985.

Heisenberg, Werner. *Physics and Philosophy: The Revolution in Modern Science*. New York: Harper, 2007.

Hobbes, Thomas. *Leviathan: On the Matter, Form, and Power of a Commonwealth Ecclesiastical and Civil,* edited by Michael Oakeshott, New York: Macmillan, 1962.

Hoffman, Carl. "Now 0-for-3, SpaceX's Elon Musk Vows to Make Orbit." *Wired*, 8 May 2008. https://www.wired.com/2008/08/musk-qa/.

Holmes, Brian. "The Affectivist Manifesto: Artistic Critique in the 21st Century," Nov 2008. https://brianholmes.wordpress.com/2008/11/16/the-affectivist-manifesto/.

Hoxie, Robert F. *Scientific Management and Labor*, New York: D. Appleton & Co., 1915.

Huehls, Mitchum and Rachel Greenwald Smith, eds. *Neoliberalism and Contemporary Literary Criticism.* Baltimore: Johns Hopkins University Press, 2017.

Jagoda, Patrick. *Network Aesthetics*. Chicago: University of Chicago Press, 2016.

James, Chantal. "Open Questions in an Open City." *Paste*, 22 May 2012. https://www.pastemagazine.com/articles/2012/05/open-city-by-teju-cole.html.

Jameson, Fredric. *The Cultural Turn: Selected Writings on the Postmodern 1983-1998.* New York: Verso, 1998.

---. *The Antinomies of Realism*. New York: Verso, 2013.

Johansen, Emily and Alissa G. Karl. "Introduction: Reading and Writing the Economic Present." *Textual Practice,* vol. 29, no. 2, Mar 2015, pp. 201-214.

Kahn, Herman. "A Methodological Framework: The Alternative World Futures Approach." *The Essential Herman Kahn: In Defense of Thinking*. Edited by Paul Dragos Aligica and Kenneth R. Weinstein, Lanham, MD: Lexington, 2009.

Kahn, Herman and Anthony J. Wiener. *The Year 2000: A Framework for Speculation on the Next Thirty- Three Years.* New York: McMillan, 1967.

Kellner, Douglas. Introduction to the Second Edition. *One-Dimensional Man*, by Herbert Marcuse, 2nd ed., Boston: Beacon Press, 1991, pp. xi-xxxix.

Kelly, Kevin. "Computational Metaphor." *Whole Earth*, no. 95, 1998, p. 5.

Kim, Sung Ho. "Max Weber." *The Stanford Encyclopedia of Philosophy,* Winter 2019 ed., edited by Edward N. Zalta. https://plato.stanford.edu/archives/win2019/entries/weber/.

Kleiner, Art. *The Age of Heretics: A History of the Radical Thinkers Who Reinvented Corporate Management*. San Francisco: Jossey-Bass, 2008.

---. "The Man Who Saw the Future." *strategy+business,* no. 30, Spring 2003. https://www.strategy-business.com/article/8220?gko=4447f.

Kornbluh, Anna. *Realizing Capital: Financial and Psychic Economies in Victorian Form.* New York: Fordham University Press, 2014.

Kristeva, Julia. "Semiotics: A Critical Science and/or a Critique of Science." *The Kristeva Reader*. Translated by Sean Hand, edited by Toril Moi, New York: Columbia University Press, 1986, pp. 74-88.

Lang, Trudy and Lynn Allen. "Reflecting on Scenario Practice: The Contribution of a Soft Systems Perspective." *Business Planning for Turbulent Times: New Methods for*

Applying Scenarios. Edited by Rafael Ramírez, John W. Selsky, and Kees van der Heijden, Sterling, VA: Earthscan Publications, 2008, pp. 47-64.

Larsen, Lars Bang. "Zombies of Immaterial Labor: The Modern Monster and the Death of Death," *E-Flux*, no. 15, Apr. 2020.

Latour, Bruno. *Reassembling the Social: An Introduction to Actor-Network-Theory.* Oxford: Oxford University Press, 2005.

Lee, Chang-Rae. *On Such a Full Sea*. New York: Riverhead Books, 2014.

Lévi-Strauss, Claude. "Language and the Analysis of Social Laws." *Structural Anthropology*. Translated by Claire Jacobson and Brooke Grundfest Schoepf, New York: Basic Books, 1963.

Liu, Lydia. "The Cybernetic Unconscious: Rethinking Lacan, Poe, and French Theory." *Critical Inquiry,* vol. 36, no. 2, Winter 2010, pp. 288-320.

Locke, John. *Of Civil Government: Two Treaties*. London: J. M. Dent, 1924.

Luhmann, Niklas. *The Reality of the Mass Media*. Translated by Kathleen Cross, Stanford, CA: Stanford University Press, 2000.

---. "How Can the Mind Participate in Communication?" *Materialities of Communication.* Edited by Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Stanford: Stanford University Press, 1994, pp. 371-387.

Lyotard, Jean-Francois. *Libidinal Economy*. Translated by Iain Hamilton Grant, Bloomington: Indiana University Press, 1993.

Malthus, Thomas Robert. *An essay on the principle of population, or, A view of its past and present effects on human happiness: with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions*, 1798/1803, edited by Donald Winch, Cambridge: Cambridge University Press, 1992.

Marcuse, Herbert. *One-Dimensional Man*, 2nd ed., Boston: Beacon Press, 1991.

---. *Eros and Civilization: A Philosophical Inquiry into Freud*. Boston: Beacon Press, 1974.

Mari, Francesca. "Cosmic Realism." *New Republic,* 27 May 2008. https://newrepublic.com /article/62425/cosmic-realism.

Marshall, Kate. "What Are the Novels of Anthropocene?: American Fiction in Geological Time." *American Literary History*, vol. 27, no. 3, Fall 2015, pp. 523 -538.

Martin, Roger M. and Tony Golsby-Smith. "Management is Much More Than a Science: The Limits of Data-Driven Decision Making." *Harvard Business Review*, September – October 2017, pp. 129-135.

Maturana, Humberto R. and Francisco Varela. *Autopoiesis and Cognition: The Realization of the Living*. Boston Studies in the Philosophy of Science, vol. 42, Dordrecht: D. Reidel, 1980.

---. *The Tree of Knowledge: The Biological Roots of Human Understanding*. Boston: New Science Library, 1987.

McCarthy, Cormac. *No Country for Old Men*. New York: Vintage, 2005.

---. *The Road*. New York: Vintage, 2006.

McCarthy, Tom. *Remainder.* New York: Vintage, 2007.

---. *Satin Island*. New York: Alfred A. Knopf, 2015.

---. "The Radical Ambiguity of Tom McCarthy." Interview by Clodagh Kinsella. *Dossier*, 22 July 2009.

McGuigan, Jim. *Cool Capitalism*. London: Pluto Press, 2009.

McGurl, Mark. "The Novel's Forking Path." *Public Books*, 1 Apr 2015. https://www.publicbooks.org/the-novels-forking-path/.

---. "Posthuman Comedy." *Critical Inquiry,* vol. 38, no. 3, Spring 2012, pp. 533-553.

McLaughlin, Robert. Review of *Cosmopolis*. By Don DeLillo. *Review of Contemporary Fiction,* vol. 23, no.2, 2003, p. 120.

Medina, Eden. *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile.* Cambridge, MA: MIT Press, 2011.

---. "Designing Freedom, Regulating a Nation: Socialist Cybernetics in Allende's Chile." *Journal of Latin American Studies*, vol. 38, no. 3, 2006, pp. 571-606.

Michaels, Walter Benn. "Going Boom." *Book Forum*, February/March 2009. https://www.bookforum.com/print/1505/the-economic-collapse-points-up-how-little-our-literary-world-has-to-say-about-social-inequality-3274.

Mills, C Wright. *The Sociological Imagination*. Oxford: Oxford University Press, 1990.

Mindell, David A. *Between Human and Machine: Feedback, Control, and Computing before Cybernetics*. Baltimore: Johns Hopkins University Press, 2002.

Mirowski, Philip. *Machine Dreams: Economics Becomes a Cyborg Science*. Cambridge: Cambridge University Press, 2002.

Mitchell, David. *Could Atlas*. New York: Random House, 2004.

---. *The Bone Clocks.* New York: Random House, 2014.

Morrison, Toni. *Beloved.* New York: Knopf, 1987.

Mumford, Lewis. *The Myth of the Machine: Technics and Human Development*. New York: Harcourt Brace and World, 1967.

Nealon, Jeffrey T. *Post-Postmodernism: Or, the Cultural Logic of Just-In-Time Capitalism*. Stanford, CA: Stanford UP, 2012.

Ngai, Sianne. *Ugly Feelings.* Cambridge: Harvard University Press, 2005.

Nilges, Mathias. "Neoliberalism and the Time of the Novel." *Textual Practice*, vol.29, no. 2, Mar 2015, pp. 357-377.

Ozeki, Ruth. *A Tale for the Time Being: A Novel.* New York: Penguin Books, 2013.

Parker, Marjorie. *Creating Shared Vision: The Story of a Pioneering Approach to Organizational Revitalization*. Clarendon Hills, IL: Dialog International Ltd., 1990.

Peters, Benjamin. "Normalizing Soviet Cybernetics." *Information & Culture: A Journal of History,* vol. 47, no. 2, 2012, pp. 145-175.

Peters, John Durham. "'You Mean My Whole Fallacy Is Wrong': On Technological Determinism." *Representations,* vol. 140, no. 1, Fall 2017, pp. 10-26.

Pickering, Andrew. *The Cybernetic Brain: Sketches of Another Future.* Chicago: University of Chicago Press, 2010.

Pickett, Neil. *A History of Hudson Institute*. Indianapolis: The Institute, 1992.

Pink, Daniel H. *A Whole New Mind: Why Right-Brainers Will Rule the Future*. New York: Penguin, 2006.

Propp, Vladimir. *Morphology of the Folktale*, 2nd ed. Translated by Laurence Scott, Austin, TX: University of Texas Press, 2009.

Puckett, Kent. "RAND Narratology." *Representations*, vol. 149, no. 1, Winter 2020, pp. 31-72.

Rabinbach, Anson. *The Human Motor: Energy, Fatigue, and the Origins of Modernity.* New York: Basic Books, 1990.

Ramirez, Rafael and Angela Wilkinson. *Strategic Reframing: The Oxford Scenario Planning Approach.* Oxford: Oxford University Press, 2016.

Read, Jason. *The Micro-Politics of Capital: Marx and the Prehistory of the Present*. Albany: State University of New York Press, 2003.

Rhodes, Carl and Andrew D. Brown. "Narrative, Organizations and Research." *International Journal of Management Reviews*, vol. 7, no. 3, 2005, pp. 167-188.

Ricardo, David. *The Principles of Political Economy and Taxation.* London: J. M. Dent, 1911.

Ripley, Brian D. *Stochastic Simulation.* New York: John Wiley and Sons, 1987.

Rosenblueth, Arturo and Norbert Wiener. "Purposeful and Non-purposeful Behavior." *Philosophy of Science,* vol. 17, no. 4, 1950, pp. 318-326.

Roth, Philip. *The Plot Against America*. New York: Houghton Mifflin, 2004.

Saldívar, Ramón. "The Second Elevation of the Novel: Race, Form, and the Postrace Aesthetic in Contemporary Narrative." *Narrative,* vol. 21, no. 1, January 2013, pp. 1-18.

---. "Historical Fantasy, Speculative Realism, and Postrace Aesthetics in Contemporary American Fiction." *American Literary History*, vol. 23, no. 3, Fall 2011, pp. 574-599.

Sampson, Anthony. *The Seven Sisters: The Great Oil Companies and the World They Shaped.* New York: Viking Press, 1975.

Scearce, Diana, Katherine Fulton, and the Global Business Network community. *What If?: The Art of Scenario Thinking for Nonprofits.* Emeryville, CA: Global Business Network, 2004.

Scenarios: An Explorer's Guide. The Hague: Shell International, 2008.

Schoemaker, Paul J.H. "Scenario Planning: A Tool for Strategic Thinking." *Sloan Management Review,* vol. 36, no. 2, Winter 1995, pp. 25-40.

Schoemaker, Paul J.H. and C.A.J.M. van de Heijden. "Integrating Scenarios into Strategic Planning at Royal Dutch/Shell." *Planning Review*, vol. 20, no. 3, 1992, pp. 41-46.

Schwartz, Peter. *The Art of the Long View: Planning for the Future in an Uncertain World.* New York: Currency Doubleday, 1991.

Scott, Bernard. "Second-Order Cybernetics: An Historical Introduction." *Kybernetes,* vol. 33, no. 9-10, 2004, pp. 1365-1378.

Shannon, Claude and Warren Weaver. *The Mathematical Theory of Communication.* Urbana: University of Illinois Press, 1949.

Siskin, Clifford. *System: The Shaping of Modern Knowledge*. Cambridge, MA: MIT Press, 2016.

Sloterdijk, Peter. *What Happened in the 20th Century?* Translated by Christopher Turner, Cambridge: Polity, 2018.

---. *Not Saved: Essays After Heidegger*. Translated by Ian Alexander Moore and Christopher Turner, Cambridge: Polity, 2017.

---. *In the World Interior of Capital*. Translated by Wieland Hoban, Cambridge: Polity, 2013.

Smith, Adam. *Essays on Philosophical Subjects: The Glasgow Edition of the Works and Correspondence of Adam Smith*, 1795, edited by D. D. Raphael and A. S. Skinner, Oxford: Clarendon Press, 1980.

---. *An Inquiry into the Nature and Causes of the Wealth of Nations*, 1776, edited by Edwin Cannan, Chicago: University of Chicago Press, 1977.

Smith, Zadie. "Two Paths for the Novel." *The New York Review of Books*, 20 Nov 2008. https://www.nybooks.com/articles/2008/11/20/two-paths-for-the-novel/.

---. *White Teeth*. New York: Vintage, 2000.

Stewart, James B. "A Reporter at Large: Eight Days, The Battle to Save the American Financial System." *New Yorker*, 21 September 2009. https://www.newyorker.com/magazine/2009/09/21/eight-days/.

Syjuco, Miguel. "These Crowded Streets." *New York Times*, 25 February 2011. https://www.nytimes.com/2011/02/27/books/review/Syjuco-t.html

Tally Jr., Robert T. "In the Deserts of Cartography: Building, Dwelling, Mapping." *The Map and the Territory: Exploring the Foundations of Science, Thought and Reality*. Edited by Shyam Wuppuluri and Francisco Antonio Doria. Förlag: *Springer* International Publishing, 2018.

Thompson, E. P. "Time, Work-discipline, and Industrial Capitalism." *Past & Present*, vol. 38, 1967, pp. 56-97.

Tiqqun. "L'Hypothèse cybernétique." *Tiqqun,* no. 2, 2001, pp. 40-83.

Tobak, Steve. "Facebook's Mark Zuckerberg—Insights For Entrepreneurs." *CBS News*, 31 October 2011. https://www.cbsnews.com/news/facebooks-mark-zuckerberg-insights-for-entrepreneurs/.

Turing, Alan M. “Computing Machinery and Intelligence.” *Mind*, vol. LIX, no. 236, 1950, pp. 433-460.

Turner, Fred. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago: University of Chicago Press, 2006.

Van der Heijden, Kees. *Scenarios: The Art of Strategic Conversation*, 2nd Ed. Chichester: John Willey & Sons, 2005.

---, et al. *The Sixth Sense: Accelerating Organizational Learning with Scenarios*. Chichester: John Wiley and Sons, 2002.

Vermeulen, Freek. “Strategy is the Story.” *London Business School Review,* vol. 23, no.3, 2012, pp. 55-57.

Vermeulen, Peter. *Contemporary Literature and the End of the Novel: Creature, Affect, Form*. Basingstoke: Palgrave Macmillan, 2015.

---. “Reading Alongside the Market: Affect and Mobility in Contemporary American Migrant Fiction.” *Textual Practice*, vol.29, no. 2, Mar 2015, pp. 273-293.

Virilio, Paul. *Speed and Politics*. Los Angeles: Semiotext(e), 2007.

Vogl, Joseph. *The Ascendancy of Finance*. Translated by Simon Garnett, Cambridge: Polity, 2017.

---. *The Specter of Capital*. Translated by Joachim Redner and Robert Savage, Stanford: Stanford University Press, 2015.

Von Foerster, Heinz. “On Self-Organizing Systems and Their Environments.” *Understanding Understanding: Essays on Cybernetics and Cognition.* New York: Springer, 2003.

Wack, Pierre. “Scenarios: Uncharted Waters Ahead.” *Harvard Business Review*, September - October 1985, pp. 73-89.

---. “Scenarios: Shooting the Rapids.” *Harvard Business Review,* November - December 1985, pp. 139-150.

Wark, McKenzie. *Molecular Red: Theory for the Anthropocene*. London: Verso, 2015.

---. “The Sublime of Language of My Century.” *Public Seminar*, 14 May 2016. https://publicseminar.org/2016/05/the-sublime-language-of-my-century/.

Waters, Christina. “Invitation to dance: a conversation with H. Von Foerster.” *Cybernetics & Human Knowing*, vol. 6., no. 4, 1999, pp. 81-84.

Watt, Ian. *The Rise of the Novel: Studies in Defoe, Richardson and Fielding*. Berkeley: University of California Press, 1957.

Weber, Max. *The Theory of Social and Economic Organization*. Edited by Talcott Parsons, New York: The Free Press, 1964.

---. *Max Weber: Essays in Sociology.* Translated and edited by H.H. Gerth and C. Wright Mills, New York: Oxford University Press, 1946.

Wellbery, David E. "The General Enters the Library: A Note on Disciplines and Complexity." *Critical Inquiry*, vol. 35, no.4, 2009, pp. 982-996.

Whitehead, Colson. *Zone One*. New York: Anchor Books, 2011.

Wiener, Norbert. *Cybernetics: Or Control and Communication in the Animal and the Machine*, 2nd ed., Cambridge, MA: MIT Press, 1965.

---. *I Am a Mathematician: The Later Life of a Prodigy*. Cambridge, MA: MIT Press, 1964.

Wilkinson, Angela and Roland Kupers. "Living in the Futures: How Scenario Planning Changed Corporate Strategy." *Harvard Business Review*, May 2013, pp. 118-127.

---. *The Essence of Scenarios: Learning from the Shell Experience.* Amsterdam: Amsterdam University Press, 2014.

Williams, R. John. "World Futures." *Critical Inquiry,* vol. 42, no. 3, Spring 2016, pp. 473-546.

Windle, Ralph. *The Poetry of Business Life: An Anthology*. San Francisco: Berrett-Koehler, 1994.

Wood, James. "Human, All Too Inhuman." *The New Republic*, 23 Jul 2000. https://newrepublic.com/article/61361/human-inhuman.

---. "The Arrival of Enigmas." *New Yorker*, 28 February 2011. https://www.newyorker.com/magazine/2011/02/28/the-arrival-of-enigmas.

Woodward, J. Brian and Colin Funk. "Developing the Artist-leader." *Leadership,* vol. 6, no. 3, 2010, pp. 295-309.

Wright, George and George Cairns. *Scenario Thinking: Preparing Your Organization for the Future in an Unpredictable World.* New York: Palgrave Macmillan, 2011.

Yamashita, Karen Tei. *Tropic of Orange: A Novel*. Minneapolis, MN: Coffee House, 1997.

Ziemann, Benjamin. "The Theory of Functional Differentiation and the History of Modern Society." *Soziale System,* vol. 13, no. 1-2, 2007, pp. 220-229.