

UC Irvine

UC Irvine Previously Published Works

Title

Patent Performativity

Permalink

<https://escholarship.org/uc/item/8x11v9wr>

Journal

Journal of Intellectual Property Law, 29(2)

Author

Burk, Dan

Publication Date

2022-05-16

Peer reviewed

PATENT PERFORMATIVITY

*Dan L. Burk**

* Chancellor's Professor of Law, University of California Irvine. My thanks to Jessica Lai, Carrie Menkel-Meadow, Kara Swanson, and to participants in the August 12, 2020 Intellectual Property Scholar's Conference Patent Law II panel session for comments on a previous version of this paper.

TABLE OF CONTENTS

I.	INTRODUCTION	282
II.	PERFORMATIVITY THREE WAYS.....	285
	A. AUSTINIAN PERFORMATIVITY.....	286
	B. BUTLERIAN PERFORMATIVITY	288
	C. BARNESIAN PERFORMATIVITY	291
III.	HOW TO DO THINGS WITH PATENTS.....	294
	A. PATENT ILLOCUTION.....	296
	B. PATENT PERLOCUTION	300
IV.	ENACTING PATENTS.....	304
	A. PERFORMING DETACHMENT	305
	B. PERFORMING IMMATERIALITY.....	307
	C. PERFORMING HIERARCHY.....	309
	D. PERFORMING EXTRACTION.....	311
	E. PERFORMING EXCLUSION	313
V.	CONCLUSION.....	316

I. INTRODUCTION

Patents are typically justified as a means to provide critical incentives for technical progress, and as a vehicle to offer a crucial gateway to recognition and remuneration when commercializing new technologies.¹ The exclusive rights conveyed by a patent are said to offset the effortless appropriability of the patented technology, safeguarding the financial return on investments in technical innovation. The public is said to trade 20 years of exclusivity in return for the development and disclosure of beneficial discoveries. In order to ameliorate the restrictive effects of such exclusivity, patents are reserved for significant new advances, which then pass into the public domain for general use once the exclusive incentive period ends.

The efficacy of patents in achieving these ends is sometimes questioned.² But one failure of patenting that is clearly *not* in question is the underrepresentation of women in every aspect of the patent system, and their sparse participation in whatever benefits patents in fact confer.³ The empirical evidence of a manifest gender disparity in patenting is overwhelming. Relatively few patents include women as named inventors.⁴ Women constitute a very small minority of registered patent attorneys.⁵ Women who have made a discovery or scientific advance are less likely than their male counterparts to consider patenting.⁶ Women's applications for patents are more likely to be rejected by the United

¹ See Dan L. Burk, *Law and Economics of Intellectual Property: In Search of First Principles*, 8 ANN. REV. L. & SOC. SCI. 397, 407 (2012).

² Mark A. Lemley, *Faith-Based Intellectual Property*, 62 UCLA L. REV. 1328, 1331 (2015); JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS AND LAWYERS PUT INNOVATORS AT RISK, 164 (2008).

³ See generally Holly Fechner & Matthew S. Shapanka, *Closing Diversity Gaps in Innovation: Gender, Race, and Income Disparities in Patenting and Commercialization of Inventions*, 19 TECH. & INNOVATION 727, 727-29 (2018) (summarizing studies on the patent gender gap).

⁴ OFF. OF THE CHIEF ECON., U.S. PAT. & TRADEMARK OFF., PROGRESS AND POTENTIAL 2020 UPDATE ON U.S. WOMEN INVENTOR-PATENTEES 4, at 3-4 (July 2020), <https://www.uspto.gov/sites/default/files/documents/OCE-DH-Progress-Potential-2020.pdf>;

OFF. OF THE CHIEF ECON., U.S. PAT. & TRADEMARK OFF., PROGRESS AND POTENTIAL: A PROFILE OF WOMEN INVENTORS ON U.S. PATENTS 2, at 3-5 (Feb. 2019), <https://www.uspto.gov/sites/default/files/documents/Progress-and-Potential-2019.pdf>; Gema Lax Martinez et al., *Identifying the Gender of PCT Inventors 2* (World Intell. Prop. Org., Economic Research Working Paper No. 33, 2016), https://www.wipo.int/edocs/pubdocs/en/wipo_pub_econstat_wp_33.pdf.

⁵ Saurabh Vishnubhakat, *Gender Diversity in the Patent Bar*, 14 J. MARSHALL REV. INTELL. PROP. L. 67, 80-82 (2014).

⁶ Francesco Lissoni et al., *Inventorship and Authorship as Attribution Rights: An Enquiry into the Economics of Scientific Credit*, 95 J. ECON. BEHAV. & ORG. 49, 51-52 (2013); Kjersten Bunker Whittington & Laurel Smith-Doerr, *Women Inventors in Context: Disparities in Patenting Across Academia and Industry*, 22 GENDER & SOC'Y 194, 201-04 (2008); Waverly W. Ding et al., *Gender Differences in Patenting in the Academic Life Sciences*, 313 SCI. 665, 665 (2006).

States Patent Office.⁷ The deficit of patents in women's hands is believed to curtail their entrepreneurial or business opportunities.⁸

In the face of such compelling disparity, some have begun to respond. Numerous empirical studies have documented different dimensions of the patent gender gap, both domestically and internationally.⁹ Some institutional reactions have also begun to appear. Both the United States Patent Office and the World Intellectual Property Organization have taken note of the deficit in female engagement with patents and have instituted programs either to educate or to invite female participants.¹⁰ A small but growing scholarly literature had called attention to the problem.¹¹ Proposals have been made for procedural or doctrinal adjustments to attract female participation in patenting.¹²

Such efforts, while commendable, are very late arrivals. When recounting the history of action and ideas toward female social equality, we commonly speak of the shifting focus of scholarship and activism in "waves" running from the nineteenth century into the twenty-first. Naturally (and somewhat appropriately) the trajectory of feminist reform is far messier and far less discrete than such divisions would suggest. But if we are not too fastidious about pristine demarcations, we might speak generally of a "first wave" of feminist sentiment, devoted to establishing some basic social parity for women, such as the right to vote, the right to hold property, the right to enter into contracts, and similar formal recognition of female autonomy.¹³ A "second wave" of discourse and action expanded and deepened these efforts, recognizing structural and implicit gender biases in the majority of social institutions.¹⁴ A further "third wave" of

⁷ Kyle Jensen et al., *Gender Differences in Obtaining and Maintaining Patent Rights*, 36 NAT. BIOTECH. 307, 307–08 (2018).

⁸ Paula E. Stephan & Asmaa El-Ganainy, *The Entrepreneurial Puzzle: Explaining the Gender Gap*, 32 J. TECH. TRANSFER 475, 486 (2007); see also Dana Kanze et al., *We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding*, 61 ACAD. MGMT. J. 586 (2018) (showing that patents are a capital need that female entrepreneurs are questioned about).

⁹ See, e.g., Cassidy R. Sugimoto et al., *The Academic Advantage: Gender Disparities in Patenting*, 10 PLOS ONE 2 (2015); Jennifer Hunt et al., *Why Are Women Underrepresented Amongst Patentees?*, 42 RES. POL'Y 831 (2013); Ranier Frietsch et al., *Gender Specific Patterns in Patenting and Publishing*, 38 RES. POL'Y 590 (2009); Fiona Murray & Leigh Graham, *Buying Science and Selling Science: Gender Differences in the Market for Commercial Science*, 16 INDUS. & CORP. CHANGE 657 (2007).

¹⁰ See *supra* note 4 and sources cited therein.

¹¹ Kara W. Swanson, *Intellectual Property and Gender: Reflections on Accomplishments and Methodology*, 24 AM. U.J. GENDER, SOC. POL'Y & L. 175, 175–77 (2015) (reviewing the development of legal scholarship on intellectual property and gender).

¹² Jessica Lai, *Patents and Gender: A Contextual Analysis*, 10 QUEEN MARY J. INTELL. PROP. 283, 283–85 (2020); Miriam Bitton-Marcowitz et al., *Unregistered Patents & Gender Inequality*, 43 HARV. J.L. & GENDER 47 (2020); Dan L. Burk, *Diversity Levers*, 23 DUKE J. GENDER L. & POL'Y 25 (2015).

¹³ See Leslie Bender, *A Lawyer's Primer on Feminist Theory and Tort*, 38 J. LEGAL ED. 3, 12–13 (1988) (describing first wave feminism).

¹⁴ *Id.* at 13–14 (describing second wave feminism).

activity re-envisioned feminist goals, emphasizing “intersectionality” or the connections to broader themes of social justice for subordinated groups.¹⁵

During what we might consider the late second and early third waves of feminist activity, most areas of law came under scrutiny¹⁶, initially for explicit bias against women, and later, once many of the obvious explicit forms of discrimination had been ostensibly eliminated, for implicit bias against women.¹⁷ Criminal law, family law, employment law, bankruptcy, corporate law, and numerous other areas were examined.¹⁸ That process remains ongoing today. But as I and other commentators have observed, such scrutiny somehow passed intellectual property law by.¹⁹ In particular, patent law until recently escaped any serious consideration of gendering, misogyny, and related bias.²⁰

Consequently, we might regard recent initiatives to include more women within the patent system to constitute largely first wave propositions or at best very early second wave propositions. Examples of these propositions include preliminary, basic, and fundamental efforts to secure equal participation and recognition for women as inventors, patent agents, and patent administrators. Although the patent system entails no explicit prohibitions on female participation, and there at present is no explicit social stigma in female patenting, we are only now beginning to lay the foundation that would allow gender parity in the patent system. And, given past experience in laying and building on such foundations, we might expect that, as has proved to be the case in every other area of law, equal participation will be a contested and contestable metric, and meaningful female participation will be stymied by a complex network of underlying social impediments.

Some scrutiny of patents beyond fundamental, first wave propositions is therefore needed. Without accessing the frameworks provided in other areas by second- and third-wave feminist scholars, efforts toward gender equity in patent law, like past efforts in other areas, are likely to founder on unseen obstructions in the institutional structures being reformed. Patent law may be well behind in correcting its biases, but tardiness offers the opportunity to learn from what has been done elsewhere. In particular, to paraphrase Judith Butler, before embarking on reform of the patent gender gap, we ought to consider the futility of a remedial program that seeks to radically transform the innovation situation

¹⁵ See Bridget J. Crawford, *Toward a Third-Wave Feminist Legal Theory: Young Women, Pornography and the Praxis of Pleasure*, 14 MICH. J. GENDER & L. 99, 108–11 (2007).

¹⁶ See Dan L. Burk, *Copyright and Feminism in Digital Media*, 14 AM. U. J. GENDER, SOC. POL'Y & L. 519, 520 (2006) (describing how intellectual property was overlooked in successive waves of feminist legal scrutiny).

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Kara W. Swanson, *Intellectual Property and Gender: Reflections on Accomplishments and Methodology*, 24 AM. U. J. GENDER SOC. POL'Y & L. 175, 179 (2015).

²⁰ *Id.*

of women without first considering whether innovation is socially constructed in such a way that women are, by definition, handicapped in innovating.²¹

The purpose of this essay is therefore largely remedial. My thesis here is that patents are performative, in the sense that they *enact what they disclose*, in the sense that they *create their own social facts*. In order to demonstrate this, I trace the development of performativity theories, from their Austinian beginnings to their application as a general theory of action in the social world²², showing how each perspective illuminates the nature and function of the patent system.²³ I then illustrate what it means to perform patenting, to perform invention, and to perform innovation within the constraints of our present system, suggesting how patenting is structured to continually recreate its own fundamental assumptions. Recognizing the patent system's performative character in turn suggests that closing the gender gap will not be a simple matter of encouraging more female scientists and engineers to think about patenting. Finally, I close with some thoughts as to how this understanding might guide and temper future efforts to address the patent gender gap.

II. PERFORMATIVITY THREE WAYS

The concept of performativity has evolved over time; in fact, it may be legitimately said that the term now encompasses at least three different meanings or usages. The initial concept labeled as performativity originated with John Austin's influential *How To Do Things With Words*, in which he proposed a framework for considering expression as social action.²⁴ Austin's insights were later expanded and re-oriented by Judith Butler into an equally influential framework for considering the formation of identity in a broader social context.²⁵ Finally, these analyses provided the foundation for general sociological application of their principles to understand the fabrication of social reality.²⁶ Here, I briefly sketch the major features and implications of each of these approaches, and their intersections with one another, as background to examining how patents behave within each of their frameworks.

²¹ See Judith Butler, *Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory*, 40 THEATRE J. 519, 523 (1988).

²² See J.L. AUSTIN, HOW TO DO THINGS WITH WORDS, Lecture XI, at 134 (1975); Nicolas Brisset, *The Future of Performativity*, 7 ECONOMIA 439, 443 (2017).

²³ With apologies to Ed Kitch, with whom this exposition will be almost entirely at odds. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

²⁴ AUSTIN, *supra* note 22.

²⁵ See generally Irene Rafanell, *Durkheim and the Performative Model: Reconfiguring Social Objectivity*, in SOCIOLOGICAL OBJECTS: THE RECONFIGURATION OF SOCIAL THEORY 59, 62–66 (Geoff Cooper, Andrew King & Ruth Rettie eds., 2009) (tracing the development of performativity from Austin to Butler to Barnes).

²⁶ *Id.*

A. AUSTINIAN PERFORMATIVITY

Austin was interested in defining and exploring qualities of language, and in particular in understanding classes of expression that he termed “speech acts,” which are not so much communicative or descriptive as they are operative. His work divides expression into constative and performative categories; the former comprises statements *about* the world, such as “the United States Court of Appeals for the Federal Circuit principally sits in a federal courthouse in Washington, D.C.” These can be judged as true or false. In contrast, performative statements such as a federal judge announcing, “The defendant is found liable for patent infringement,” may be said to intervene in the world, changing it from one state to another. Because of their operational nature, performative utterances are neither true nor false, but are rather effective or ineffective—in Austin’s terminology, felicitous or infelicitous.²⁷ Performatives affect what they express, for example changing the status of a defendant to that of infringer, with all the attendant implications of liability and blame. Thus, for Austin, performative utterances do not simply *mean* what they say, but actually *do* what they say.

Austin showed that in expressing or articulating language, we are engaged not only in communicating content, but in social action. Communication is of course itself a type of action, and arises from physical action, so speaking entails a set of acts that Austin styled as locutionary, illocutionary, and perlocutionary. Thus, when Sir Lancelot declares, “I dub thee Sir Galahad, knight of the Round Table,” the physical act of utterance or expression (together with accompanying taps with the flat of his blade on the subject’s shoulder) constitutes the locution. The subject’s change in social status from squire to knight constitutes the illocutionary act, and the results of that change—being referred to as “Sir,” sitting in the Siege Perilous, wearing gold spurs—constitute the perlocutionary acts from the utterance. Illocutionary effects are said to be constitutive, to constitute the condition expressed, whereas perlocutionary effects are said to be causal, a follow-on result of the illocution.

Austin’s work was subsequently amplified and interpreted by John Searle, who divided illocutionary expression into five categories, depending on the nature of their illocutionary effects: representatives, expressives, directives, commissives, and declarations.²⁸ The first four of these, respectively, make assertions about the world, indicate the speakers’ thoughts or attitudes, direct action by others, or commit the speaker to a course of action. Of particular interest to this discussion is the final category, which are the category in which illocutionary performatives are to be found—declarative statements that change the state of the world according to their content.²⁹

²⁷ AUSTIN, *supra* note 22, at 14.

²⁸ John R. Searle, *A Classification of Illocutionary Acts*, 5 LANG. SOC’Y 1 (1976).

²⁹ John R. Searle, *How Performatives Work*, 12 LINGUISTICS & PHIL. 535, 552–53 (1989).

Austin's framework has particular resonance in law, where performative utterances abound,³⁰ from contractual performatives such as "I promise to sell you broiler chickens at one dollar a piece"³¹ to "I convey a life estate in Blackacre to my daughter" to the judicial declaration that a bulldozer is a "building,"³² to any number of statutory or regulatory declarations.³³ Each of these statements, uttered under the proper conditions, serves to alter the legal (and hence social) state of the world.³⁴ Note that some such statements sit in more than one category simultaneously, such as the contractual offer to sell that is both a commissive statement and declarative statement: the contractual offer to sell both commits the speaker to a particular course of action while simultaneously changing the status and responsibilities of the speaker and the intended recipient.³⁵

It should also be immediately clear that for any of these expressions to change the state of the world, they must be spoken by the proper person under the proper conditions. For utterances to acquire illocutionary force, they must be promulgated under what Austin terms felicitous conditions; pronouncing Galahad a knight has no effect unless the utterance comes from one recognized as having the authority to confer that social status. Also, the recipient of knighthood must usually be drawn from a certain social class, must have access to a horse and weapons, must have completed training as an esquire, and so on. Similarly, an estate in Blackacre is not conveyed unless expressed via recognized processes; depending on the jurisdiction this may require witnesses, or recordation, or other formalities. Pronouncements that fail the necessary felicity conditions are ineffective, or as Austin would put it, infelicitous.³⁶

The contribution of necessary felicity conditions to the operation of illocutionary acts means that such utterances are dependent upon recognized, existing social structures for their performative force.³⁷ Thus, illocutionary force

³⁰ See Charles Bazerman, *Performatives Constituting Value: The Case of Patents*, in *THE CONSTRUCTION OF PROFESSIONAL DISCOURSE* 42, 44 (Britt-Louise Gunnarsson, Per Linnell & Bengt Norberg eds., 1997) (cataloging performative utterances in law).

³¹ Cf. *Frigalment Importing Co. Ltd. v. BNS Int'l Sales Corp.*, 190 F.Supp. 116 (S.D.N.Y. 1960) (determining the intended meaning of the term "chicken" in a commercial contract).

³² See *Commonwealth v. Plowman*, 86 S.W.3d 47 (Ky. 2002) (holding that a bulldozer is a "building" for purposes of the Kentucky arson statute).

³³ See Lawrence Solum, *Communicative Content and Legal Content*, 89 *NOTRE DAME L. REV.* 479, 485 (2013) (discussing various legal utterances as Austinian speech acts).

³⁴ See Julie Stone Peters, *Legal Performance Good and Bad*, 4 *L. CULT. & HUMANITIES* 179, 185 (2008).

³⁵ Nicholas Greenwood Onuf, *Expressive Speech: Response to Renee Marlin-Bennett*, in *THE ART OF WORLD-MAKING: NICHOLAS GREENWOOD ONUF AND HIS CRITICS* 157, 158 (Henry D. Gould ed., 2017).

³⁶ AUSTIN, *supra* note 22, at 42.

³⁷ Ekaterina Svetlova, *Performativity and Emergence of Institutions*, in *ENACTING DISMAL SCIENCE: NEW PERSPECTIVES ON THE PERFORMATIVITY OF ECONOMICS* 183, 190 (Ivan Boldyrev & Ekaterina Svetlova eds., 2016).

depends not upon the form of the utterance of expression so much as upon that form's embeddedness in existing institutions.³⁸ The illocutionary speech act functions to invoke and coordinate associated social elements.³⁹

We might also observe that illocutionary effects encompass those that are necessary to the performance, and perlocutionary effects encompass those that are contingent.⁴⁰ Once Galahad is dubbed a knight, the enhanced regard given to him by others in society is a necessary or constitutive effect; without immediate social recognition of his status, he is not a knight. Seating at the Round Table or wearing gold spurs are contingent effects; it may be possible to function as a knight without these follow-on results. Similarly, in law, Blackacre is only transferred if established convention necessarily recognizes the effect of its bequest.⁴¹ That change may secondarily impact the tax assessment or postal service associated with Blackacre, but such perlocutionary effects are not essential to the performance of the bequest.⁴²

B. BUTLERIAN PERFORMATIVITY

A second formulation of performativity comes from Judith Butler, whose influential work moves the term out of the realm of linguistics or semiotics, reorienting our understanding of Austin's observations on social action. Butler shows how social actors become the object or *result* of social action rather than the subject or originators of social action.⁴³ This framework explains not only how meaning is made, but how identities are made. According to Butler, the stylized and repeated language, gestures, signs, and meanings of social actors come to constitute social reality.⁴⁴ In particular, identity is constituted through the constraints and expectations of sustained social performances.⁴⁵ She famously uses this approach to understand the nature of gender. Specifically, she argues that reiterated and constrained performances of gender fabricate an identity according to the norms that it both invokes and sustains.⁴⁶

Butler draws explicitly on theatrical concepts to show how gender identity is enacted.⁴⁷ Much like the roles in a dramatic script, gender is only realized as it is

³⁸ Sybille Krämer, *Connecting Performance and Performativity: Does it Work?*, in ENCOUNTERS IN PERFORMANCE PHILOSOPHY 223, 223–24 (Laura Cull & Alice Lagaay eds., 2014).

³⁹ Svetlova, *supra* note 37, at 190.

⁴⁰ Brisset, *supra* note 22, at 441–42.

⁴¹ *Id.* at 442.

⁴² *Id.*

⁴³ Butler, *supra* note 21, at 519; *see also* Candace West & Don H. Zimmerman, *Doing Gender*, 1 GENDER & SOC'Y 125, 129 (1987) (arguing that gender is constituted through social interaction).

⁴⁴ Butler, *supra* note 21, at 519.

⁴⁵ *Id.* at 520.

⁴⁶ *Id.*

⁴⁷ *Id.* at 521.

performed.⁴⁸ The crux of Butler's argument is that there is no prior or preexistent identity over which gender is layered; rather, gender subsists in the process of its own enactment.⁴⁹ Rather than constituting a state that exists in the world prior to its articulation, gender constitutes a performance that occurs in conjunction with, and as part of, its articulation.⁵⁰ Indeed, the core component of the enactment of gender is the social fiction of interiority, which occurs as it is performed.⁵¹ The expectation of gender itself becomes a reflexive determinant of gender as it is adopted and repeated by its subjects.⁵²

At the same time, Butler cautions that performativity cannot be reduced to mere performance.⁵³ In Butler's framework, because there is no prior existing identity to adopt the performative role, the identity must be fabricated out of the repetition and re-inscription of the norms that constitute the performance.⁵⁴ Thus, performativity is not enactment of a role in the sense that there is a prior subject who assumes the persona, but rather is a role in the sense that enactment only has meaning by virtue of references and citations to commonly shared tropes, norms, and institutions.⁵⁵ *King Lear* can only be understood to the extent that an audience knows something of monarchy, aging, parenting, trust, and betrayal.

Social performances of gender, therefore, become accepted and constitutive of identity by means of acting out or staging particular behaviors that become common expectations.⁵⁶ Performative effects are not merely reinforced by repeated performances, but are re-established with each performance.⁵⁷ Performativity, therefore, "is a matter of reiterating or repeating the norms by which one is constituted . . ." ⁵⁸ Enactments are stabilized by their reference to established social norms.

Butler's formulation of performativity invokes convention, referencing and relying on prior performances, while supporting and anticipating future felicitous performances in a chain of normative practice.⁵⁹ Social enactments, such as gender, accumulate legitimacy and force through citation to prior authoritative sets of practices.⁶⁰ This is not to say that norms are determinative of identity in

⁴⁸ *Id.* at 526-27.

⁴⁹ *Id.* at 519, 528; *see also* West & Zimmerman, *supra* note 43, at 126 (arguing that gender is "an emergent feature of social situations").

⁵⁰ Judith Butler, *Performative Agency*, 3 J. CULT. ECON. 147, 147 (2010).

⁵¹ Butler, *supra* note 21, at 528.

⁵² *Id.* at 524.

⁵³ Judith Butler, *Critically Queer*, 1 GLQ: J. LESBIAN & GAY STUD. 17, 24 (1993).

⁵⁴ *Id.* at 18, 21.

⁵⁵ *Id.* at 23.

⁵⁶ Svetlova, *supra* note 37, at 185, 193.

⁵⁷ Butler, *supra* note 50, at 149.

⁵⁸ Butler, *supra* note 53, at 22.

⁵⁹ *Id.* at 17-18.

⁶⁰ *Id.* at 19.

and of themselves; every actor interprets Othello or Desdemona a little differently. Rather, social performances are negotiated between the individual and the constraints of normative citation.⁶¹

These insights lead us to engage with a more expansive understanding of performativity that arose out of Austin's initial work. Butler's work moves Austin's conceptual framework from consideration of particular instances of particular status changes toward a generalized understanding of social performance and status. Butlerian performativity is ambient, ubiquitous, and discursive. Unlike Austinian performativity, Butler's conception of performativity typically involves not one speaker, but multitudes. In Butler's work, performative utterances are not necessarily explicit declarations, but may be implicit or distributed; social action is not the result of causal outcomes, but the effect of reflexive feedback and conversations. Rather than arising from a single or definite illocutionary act, Butler's performativity arises from the interaction at nodes of power and discourse.⁶²

In this fashion, Butler's amplification on performativity reveals a far more complex network of social interplay in Austin's work than the paradigm of stated declaration and status change might suggest. Butler's observations arise in part from the necessary interplay between Austin's illocutionary and perlocutionary effects.⁶³ Strictly speaking, Austin's framework defines two modes for language to affect the world: an illocutionary manner, that is constitutive of status, and a perlocutionary manner, involving causality provoked by illocutionary force.⁶⁴ But the division between the two is never pristine; Galahad's illocutionary change in status upon his knighting is in large measure a function of the perlocutionary activity of those around him, who now treat him differently.⁶⁵

There is therefore a recursive relationship between the two types of effects. It is clear that performative utterances have illocutionary force only to the degree that they conform to existing normative expectations.⁶⁶ Illocutionary performances are immediate because they rely upon established norms and relationships.⁶⁷ Austin observes that illocutionary effects require felicity conditions, but to be effective, such conditions must precede the illocutionary utterance, so that the discursive relations that sustain an illocutionary

⁶¹ *Id.* at 18.

⁶² *Id.* at 17.

⁶³ JUDITH BUTLER, *EXCITABLE SPEECH* 44 (1997).

⁶⁴ *See* Brisset, *supra* note 22, at 441 (explaining constitutive and causal states modes of language).

⁶⁵ *See id.* (explaining the entanglement of constitutive and causal effects).

⁶⁶ Jacques Derrida, *Signature, Event, Context*, in *LIMITED INC* 1, 18 (Gerald Graff ed., Samuel Weber & Jeffrey Mehlman trans., 1988).

⁶⁷ Michel Callon, *Performativity, Misfires and Politics*, 3 J. CULTURAL ECON. 163, 164 (2010); Brisset, *supra* note 22, at 442.

performance make possible the declaration that invokes it.⁶⁸ The felicity conditions for illocutionary performances are fully satisfied, which is why they are effective.

Perlocutionary performances rely upon *developing* norms and relationships; they may be said to constitute nascent or emerging illocution.⁶⁹ Illocution immediately changes ontological status; perlocution may eventually do so.⁷⁰ Over time, perlocutionary effects may become illocutionary effects—wearing gold spurs or the honorific form of address, “Sir,” that follow from dubbing Galahad a knight may themselves become performative statements.⁷¹ Illocutionary performances are therefore to some extent the social endpoint of perlocution. Perlocutionary effects may precess from contingent to necessary, becoming accepted and conventional social facts over time.⁷² The difference between the two may be largely a matter of interval, as perlocution becomes established and evolves into illocution.⁷³

Thus, in her emphasis on repetition and re-inscription of social norms, Butler shows that there is no clean separation between illocution and perlocution; one shades into the other. Butler also re-focuses our attention from Austinian illocution to perlocution, showing that the power of performativity belongs largely to the realm of perlocution rather than illocution.⁷⁴ Unlike Austin’s illocutionary performatives, Butler’s performative patterns do not result from particular or singular utterances, but are instead the culmination or confluence of more general social practices and relationships.⁷⁵ Rather than an immediate status change that is brought into being by a discrete declaration, Butler’s performatives result from the shift in institutional conditions, often over time.⁷⁶ In Austin’s framework, perlocution necessarily constitutes norms and beliefs, and Butler shows that these fabricate identities by means of performance in the dramaturgical sense, the reiteration of actions.⁷⁷

C. BARNESIAN PERFORMATIVITY

Sociological analysis, particularly in the field of science and technology studies, has taken Butler’s insights a step further. This analysis argues that

⁶⁸ Butler *supra* note 50, at 148; Pierre Bourdieu, *Authorized Language*, in LANGUAGE AND SYMBOLIC POWER 107, 111 (John B. Thompson ed., Gino Raymond & Matthew Adamson trans., 1991).

⁶⁹ Butler, *supra* note 50, at 151.

⁷⁰ Callon, *supra* note 67, at 165.

⁷¹ Brisset, *supra* note 22, at 442.

⁷² Svetlova, *supra* note 37, at 192.

⁷³ Callon, *supra* note 67, at 164–65; Brisset, *supra* note 22, at 442.

⁷⁴ Butler, *supra* note 50, at 153.

⁷⁵ *Id.* at 151.

⁷⁶ *Id.* at 151–52.

⁷⁷ Svetlova, *supra* note 37, at 185.

performativity is not only a mechanism leading to the construction of social categories, but a mechanism of ontological nativity that functions to fabricate social realities.⁷⁸ Such conceptions of performativity seek to understand how social facts come into existence.⁷⁹ This version of performativity amplifies Butler's work to assert that meaning does not occur naturally, but is instead constructed through a constellation of performances that engage with the world to ontologically structure it in particular ways.⁸⁰ Social discourse, rather than describing objects, concomitantly enacts both subjects and objects.⁸¹ In particular, performativity in this sense indicates that discourse constitutes the objects or conditions of which it speaks.⁸² This strong form of performative theory has sometimes been labeled "social institutional performativity"⁸³ and sometimes labeled "Barnesian performativity," after a germinal paper in the field.⁸⁴

This approach foregrounds a reflexive quality of performativity not found in Austin's original formulation, but which is key to Butler's framework, and associates performative processes with an ontology of becoming.⁸⁵ Performative discourse is on this view not an articulation by which subjects speak about objects, but is rather constitutive of both subjects and objects through a reflexive process of recitation and repetition.⁸⁶ As with Butler, such performativity is not limited to particular speakers or particular declarations, but it looks broadly to the enactment of discursive practices. Even within the initial Austinian framework, constative or non-declarative statements clearly entail a type of illocutionary force—descriptive speech is constitutive of a representation that will have causal effects in the world.⁸⁷ Ultimately, according to the Barnesian outlook, such representations become constitutive *of* the world.

This version of performativity therefore entails an implicit division between "natural" facts and socially fabricated facts, both of which define and constrain

⁷⁸ Butler, *supra* note 50, at 147.

⁷⁹ Svetlova, *supra* note 37, at 183.

⁸⁰ Nicholas Blomley, *Performing Property: Making the World*, 26 CAN. J. L. & JURIS. 23, 33 (2013).

⁸¹ Luiza Bialasiewicz et al., *Performing Security: The Imaginative Geographies of Current US Strategy*, 76 POL. GEO. 405, 407 (2007).

⁸² Barry Barnes, *Social Life as Bootstrapped Induction*, 17 SOCIO. 524, 525 (1983); Bialasiewicz et al., *supra* note 81, at 406; *see also* JUDITH BUTLER, *BODIES THAT MATTER: ON THE DISCURSIVE LIMITS OF SEX 2* (2d ed. 2011) (defining performativity as the "reiterative and citational practice by which discourse produces the effects that it names.").

⁸³ *See* Rafanell, *supra* note 25, at 65.

⁸⁴ Barnes, *supra* note 82.

⁸⁵ *See* Lucas D. Introna, *Epilogue: Performativity and the Becoming of Sociomaterial Assemblages*, in *MATERIALITY AND SPACE: ORGANIZATIONS, ARTIFACTS AND PRACTICES* 330, 335 (Francois-Xavier de Vaujany & Nathalie Mitev eds., 2013).

⁸⁶ Bialasiewicz et al., *supra* note 81, at 406.

⁸⁷ *See* Brisset, *supra* note 22, at 441.

individual action.⁸⁸ This is not a form of solipsism, or a denial of physical reality. The world around us is real, but it is also made, and it is made by means of social relations.⁸⁹ Such socially constructed facts, although fabricated out of subjective belief, become epistemically objective.⁹⁰ They are made real by the agreement of a large enough collection of individual beliefs.⁹¹ The dollar bill in my wallet holds the value of one dollar, not because it is my opinion that it does, but because of broad social recognition that it has that status.⁹²

Despite this distinction, the Barnesian approach recognizes that social facts—whether the value of money, the legitimacy of a wedding, or the job description of a plumber—are a conglomerate of material practices, physical structure, and behavioral consensus.⁹³ To say that the federal government of the United States is located in Washington, D.C., is to reference a cluster of social facts, for example, that there is a political entity called the United States, that it is governed by certain persons and institutions empowered to exercise authority over that political entity, and that many or most of those persons and institutions have their principal location at a geographic area designated as Washington, D.C. Nothing in the nature of physical reality requires these facts to be facts; they could all have been constituted differently. However, to say that the Capitol building is located in Washington, D.C. references these agreed-upon social structures, as well as the physical structure of a building that is physically located at a particular geographic reference point. We may agree upon what to call the Capitol, or upon what function it serves, but as a structure it is located in a particular place regardless of agreement.

Given the focus of this discussion on patents, it is worth noting the deep entanglement between social and natural facts. Indeed, it may be impossible to find an example of a pure natural fact. We may say that a liter of water weighs one kilogram, and this seems on its face like a natural or scientific fact. But the choice of water as a reference, at a standard temperature and pressure commonly experienced by humans on earth, reflect human convenience and experience. If we were to choose benzene or mercury as our metric references, or a reference temperature and pressure common to Venus, the metric would change. For just this reason, the kilogram has been redefined in terms of universal constants such as Planck's constant and the speed of light, which are (perhaps) less entangled

⁸⁸ See Barnes, *supra* note 82, at 525-26 (distinguishing speech acts based on natural or social referents). See also Emile Durkheim, *What is a Social Fact?*, in *THE RULES OF SOCIOLOGICAL METHOD AND SELECTED TEXTS ON SOCIOLOGY AND ITS METHOD* 50, 59 (Steven Lukes ed., W.D. Halls trans., 1982) (defining social facts).

⁸⁹ John Law & John Urry, *Enacting the Social*, 33 *ECON. & SOC'Y* 390, 395-96 (2004).

⁹⁰ JOHN R. SEARLE, *THE CONSTRUCTION OF SOCIAL REALITY* 189 (1995); Durkheim, *supra* note 88, at 59.

⁹¹ Law & Urry, *supra* note 89, at 395.

⁹² See SEARLE, *supra* note 90, at 190.

⁹³ Law & Urry, *supra* note 89, at 395; Blomley, *supra* note 80, at 35.

with social reference points.⁹⁴ Of course, the origins of the measurement remain socially entangled, even if the definition is now somewhat less so—the kilogram unit, however defined, exists only because of particular social and cultural histories.

Thus, the accumulation of social facts comprises social reality, not only as the agreed upon facts derived from social behavior and beliefs, but as the lens through which whatever we know of material reality is perceived.⁹⁵ This brings us to the operation of performative social action. The success of a performance lies not so much in its correspondence or accuracy with regard to the world, but in its adherence to felicity conditions, its capacity to enroll other attendant resources, and its success in invoking and repeating past and future performances.⁹⁶ Performativity argues that subjects and objects are not simply perceived or understood as social constructs, but rather emerge through their mutual performances.⁹⁷ This is not social constructivism in the sense that the performative subject is a matter of perception, and in particular not simply the product of whatever normative viewpoint or fashion seems ascendant. Rather, following Butler's argument, social facts become real in the world to the extent that they successfully invoke, rely upon, and recapitulate other social performances.⁹⁸

III. HOW TO DO THINGS WITH PATENTS

With some background as to what performativity means, we are in a position to now consider whether patents are performative within one or more of these meanings. We shall see that patents participate in all three of the senses of performativity we have sketched out above. But in order to do so, we must begin by drawing another distinction, between the legal and policy purposes of patents, and their social action as performatives. These functions are not unrelated, but they are distinct, and we need to avoid muddling one with the other. In particular, we need to avoid mistaking the intended policy purposes of patents for a type of performative effect.

We have described performativity in several aspects, all of which have in some manner to do with constituting social roles and social relationships. Obviously, patents have an effect on social roles in a weak sense; that is, patents create certain incentives that prompt (or we believe will prompt) certain types of behaviors. That is of course their stated purpose; they are typically justified as incentives to invest in new technology, or as bargains to disclose new technical

⁹⁴ Associated Press, *The Latest: Landmark Change to Kilogram Approved*, ASSOCIATED PRESS, Nov. 16, 2018, <https://apnews.com/e6991383703e4ad5a9570d97b0e57822>.

⁹⁵ See Law & Urry, *supra* note 89, at 395 (asserting that reality is a relational effect generated from the interaction of the material and the social).

⁹⁶ Blomley, *supra* note 80, at 42.

⁹⁷ *Id.* at 36.

⁹⁸ *Id.*

information, so that their entire object is to induce certain actions to influence the course of social behavior and to encourage certain policy outcomes.⁹⁹ There is some evidence that they may not be prompting the kind of behavior that we want, or may not be prompting as much of that behavior as we would like, but we frequently say that their purpose is to change behavior.¹⁰⁰

We might of course say with some justification that such behavioral changes are the purpose of all law, and patents are not unusual in that respect. So in one sense, it seems almost trivial or frivolous to assert that patents make a difference in the world or serve to enact realities.¹⁰¹ Neither are the incentives or behavioral changes that may be prompted by patents trivial; indeed, they may well be substantial, but they are also not performative in the sense I am discussing. If by “performativity” we simply meant that patents have the behavioral effects they were intended to have, there would be no reason to introduce a new and somewhat gratuitous terminology into the patent discussion. On the contrary: performativity in general, and patent performativity in particular, departs from such incentives and behavioral prompts to the extent that it reflexively alters identities, defines roles, restructures institutions, re-formulates legal and social status.

I said at the outset that my argument here will be that *patents create their own social facts*. Again, I intend this assertion to be taken in something more than a trivial sense. To say that patents create social facts as Austinian performatives is in one dimension quite clear, but not terribly interesting. Patents confer exclusive rights in the claimed invention, and the patent term lasts for 20 years from the date the application is filed. Those are social facts in the most trivial Austinian sense; they are not truths drawn from the material structure of the universe, not truths that exist independently of human culture, but like the value of a dollar bill, are truths grounded in human agreement and recognition that we will live according to that particular proposition.

In proposing patents as performatives, however, I am not simply pointing out that patents have some behavioral effects, but am rather asserting the proposition that the assumptions built into patent law and the patent system become manifest and accepted as social truths. Such effects naturally result in behavioral changes, but the behavioral changes are evidence of an underlying fabrication of social reality. The responses to patent economic incentives that occupy most patent scholarship are an aspect of patent performativity; the behaviors enable patents while patents enable them. But in labeling patents as performative, we are considering something quite distinct from their incentive

⁹⁹ See Burk, *supra* note 1, at 404.

¹⁰⁰ See Lemley, *supra* note 2, at 1334; Mark A. Lemley, *The Surprising Resilience of the Patent System*, 95 TEX. L. REV. 1, 2 (2016) (collecting empirical evidence that patents are not prompting expected behavior).

¹⁰¹ See Law & Urry, *supra* note 89, at 393 (distinguishing social influence from social enactment).

effects, or from the generation of certain agreed upon institutional labels. It is rather that *patents are complicit in creating the social conditions that they assume*.¹⁰²

A. PATENT ILLOCUTION

The most obvious place to begin delineating patent performativity is to situate their role within the Austinian framework of illocutionary action. Patents lend themselves to this framework due to their textual and declarative nature. Unlike other forms of intellectual property, which typically come into existence through the use or creation of their subject matter, patents become operative only with a statement by the inventor as to the scope and nature of its exclusivity.¹⁰³ Such statements are explicit in the patent document, in the form of long (rather grammatically tortured) sentences beginning with the words “I claim” followed by language delineating the technological scope of the claim.¹⁰⁴

Several scholars outside the legal field have noted the operation of patents in this sense of an illocutionary declaration, although few have developed their analysis as to the implications of this observation.¹⁰⁵ Patent performativity in this Austinian sense should not surprise us; it is a common feature of legal language. We have already observed that law is composed of authoritative documents and utterances.¹⁰⁶ Contracts, legislation, judicial opinions, executive orders, marriage certificates, and myriad other legal documents and pronouncements operate to change the state of the world. They generally do so by changing the status of people or objects and the relationships among them. Patent claims surely do the same, first by declaring the technology delineated by the claims to be subject to exclusive legal rights, and second by declaring the technology within the claims to include an invention or inventions that meet the statutory standards to be called an invention.

But there is a good deal going on in such textual patent declarations besides the stated illocutionary effects of the claims. Austin’s framework provides a

¹⁰² See Law & Urry, *supra* note 89, at 392–93 (arguing that performative investigations “help to bring into being what they also discover”).

¹⁰³ 35 U.S.C. § 112(b) (2012) (“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.”).

¹⁰⁴ *Id.*

¹⁰⁵ Fiorella Foscarini, *The Patent Genre: Between Stability and Change*, 87 ARCHIVARIA 36, 49 (2019); Grant Leyton Simpson, *The Social Textual Lives of Patents: The Phillips Screw and Driver*, 11 TEXTUAL CULT. 172, 182 (2017); Carmen Sancho Guinda & Ismael Arinas Pellón, *How Patent Can Patents Be? Exploring the Impact of Figurative Language on the Engineering Patents Genre*, in METAPHOR AND METONYMY REVISITED BEYOND THE CONTEMPORARY THEORY OF METAPHOR 183, 189 (Francisco González-García et al. eds., 2013); CHARLES BAZERMAN, *THE LANGUAGES OF EDISON’S LIGHT* (1999). Guinda and Pellón correctly observe that patents entail multiple speech acts, including not only performative, but representative, commissive, and other illocutionary texts.

¹⁰⁶ See *supra* notes 30–35 and accompanying text.

useful guide to tracing some of these additional implications. We know that for the patent claims to have any performative effect, they must conform with the felicity conditions necessary to affect a recognized and recognizable change in status.¹⁰⁷ It is well worth our while to begin identifying those felicity conditions. To begin with, for an effective illocutionary patent performance, felicity conditions include demonstrated conformity with the required statutory characteristics for patentability.¹⁰⁸ The invention must be judged novel, useful, and non-obvious in order to be properly patented. If the invention fails these conditions, then the patent will not issue; or if the patent does issue and the invention is later found to fail these conditions, then the effect of claiming is null. The claims are also ineffective, or will never be given administrative certification, if the patent document fails to adequately describe and enable the invention,¹⁰⁹ meaning that the proper descriptive quality of the patent text might be termed a felicity condition for the performativity of the claims.

The felicity conditions regarding disclosure are of particular importance as a window into the performative entanglement of the subject of the patent text with the object of the patent text. It might be tempting to believe that the patentability disclosure requirements are simply requirements relating to the contents of the document, but it is clearly the case that enablement and disclosure are to a large degree qualities drawn from the construction of the invention. This is most apparent in the case of inventions that are difficult or impossible to describe, such as certain biological materials. The character of these inventions is such that they do not lend themselves to textual description, and considerable ingenuity has gone into finding ways to satisfy the disclosure conditions for such inventions.¹¹⁰ Additionally, the Supreme Court has hinted in its recent jurisprudence that disclosure requirements of the patent are not simply textual drafting expectations, but are patentability requirements along with utility, non-obviousness, and the like.¹¹¹ These doctrinal hints suggest two critical insights regarding performativity: first, that there may be a vital relationship between descriptive statements and performative statements; and second, that one cannot easily separate the qualities of an object described by a text from the qualities of the text itself.

An illocutionarily effective patent will also necessarily have complied with the formal process of patent application and certification by the relevant government

¹⁰⁷ See *supra* notes 36–39 and accompanying text.

¹⁰⁸ Charles Bazerman, *Systems of Genres and Enactment of Social Intentions*, in *GENRE AND THE NEW RHETORIC* 67, 72 (Aviva Freedman & Peter Medway eds., 1994).

¹⁰⁹ 35 U.S.C. § 112.

¹¹⁰ See, e.g., *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 296 F.3d 1316, 1326 (Fed. Cir. 2002) (holding that public deposit of biological materials may satisfy statutory disclosure requirements).

¹¹¹ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 736 (2002) (rejecting the argument that patent disclosure provisions “concern the form of the application and not the subject matter of the invention”).

agency. This is unusual among forms of intellectual property, most of which become operative without a formal administrative process.¹¹² There is no patentable invention, there are no exclusive rights, until they are declared by the Patent Office to meet the statutory standards. Therefore, for patents, a critical felicity condition is successful prosecution of the application through the Patent Office, to issue. And this in turn necessarily means that the nature of the claims, as a text, is dynamic depending upon the procedural status of the document.¹¹³ Claims are written into the application, which is then examined by bureaucrats at the Patent Office, and if approved may eventually form the text of the issued patent. The application thus constitutes a draft or proposal of the governmentally sanctioned document. The locutionary act of claiming remains the same throughout the process; the language, grammar, and syntax expressed by the applicant remains the same. However, the illocutionary act changes. The imprimatur of federal approval shifts the claims from assertive to declarative. Prior to issue, the claims in the application asserted a right to recognition of exclusivity and ownership within the technological parameters of the claim. After issue, the claims in the published patent declare the scope of such rights and change the status of technology reading on the claim text.

The change in illocutionary effect from application to issue invites us to further focus on the performative character of the issued patent. The felicity conditions necessary for an effective patent performative have been met, at least provisionally, on issue of the patent—the application has been through an examination process, certified as meeting the statutory requirements, formatted in the proper textual configuration, and officially endorsed by the relevant governmental authority.¹¹⁴ This is to say that the issued patent enrolls the proper institutional support, that it cites to and re-inscribes the proper sustaining legal norms and standards. Indeed, the patent document, along with its accompanying prosecution history, is an extended exercise in citing and enrolling the proper social resources. Note that such conditions may fail later; patents may be challenged in federal court or before an authorized review Board of the Patent Office in order to demonstrate that one or more of these conditions is defective, that the proper scaffolding of social dispositifs is lacking.

In addition to the illocutionary force of the claims, we must also interrogate certain other implicit declarations and performative effects of the patent document. Most notably, in declaring the invention to constitute an invention, and delineating the exclusive boundaries of the claims, the patent implicitly declares the individual named on the patent to be an inventor. The inventor is of

¹¹² Dan L. Burk & Jessica Reyman, *Patents as Genre: A Prospectus*, 26 L. & LIT. 163, 198 (2014).

¹¹³ Bazerman, *supra* note 30, at 50. Bazerman's pioneering analysis of patents as speech acts attributes to the application an illocutionary demand for the patent examiner to recognize the patentability of the invention, to which issue of the patent is a perlocutionary result. *Id.* at 51; Bazerman, *supra* note 105, at 85. Even from a purely structuralist standpoint, this strikes the legal analyst as an overly naïve characterization of patent prosecution.

¹¹⁴ Bazerman, *supra* note 30, at 48.

course named on the face of the patent, but it is tempting to dismiss this as a purely ministerial indication as to the source of the claimed invention. To the contrary, the Patent Office by means of the patent effectively declares that the person or persons attributed on the fact of the document (and natural persons must always be attributed, never juridical persons) are, by definition, inventors, meaning that they have achieved something extraordinary—literally, they have conceived a technology that could not be conceived by those of ordinary skill.¹¹⁵

While it may be tempting to consider such inventorship a perlocutionary, follow-on effect of the patent grant, recall that necessary and contingent causality may be considered the distinction between illocution and perlocution. Inventorship is a necessary status change that occurs with the issue of the patent; there is no invention without an inventor, and vice versa. We might just as well say that the declaration of the inventor's name on the face of the document necessarily requires the declaration of an invention. There are, to be certain, numerous contingent follow-on effects of the patent; the patent owner becomes responsible for maintenance fees, gains certain status in any subsequent antitrust action, can license the claimed invention if she chooses. But the creation of an inventor is essential to the declaration of an invention.

For that matter, although it may be less apparent, the entire specification of the patent document serves in a performative function. Claims are part of the patent specification, and they entail an explicit declaration, but the remainder of the document entails an *implicit* declaration or set of declarations in disclosing how to make and use the invention.¹¹⁶ The patent disclosure is often thought of as being descriptive language, that describes the claimed invention and “teaches” its implementation.¹¹⁷ That is certainly what the patent statute requires it to do.¹¹⁸ But in doing so, the specification defines the invention *as an invention*, objectifying and reifying it in a way that allows for commodification.¹¹⁹ The patent disclosure stabilizes the features of the claimed invention in a particular configuration. The document also implicitly establishes the claimed invention as an extraordinary advance over the prior art, much as it inherently establishes the superior abilities of the inventor. Thus, the patent document as a whole, not merely the explicit claims, is imbued with illocutionary force regarding the textual objects that it articulates.

¹¹⁵ See 35 U.S.C. § 103 (requiring that patentable inventions cannot have been obvious to those of ordinary skill).

¹¹⁶ See 35 U.S.C. § 112(a) (2012).

¹¹⁷ See Guinda & Pellón *supra* note 105, at 180-81 (characterizing patent content in terms of technical feasibility). See also Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621, 629 (2010) (promoting the role of patents as technical communication).

¹¹⁸ 35 U.S.C. § 112(a).

¹¹⁹ See Dan L. Burk, *Calculative Patents*, 99 TEX. L. REV. ONLINE 183 (describing the framing of patents as calculated goods).

B. PATENT PERLOCUTION

Our discussion of patents in Austinian perspective lays the groundwork for us to consider patents in a broader enactments of performative social action. Following Butler and Barnes, we shift our attention from the linguistic and illocutionary effects of patents to the perlocutionary role of patents in fabricating social reality. In some cases this activity builds on Austinian illocution; in other instances the two will diverge. For example, we have drawn a distinction above between the Austinian performativity of the claims in the patent application and the issued patent.¹²⁰ But note that either text, pre or post grant, may enact Butlerian or social institutional performativity. The illocutionary force of the patent declaration may be dependent in large part on the Patent Office's certification of the inventor's claims, a declarative endorsement that the application lacks. Networks of social actors, however, come into alignment even with the applicant's assertion of inventorship. Social action may occur in conjunction with, or entirely apart from linguistic illocution.

Our task now is to discover the mechanisms by which patents enact reality in this strong sense of performativity. We may begin with the pervasive trope that patents are property, and should be considered much is the same as other property, particularly real property.¹²¹ Happily, a number of previous commentators have thought about property, in the guise of real property or physical chattels, from the standpoint of social performance.¹²² Marc Poirier argues that property is a Butlerian performative; that performing property is performing community.¹²³ On this view, the social practices associated with property channel civic behaviors, inscribing personal responsibility, reciprocity, and civic engagement in those associated with real property regimes.¹²⁴ Nicholas Blomley pushes this argument a step further, showing how property is constitutive of social reality in a Barnesian sense, so that subjects and objects of property emerge as it is performed.¹²⁵

¹²⁰ See *supra* note 113 and accompanying text.

¹²¹ See, e.g., Frank H. Easterbrook, *Intellectual Property is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 109 (1990).

¹²² Marc R. Poirier, *The Virtue of Vagueness in Taking Doctrine*, 24 CARDOZO L. REV. 93 (2002); Blomley, *supra* note 80.

¹²³ Poirier, *supra* note 122, at 153.

¹²⁴ *Id.* at 154–55.

¹²⁵ Blomley, *supra* note 80, at 33–34. There have also been suggestions that patent law's kissing cousin, copyright, might be approached from a performativity perspective. Sonia K. Katyal, *Performance, Property, and the Slashing of Gender in Fan Fiction*, 14 AM. U. J. GENDER SOC. POL'Y & L. 461, 473 (2006); Andrew Gilden, *Copyright Essentialism and the Performativity of Remedies*, 54 WM. & MARY L. REV. 1123 (2013). Gilden briefly expands this treatment to intellectual property generally, without excavating the particular doctrinal turnings of any individual branch of IP. Andrew Gilden, *Intellectual Property's Queer Turn*, in THE OXFORD HANDBOOK OF LAW AND HUMANITIES 549, 551 (Simon Stern et al. eds., 2020).

Following this line of argument, we might propose that, as in the case of real property, patents do not simply describe the state of the world—the characteristics of a new and useful device, and how to make and to use it—but also enact that device, and enable social activity around the device, to which the performance of patenting is essential.¹²⁶ Here again, the comparison to property in land is useful (although perhaps not in the way that its proponents intended). Patents are frequently compared to the boundaries defined in deeds for land,¹²⁷ and often the ideological maneuvering of such comparisons is somewhat suspect,¹²⁸ but in this case the comparison seems entirely appropriate. Just as the definitional borders of a deed or map *create* rather than *describe* a parcel of land, so the definitional bordering of patent claims creates the invention, and in tandem creates the inventor.

In this act of social fabrication, we may say that patents are simulacra or representations that hold the invention together. Here I use the term *simulacrum* in the manner proposed by Baudrillard: models and simulacra do not represent their subjects, rather they define and engender the subjects that they represent.¹²⁹ This effect is well documented in areas such as cartography; we often think of maps as depicting the geography and borders of nations and territories when quite the opposite is true. Maps do not describe the borders of a territory, or even the natural features of a polity's geography, but rather define borders and features so as to fabricate the state as an entity.¹³⁰ In doing so, maps impose their representations on the world, establishing social entities that could not exist but for their mapping (which, not coincidentally, is the reason cartography has historically been a foundational activity of nation-states and empires).¹³¹ Patents engage the world in the same fashion, and it would not be too far off to say that patents are politics by other means.

¹²⁶ See Law & Urry, *supra* note 89, at 391 (describing the characteristics of performativity).

¹²⁷ See, e.g., Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 Mich. L. Rev. 523, 527 (2010); Jeffrey A. Lefstin, *The Measure of the Doubt: Dissent, Indeterminacy, and Interpretation at the Federal Circuit*, 58 HASTINGS L.J. 1025, 1025 (2007). This is also a common trope in judicial decisions, see, e.g., *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759 (Fed. Cir. 1984); *Kara Tech. Inc., v. Stamps.com Inc.*, 582 F.3d 1341, 1347 (Fed. Cir. 2009); *Scaltech Inc. v. Retec/Tetra, L.L.C.*, 178 F.3d 1378, 1383 (Fed. Cir. 1999).

¹²⁸ See Mark A. Lemley, *What's Different About Intellectual Property?*, 83 TEX. L. REV. 1097, 1097–1100 (2005) (questioning the analogy of intellectual property to land); see also ALEXANDRA GEORGE, *CONSTRUCTING INTELLECTUAL PROPERTY* 65 (2012) (noting that comparisons of intellectual property to tangible property are so facile as to be turned to almost any purpose).

¹²⁹ Jean Baudrillard, *Simulacra and Simulations*, in JEAN BAUDRILLARD, *SELECTED WRITINGS* 166 (Mark Poster Jacques Mourrain trans., 2d ed. 2001).

¹³⁰ J.B. Harley, *Text and Contexts in the Interpretation of Early Maps*, in *FROM SEA CHARTS TO SATELLITE IMAGES: INTERPRETING NORTH AMERICAN HISTORY THROUGH MAPS* 3–4 (David Buisseret ed., 1990); P. LAXTON, *THE NEW NATURE OF MAPS: ESSAYS IN THE HISTORY OF CARTOGRAPHY* 52–53 (2001).

¹³¹ J.B. Harley, *Maps, Knowledge and Power*, in *THE ICONOGRAPHY OF LANDSCAPE: ESSAYS ON THE SYMBOLIC REPRESENTATION, DESIGN AND USE OF PAST ENVIRONMENTS* 277, 282 (Denis E. Cosgrove & Stephen Daniels eds., 1988).

We are inclined to talk about patentability as if there are classes of objects in the world that have the qualities of novelty, utility, and non-obviousness, and so which qualify for description and claiming by means of a patent. We might even be willing to go a bit farther and admit that the qualities of novelty, utility, and non-obviousness are malleable or subject to interpretation, created by the patent system when they are defined by courts and patent examiners, and so constitute legal constructs.¹³² Our usual reading of the patent document and the patent system thus assumes the external existence of a device or process in the material world, configured by an individual of more-than-ordinary-skill-in-the-art, assembled from components existing at the time of invention.

But this inclination is precisely what Butler calls the “ruse of power” used to form an object that will be suitable for control, while in the same act effectively disavowing that production by claiming to discover the object apart from its formation.¹³³ In fact, all the doctrinal mainstays of patent law—the invention, the inventor, and the PHOSITA—are brought into existence in relation to and under the influence of the patent.¹³⁴ There is no invention prior to its performance through the patent, even though we often speak in such precedential terms.¹³⁵ As with the invention, so too with the inventor. We typically say in patent practice or scholarship that an inventor qualifies for and applies for a patent, but it is equally the case that the patent qualifies, defines, and enacts the inventor. The social role of the inventor by definition requires an invention, and the social affordances of the invention are fundamental characteristics in enacting the inventor.

Thus, the invention and the inventor do not have an independent existence prior to, or apart from the patent, but are brought into existence by patent performances. Performativity refutes the idea that there is a divide between the “real world” and the patent, that there is a separate reality over which the social construction of the “invention” is layered. Neither does the performative perspective accept a division between an “inventor” who arranges and assembles bits of matter and the bits that are arranged.¹³⁶ The inventor and the invention take their substance in relationship with one another, formed in the process of assembly—the human actor is not a separate component but is rather integral to

¹³² See Jason Rantanen, *The Malleability of Patent Rights*, 2015 MICH. ST. L. REV. 895, 919 (2015).

¹³³ Judith Butler, *Sexual Inversions*, in FOUCAULT AND THE CRITIQUE OF INSTITUTIONS 81, 87 (John Caputo & Mark Yount eds., 1993).

¹³⁴ Cf. Law & Urry, *supra* note 89, at 396 (explaining that social affordances are made real by social relationships).

¹³⁵ See Burk & Reyman, *supra* note 112, at 184.

¹³⁶ Cf. Blomley, *supra* note 80, at 39 (explaining that performative assemblages do not distinguish between human and non-human elements).

result. Patents are performed when these elements reinforce and stabilize one another in a relational combination.¹³⁷

Certainly there are prior material objects and physical actions, but they have meaning as “inventions” or “innovation” only in the context of becoming such by virtue of the patent’s enactment. This is true whether or not they prove to legally qualify for the patent. Some activities that fail to qualify might constitute inventive or innovative actions that simply do not rise to the level of patent recognition—sub-patentable innovation.¹³⁸ Some activities may simply be judged not to be innovative at all, but are considered routine and conventional: peeling potatoes and walking the dog, let us say. But patent performativity encompasses them all, placing them in the categories I have just mentioned (as well as possibly into others). Much as Steinberg observes regarding property law generally, patents are relied upon as “the voice of reason that we use to tidy up the messy and dynamic world of nature.”¹³⁹

This is not to say they are simply a social construction of nature; rather, it is to say that despite being purely intertextual,¹⁴⁰ patents are entangled with the world, with their subject matter, with their drafters, examiners, and enforcers. Alignment with these perlocutionary actors is not a question of fidelity to the material world; the specification of the invention in the patent does not need to be accurate, in the sense of describing a phenomenon or artifact in the world. The question is not whether patent disclosures are accurate or inaccurate so much as whether they are *felicitous*, which is to say whether they are successfully actualized in the world.¹⁴¹

In order to be felicitous, the patent needs to be compatible with existing institutions and resources, and successful in enrolling such resources to coordinate its own presence.¹⁴² As Latour observes, sentences do not hold together because they are true, rather, we *say that they are true* because they hold together.¹⁴³ Similarly, we are wont to say that an invention is eligible for a patent because it has the qualities of novelty, utility, and non-obviousness; but to the contrary, because the patents are able to align the proper constellation of actors and actions, the subject of the patent is treated as constituting a novel, useful, and non-obvious invention. Patents are performed when the proper assemblage

¹³⁷ Michel Callon, *What Does It Mean to Say that Economics is Performative?*, in *DO ECONOMISTS MAKE MARKETS? ON THE PERFORMATIVITY OF ECONOMICS* 311, 319 (Donald MacKenzie et al. eds., 2007).

¹³⁸ See Jerome J. H. Reichman, *Of Green Tulips and Legal Kudzu: Repacking Rights in Subpatentable Innovation*, 53 *VAND. L. REV.* 1743, 1762 (2000).

¹³⁹ THEODORE STEINBERG, *SLIDE MOUNTAIN: OR, THE FOLLY OF OWNING NATURE* 50 (1995).

¹⁴⁰ Bazerman, *supra* note 30, at 51.

¹⁴¹ See Blomley, *supra* note 80, at 42.

¹⁴² See *id.* at 25 (discussing felicity in terms of enrollment).

¹⁴³ BRUNO LATOUR, *THE PASTEURIZATION OF FRANCE* 185 (Alan Sheridan trans., 1st ed. 1993).

of entities interacts to cooperate and stabilize one another; inventions and inventors exist by enrolling the array of elements necessary to enact themselves in the world.¹⁴⁴

Following Butler, we then observe that it is not only the declarative act of the patent claims that exercises performative force. Patent claims are enacted through the performance of a host of associated social actions, and enacted claims contribute to the reality constituting the roles surrounding them. The patent is enacted by networks of institutions and actors:¹⁴⁵ not only by the examination of a specialized corps of civil servants, but by the deliberations and declarations of a specialized federal court, by the declarations and deliberations of non-specialized federal courts including the Supreme Court, by the drafting and consideration of a specialized cadre of professional representatives, and by the licensing negotiations between business entities—indeed, by a series of communities that are formed by, and interact with the normative conventions of patent claiming.¹⁴⁶ In their interactions with the patent, these practitioners perform distinct social, cultural, and political norms by reiterating and re-inscribing them.

IV. ENACTING PATENTS

We have seen in the previous sections that patents are constructed not only from declarative claiming, but from a wide array of associated socio-material practices. We now move from an outline of patent performativity to consider how patents are performed and how that effects the gender questions we began with. We want to focus here on the world that is reflexively enacted by performing patents, on the roles that patents allow, and on the characteristics that patents demand that adjacent communities take on. In particular, viewing patents through the lens of social, institutional, or Barnesian performativity allows us to trace the practices and relationships through which patents are performed, and to determine how patent performances constitute reality in their own particular image.

Regarding patents in this fashion requires us to invert our usual thinking somewhat. We typically say in patent practice or scholarship that the patent describes the invention (and indeed there is a large literature devoted to how this ought properly to occur).¹⁴⁷ We typically say that an invention qualifies for or

¹⁴⁴ See Blomley, *supra* note 80, at 39 (explaining that property is performed when assemblages of actors stabilize and reinforce one another).

¹⁴⁵ Cf. Butler *supra* note 50, at 150 (explaining that performativity is realized via organization of human and non-human networks).

¹⁴⁶ See Burk & Reyman, *supra* note 112, at 179–80 (describing the communities and actors surrounding the patent document).

¹⁴⁷ See, e.g., Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information?*, 25 HARV. J.L. & TECH. 531, 536 (2012); Jason A. Rantanen, *Peripheral Disclosure*, 74 U. PITT. L. REV. 1 (2012);

meets the criteria for patenting, as if the invention were something exterior to the patent, that the patent language merely reflects. But in considering patent performativity, we should rather inquire what patents are *making* when they purport only to be *describing*.

In order to think about patents in this way, we must ask ourselves, what does it mean to perform acts of invention, not in the sense of chemical experimentation or mechanical construction, but in the sense of a social enactment? What does it mean to perform innovation or to perform exclusivity? For the inquiry I have posed here, the questions we should be pursuing are not so much whether innovations display the qualities of utility or novelty or non-obviousness, but rather what the concepts of utility and novelty and non-obviousness do to and do for those who practice innovation, those who engage in it, and those who trade in it.

A. PERFORMING DETACHMENT

The first social reality that patents enact might be described as *isolation and segmentation*—patent doctrine and practice incorporate tropes of artificial distinction from the context in which patents function. For example, patent practice and doctrine artificially attempt to separate nature and culture, distinguishing the work of human ingenuity from products or phenomena of the natural world.¹⁴⁸ This is perhaps clearest in patent law’s subject matter jurisprudence; categories of patent-eligible subject matter listed in the statute entail categories such as machines and articles of manufacture that are generally regarded as human handiwork.¹⁴⁹ The Supreme Court’s gloss on the statute takes this logic a step further, asserting that the statute extends to “anything under the sun that is made by man.”¹⁵⁰ The Court specifically excludes from patent eligibility categories such as products of nature and laws of nature that are insufficiently distinguishable from entities found in the material world.¹⁵¹

As I have described in previous work, this bifurcation makes little sense as a logical matter; all human artifacts are part of the material or natural world, and all human artifacts, including patentable devices, are comprised of materials and

Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621 (2010); Jeanne Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 545 (2009).

¹⁴⁸ See Marilyn Strathem, *Cutting the Network*, 2 J. ROYAL ANTHROPOLOGICAL INST. 517, 523–35 (1996).

¹⁴⁹ See 35 U.S.C. § 101; see also *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931) (defining patent eligible manufacture as “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery”).

¹⁵⁰ *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

¹⁵¹ *Id.*; *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012). See generally Dan L. Burk, *The Curious Incident of the Supreme Court in Myriad Genetics*, 90 NOTRE DAME L. REV. 505 (2014) (discussing in detail the Supreme Court’s subject matter cases).

processes embedded in the natural world.¹⁵² There is nothing unnatural about patented inventions or about human activity in building patented inventions. Rather than a logical distinction, the separation between invention and nature is instead an ideological distinction, valorizing certain types of materials and activities as deserving of a patent, and subordinating other materials and activities on which the preferred activities are based.¹⁵³ The categories to be designated inventions are foregrounded against the backdrop of natural phenomena.

This dualism is closely related to similar ideological structures in the scientific and engineering disciplines on which patentable innovation relies.¹⁵⁴ Feminist commentators have long noted that science and engineering adopt the bifurcation between nature and culture in order to assume an ostensibly objective stance in data collection, analysis, and application.¹⁵⁵ By standing apart from the material world, science projects the appearance of a dispassionate viewpoint. This schema is also fundamentally related to the paucity of women in science and engineering professions. Feminist commentators have noted that the roles assigned to women tend to be connected with conceptions of nature rather than those of culture: emoting, child bearing, nurturing.¹⁵⁶ This inevitably places women in either explicit (“Girls can’t do math”) or implicit (“You will have to arrange extra child care for evenings you stay late at the lab”) social dissonance with the performance of science and engineering, and so with the performance of patent inventorship related to those fields.

Patent practice and doctrine also attempt to bifurcate the claimed invention from the matrix of practices and technologies that have gone before it, from the ‘prior art.’ To constitute a patentable invention, the subject of the patent claims cannot have been previously disclosed in the prior art, and must be distinctively non-obvious over the prior art.¹⁵⁷ Yet, as our discussion of performativity above would predict, this inevitably means that in order to distinguish itself from the prior art, the characteristics of the claimed invention become dependent upon the prior art. To be novel or nonobvious over the prior art requires that the invention inhabit the same category or field as the prior art, otherwise there is no basis for comparison. Thus, asserting a separation from the prior art inextricably embeds the invention within the prior art.

¹⁵² See Dan L. Burk, *Edifying Thoughts of a Patent Watcher: The Nature of DNA*, 60 UCLA L. REV. DISCOURSE 92, 97 (2013); see also Burk, *supra* note 151, at 533 (questioning whether for patent eligibility one can ever find an “unnatural or artificial” process).

¹⁵³ See Dan L. Burk, *Feminism and Dualism in Intellectual Property*, 15 AM. U.J. GENDER SOC. POL’Y & L. 183, 195 (2007) (examining the doctrinal separation of nature and culture).

¹⁵⁴ Donna Haraway, *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*, 14 FEMINIST STUD. 575, 592 (1988).

¹⁵⁵ SUSAN BORDO, THE FLIGHT TO OBJECTIVITY 8 (Robert C. Neville ed., 1987); EVELYN FOX KELLER, REFLECTIONS ON GENDER AND SCIENCE 6-8 (1985).

¹⁵⁶ Sherry B. Ortner, *Is Female to Male as Nature is to Culture?*, in WOMAN, CULTURE, AND SOCIETY 68, 73-80 (Michelle Zimbalist Rosaldo & Louise Lamphere eds., 1974).

¹⁵⁷ See 35 U.S.C. §§ 102, 103 (2012).

And, as with the invention, so with the inventor. The novelty and non-obviousness requirements as a practical matter separate the claimed invention from the contributions of those who have gone before, distinguishing the inventor's contribution from those of previous contributors. Similarly, to satisfy the subject matter requirement, the inventor is also characterized as contributing something "markedly different" than what is found in the state of nature.¹⁵⁸ A felicitous patent application is framed not only to separate the claimed invention from the public domain and the prior art, but to frame the inventor as a superior artisan—the inventor's contribution must reflect extraordinary, not ordinary skill. This distinction inevitably separates and distinguishes the inventor from the community in which the invention is necessarily embedded. And as we will see, this characteristic of patenting sits at odds with the relational worldview that many commentators have equated with feminist ethics and viewpoints.¹⁵⁹

B. PERFORMING IMMATERIALITY

What follows from this first set of characteristics is a related, second set of patent performatives that might be termed *immateriality or rarefication*: the construction of a substantive patentable entity distinct from materiality, and the semiotic characteristics of that construction; what Karen Barad might decry as the elevation of language over materiality.¹⁶⁰ This is in part a consequence of patents being entirely intertextual; unlike other forms of intellectual property that arise with the creation and use of the subject matter, patents require a documentary description of the subject matter and of the scope of the owner's rights.¹⁶¹ This defines the invention in its entirety; at no time during the tenure of the patent does an inventor have to produce a physical, corporeal invention.

American inventorship was long defined in terms of *conception* and *reduction to practice*. Although the current patent statute focuses on the act of filing an application rather than the act of inventing and makes no mention of conception or reduction to practice, these concepts remain deeply imbedded in current doctrine. Conception is classically defined as the formation in the mind of the inventor of the claimed invention as it is to be reduced to practice.¹⁶² Reduction to practice is the instantiation of the invention as conceived. Although both are required for a completed patent application, only the former is in fact required to qualify as an invention. The Supreme Court has held that an invention may be complete for patentability purposes when it is "ready for patenting," even if not

¹⁵⁸ *In re Roslin Inst.*, 750 F.3d 1333 (Fed. Cir. 2014).

¹⁵⁹ Dan L. Burk, *Do Patents Have Gender?*, 19 AM. U. J. GENDER SOC. POL'Y & L. 881, 908-09 (2011).

¹⁶⁰ Karen Barad, *Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter*, 28 SIGNS 801 (2003).

¹⁶¹ 35 U.S.C. § 112.

¹⁶² *See Townsend v. Smith*, 36 F.2d 292, 296 (C.C.P.A. 1929).

yet reduced to practice.¹⁶³ Indeed, once the invention has been fully conceived, the inventor may be done with it. According to the courts, reduction to practice is the work of the common practitioner, not the work of an inventor.¹⁶⁴ The inventor need not even know that the conception actually works; that is a task for lesser hands.¹⁶⁵

The result is that, in patent law, what counts as inventorship is mental work, rather than physical work.¹⁶⁶ As Butler observes, “when we judge, we locate the phenomenon we judge within a given framework, and our judgment requires a stabilization of the phenomenon.”¹⁶⁷ The invention is stabilized within a documentary framework. The patent text describing the conceived invention is framed and judged against other texts that set forth or describe the prior art. Indeed, the inventive process need never produce the actual invention; the act of filing a properly disclosed patent application document counts as constructive reduction to practice of the invention. Language is therefore paramount; the invention need not be materially enacted; it need only be linguistically enacted. It becomes a legally cognizable entity by virtue of being described, not by virtue of physical labor.

The result is that the patent system skirts all the messy and problematic details of materiality by elevating conceptual production over corporeal production. The characteristics of the invention and its attendant inventor are largely divorced from the struggle to get recalcitrant physical material to behave; that effort is the duty of the “mere artisan” once the vaunted inventor has provided a fully enabled conception.¹⁶⁸ The material labor of innovation thus becomes a form of the “invisible” work that feminist scholars have noted typically goes unseen and unrewarded.¹⁶⁹ Masculinized social hierarchy elevates certain forms of labor and renders other labor unseen and unrecognized as menial, common, or unskilled. Essential physical labor of care providers, janitors, or sanitation workers is culturally coded as “feminine” and frequently delegated to workers of lower status, often women or persons of color.¹⁷⁰ The manual labor provided by a host of technicians, assistants, aides is similarly crucial to realizing an invention, but doctrinally overlooked (and likely institutionally underpaid).

¹⁶³ Pfaff v. Wells Electronics, Inc., 525 U.S. 55, 66 (1998).

¹⁶⁴ *Burroughs Wellcome Co. v. Barr Lab'ys., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994).

¹⁶⁵ *Applegate v. Scherer*, 332 F.3d 571, 573–74 (C.C.P.A. 1964).

¹⁶⁶ See Burk, *supra* note 153, at 189–90.

¹⁶⁷ Judith Butler, *The Sensibility of Critique: Response to Asad and Mahmood*, in IS CRITIQUE SECULAR? BLASPHEMY, INJURY, AND FREE SPEECH 101, 104 (Talal Asad ed., 2009).

¹⁶⁸ *Townsend v. Smith*, 36 F.2d 292, 295 (C.C.P.A. 1929).

¹⁶⁹ See Arlene K. Daniels, *Invisible Work*, 34 SOC. PROBS. 403 (1987).

¹⁷⁰ MAXINE L. MARGOLIS, *MOTHERS AND SUCH: VIEWS OF AMERICAN WOMEN AND WHY THEY CHANGED* 262–63 (University of California Press 1984).

C. PERFORMING HIERARCHY

From these performatives follows a third component of patent enactment that might be designated as *elitism or selectivity*. Patents assume and impose a hierarchy of distinction, separating and stratifying actors through classifications of inventive merit. Unlike physical property that can be possessed and enjoyed by anyone (or at least, anyone with sufficient wealth to acquire it), patents are assigned according to a standard of inventive superiority, from which they can afterward be divested or assigned by the inventor. This dimension of patent enactment is tightly coupled with the previously described performance of rarified or singular invention, isolating and valorizing the inventive contributions of particular actors above all the others who were active in the stabilization and realization of the invention.

As already noted, patentability is measured against the ability of a fictional person of “ordinary skill.” Lurking behind the statutory person of ordinary skill remains the figure of the “romantic inventor,” an implicit solitary archetypal mastermind who brings the fruits of his intellect to the common masses.¹⁷¹ At one time, the Supreme Court equated patentable innovation with a required “flash of genius.” Although the Court has since repudiated this test for patentability, commentators have observed that inventions produced by routine or tedious labor are disadvantaged over those that occur from sudden insights.¹⁷² Whether or not genius is an explicit requirement of inventorship, patents still require an inventor to be an individual of extraordinary skill in the art—this is implied by the statute, which explicitly denies patents to inventions that could be conceived by one of ordinary skill; ergo the patentable invention must be the product of extraordinary skill.¹⁷³

In alignment with these assumptions and with performative qualities of detachment and rarefication, the paradigm case for invention remains the “romantic” or “heroic” solo inventor. In fact, we know that the majority of patents today stem from group efforts, and the solo inventor, whether genius or plodder, is a comparative rarity.¹⁷⁴ The patent system allows for collaborative contributions to the claimed invention but under fastidious and restrictive requirements. To be acknowledged as a sole inventor, a contributor to innovative work must provide the full and enabling plan of the invention, which others put

¹⁷¹ CHRISTOPHER BEAUCHAMP, *INVENTED BY LAW: ALEXANDER GRAHAM BELL AND THE PATENT THAT CHANGED AMERICA* 63 (Harvard University Press 2015) (describing the trope of the Romantic “genius”); Michael S. Carolan, *Constructing the “Pure” Inventor: Individual, Collective, and Corporate Authorship within Patent Law*, 27 *NEW GENETICS & SOC’Y*, 301 (2008) (same).

¹⁷² Jacob S. Sherkow, *Negating Invention*, 2011 *BYU L. REV.* 1091 (2011).

¹⁷³ 35 U.S.C. § 103 (declaring the patentability requirement that the claimed invention not be obvious to one of ordinary skill).

¹⁷⁴ Mark A. Lemley, *The Myth of the Sole Inventor*, 110 *MICH. L. REV.* 709 (2012).

into practice.¹⁷⁵ A co-inventor may contribute something less than the full plan of the invention, but the contribution must be to the conception of the invention—not simply to its physical instantiation or reduction to practice.¹⁷⁶ Joint inventorship can be recognized on the document, when a collaborator contributes the conception of at least one of the claims.¹⁷⁷

But this standard again draws the line at acknowledging a particular type of mental work, inventive conception, which is delineated by the structure of the claims themselves. Collaborators whose ideas, suggestions, and input are not codified within the claims are excluded even if their contributions were essential to the success of the inventive process.¹⁷⁸ Moreover, beyond the contributions of those who explicitly meet the statutory requirements for inventorship, there inevitably lies a vast body of input from those who have not contributed to the conception of any given claim, but without whom the invention would never have come to pass. As we have already noted with regard to materiality, patent inventorship doctrines effectively place the vast assisting body of technicians and support staff that enable any inventive activity into an unacknowledged position.¹⁷⁹

Thus, patents go only to a cadre of elite innovators, where the elite classification is determined by the patent itself. Elitism typically carries a negative connotation, although that coloring is contextual—at times we applaud or at least acquiesce in classificatory exclusion. Everyone should have the opportunity to vote in a democracy, but not everyone should perform brain surgery or play in the World Series. Thus, we might suppose that our current selective enactment of inventorship is justified because technical innovation is one of those contexts where extraordinary skill is essential, and so patents should be reserved for those rare individuals. But one almost immediately runs into trouble with this justification, in that patents are available to accidental or serendipitous discoveries, and so can accrue to anyone who is lucky enough to stumble across an eligible invention, regardless of actual skill. Indeed, the ordinary skill requirement is intended to be an objective standard assessing whether the invention could or should have been the product of extraordinary skill, not whether the invention actually was.¹⁸⁰

We might say that the line must be drawn somewhere, but that of course presupposes that a line indeed has to be drawn. One could draw other kinds of lines or forgo lines for a continuum. Some commentators have suggested that

¹⁷⁵ *Agawam Co. v. Jordan*, 74 U.S. 583, 602–03 (1869).

¹⁷⁶ *Burroughs Wellcome Co. v. Barr Lab'ys. Inc.*, 40 F.3d 1223, 1229–30 (Fed. Cir. 1994).

¹⁷⁷ *SmithKline Diagnostics, Inc. v. Helena Lab'ys Corp.*, 859 F.2d 878, 888 (Fed. Cir. 1988).

¹⁷⁸ *See Brown v. Regents of the Univ. of Cal.*, 866 F. Supp. 439, 445 (N.D. Cal. 1994) (holding that contribution of data and recognition of the presence of a novel immunodeficiency virus did not constitute inventorship of methods for detecting the virus).

¹⁷⁹ *See supra* notes 168–170 and accompanying text.

¹⁸⁰ Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590, 1621 (2011).

recognition is as important as exclusivity, implying that one could well have a system where many contributors are acknowledged or credited, even if all do not receive exclusive rights.¹⁸¹ One could also envision any number of other systems involving incremental attribution or remuneration for the invention. My point here is not to select from among the multitude of other possibilities that arise once we admit that our current conception of inventorship is not a natural law, but rather to emphasize the possibility that we have currently implemented systems that enact inventorship in a particular way, so that it enacts the inventor in a particular way. And the particular way we have adopted instantiates norms of hierarchy that (among other effects) inevitably impact the participation of women as inventors.

D. PERFORMING EXTRACTION

The enactments described thus far support and promote a further set of performative tropes of *dominance and extraction*. We have already observed, following Butler, that Austin's perlocutionary effects and illocutionary effects are not separate; causal outcomes from a declaration may become constitutive effects over time.¹⁸² Such performative precession between perlocution and illocution is apparent in the market framing of patents. Patents are framed as devices for the exploration and generation of new goods, and thus for the generation of new markets.¹⁸³ They are at the same time framed as devices for engaging existing mechanisms of commodification and exploitation—as property rights that may be licensed, sold, devised, and traded like any other property.¹⁸⁴ Consequently, patents precess between exploration and exploitation, between formative perlocution and established illocution.¹⁸⁵ The patent has immediate illocutionary force by citing to and drawing upon established conventions of law and trade; it creates perlocutionary effects as it introduces new associations and relationships.

This resulting logic of extraction is pronounced throughout patent law and follows from what we have already seen regarding performance of isolation and of rarefication. We have, for example, already noted the separation of patent-eligible subject matter from patent ineligible laws and products of nature.¹⁸⁶ The Supreme Court has been relatively forthcoming in stating that some materials and processes, no matter how valuable or innovative, must be designated “natural” so that they are free for all inventors to draw upon—in other words,

¹⁸¹ Jeanne C. Fromer, *Expressive Incentives in Intellectual Property*, 98 VA. L. REV. 1745 (2012); Jason Rantanen & Sarah E. Jack, *Patents as Credentials*, 76 WASH. & LEE L. REV. 311 (2019).

¹⁸² See *supra* note 69–76 and accompanying text.

¹⁸³ See Callon, *supra* note 67, at 166 (discussing the role of commodified innovation and invention in constructing exploratory markets).

¹⁸⁴ *Id.*

¹⁸⁵ See *id.*

¹⁸⁶ See *supra* notes 148–151 and accompanying text.

valorizing some creations requires subordinating others to build a reserve from which patentable devices may be extracted.¹⁸⁷ The Court is fond of offering Newton and Einstein as examples of creators whose discoveries would be patent ineligible, because patents on such fundamental discoveries would impede other inventors who require them as the basis for their subsequent creations.¹⁸⁸ There is, of course, some irony in declaring some discoveries to be so valuable that they must remain freely accessible for others to exploit.

In recent work, Jessica Lai insightfully notes that patent law's excluded subject matter encompasses categories that might be categorized as feminine or feminized; these are ineligible for patent protection until they are put through a process of masculinized industrialization, at which point they become patent eligible.¹⁸⁹ The enactment of patentable extraction may therefore encompass only those materialities that lend themselves to technological exploitation and control, so that the attributes necessary for domination by means of the patent are effectively projected onto the subject matter of the patent. Thus, the patent system may be excluding technological development that might be socially coded as "feminine," instead re-inscribing motivations to develop technologies that facilitate and reinforce current social hierarchies, including gender hierarchies.¹⁹⁰

This interplay of extraction and patent preclusion manifests itself in the concept of the public domain. Ineligible subject matter, precluded from patenting, becomes commonly available knowledge, falling into the "public domain" from which it can be freely extracted for industrialization. The public domain also comprises other categories of technical art that lack the requisite novelty, utility, or inventiveness necessary for patenting. These items, too, may be drawn upon to construct patentable devices. Indeed, federal law has been held to preempt state law attempts to commodify categories that patent policy requires must stay publicly accessible.¹⁹¹ Here again we see the inescapable combination of separation and attachment; the claimed and proprietary invention can exist only against the backdrop of the unclaimed and unowned public domain.

Although the public domain has been lauded for its open availability as a common resource unencumbered by proprietary restraints, a number of commentators have noted that the absence of ownership claims makes resources in the public domain category subject to untrammelled exploitation.¹⁹² Rather than a patent-free zone, the public domain constitutes a pre-patent zone, structured so as to fuel the generation of successive exclusive rights. Drawing

¹⁸⁷ See *Mayo Collaborative Serv. v. Prometheus Lab's, Inc.*, 566 U.S. 66, 71 (2012).

¹⁸⁸ *Id.*

¹⁸⁹ Jessica C. Lai, *Gendered 'Objective' Patent Law: Of Binaries and Singularities*, 47 J.L. Soc'y 441 (2020).

¹⁹⁰ Burk, *supra* note 159, at 906.

¹⁹¹ See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 162 (1989).

¹⁹² Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CALIF. L. REV. 1331 (2004).

from themes in eco-feminism regarding the open availability of shared material resources, we may recognize the public domain as feminized, in the sense that it is available and vulnerable to exploitation and extraction. There is a troubling parallel in the discourse surrounding such extraction to themes of assault or rape, in the seizure or wresting of resources away from “Mother Nature” or similar feminized representations of the material world.¹⁹³ This social coding of exploitable resources impels society towards domineering and destructive forms of technological development, and so further propagates exploitation of both people and natural resources.¹⁹⁴

E. PERFORMING EXCLUSION

A fifth dimension to patent performativity is the enactment of *exclusion*, which again flows from and reinforces the prior performances of isolation, hierarchy, and extraction. This is perhaps the core aspect of enacting patents; we are told repeatedly and doggedly by courts, commentators, and practitioners that the fundamental essence of the patent is the right to exclude. The patent entails the right to use the coercive mechanisms of the state to exclude others from making, using, selling, offering, or importing the claimed invention.¹⁹⁵ Such patent exclusivity is said to be the incentive that will prompt investment in new technologies. Patents are by statute to be treated as personal property,¹⁹⁶ and the right to exclude is frequently said by patent proponents to constitute the essential characteristic of property rights.¹⁹⁷ Not coincidentally, patents are often compared to the possessory rights of landholders, which allow legal exclusion through actions such as trespass.

We have already noted that the linguistic boundaries of patent claims are often compared to the “metes and bounds” of a deed to land.¹⁹⁸ The trope equating patents to real property is intended to justify notions of absolute control, private ownership, and proprietary independence, for which real property is asserted as a paradigm. There is of course, as Nicholas Blomley would say, a mismatch between the script for this performance and its enactment;¹⁹⁹ patents are not and never have been entirely exclusive, just as other forms of property have never been entirely exclusive, despite the ideology of ownership that attaches to entitlements.²⁰⁰ Real property, the exclusivity paradigm to which

¹⁹³ See CAROLYN MERCHANT, *THE DEATH OF NATURE* 2-6, 189-90 (1980).

¹⁹⁴ VAL PLUMWOOD, *FEMINISM AND THE MASTERY OF NATURE* (1993); JANET BIEHL, *RETHINKING ECOFEMINIST POLITICS* (1991).

¹⁹⁵ 35 U.S.C. § 271(a).

¹⁹⁶ 35 U.S.C. § 261.

¹⁹⁷ Easterbrook, *supra* note 121.

¹⁹⁸ See *supra* notes 126–127 and accompanying text.

¹⁹⁹ Blomley, *supra* note 80, at 28–29.

²⁰⁰ See Joseph Singer, *No Right to Exclude: Public and Private Accommodations and Private Property*, 90 NW. U. L. REV. 1283 (1996).

patents are so often compared, has always been subject to hosts of easements, regulations, restrictions, and encumbrances.²⁰¹ Numerous scholars have pointed out the embeddedness of property in concepts of community and social relations, despite the tendency to idealize real property as a condition of autonomous solitude.²⁰²

One might imagine similar communal concepts embedded in patent policy; after all, patent policy often asserts that patents are tied to the public interest, but this is seldom how patents are performed. The disconnection between patent performance and enactment becomes apparent, for example, in the consternation that occurs when the patent community is confronted with actual practices, such as in the Supreme Court's *eBay v. MercExchange* opinion that indicated that equitable factors such as the public interest might sometimes trump a patent owner's claim to enforcement of exclusivity by means of an injunction.²⁰³ One might have thought this decision would come as no great surprise, given that the patent statute expressly states that injunctions must be based on equitable considerations, but it was taken by many as an unconscionable intrusion on the exclusivity of issued patents.²⁰⁴

This pervasive patent orthodoxy of dominance through singular, isolated, exclusive rights stands in stark contrast to the work of feminist commentators who have emphasized interconnectedness, community, and relational thinking.²⁰⁵ This line of commentary derives in part from the work of Carol Gilligan, who proposed that women tend to approach reasoning in a distinctly "feminine" manner that is contextual, relational, and personal.²⁰⁶ Following Gilligan, a large body of commentary argues that a feminine standpoint to property might emphasize contextuality and responsibility instead of separation and hierarchy.²⁰⁷ Just as patents define innovation in a particular way, so they

²⁰¹ Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 123–24 (1999).

²⁰² See JOSEPH SINGER, ENTITLEMENT: THE PARADOXES OF PROPERTY 9 (2000); see also Gregory Alexander, COMMODITY AND PROPRIETY: COMPETING VISIONS OF PROPERTY IN AMERICAN LEGAL THOUGHT 1776-1970, at 2 (1997) (observing that property is grounded in a vision of social welfare); Laura Underkuffler, *Property: A Special Right*, 71 NOTRE DAME L. REV. 1033, 1046 (1996) (noting that property is by nature a social right).

²⁰³ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

²⁰⁴ See, e.g., Adam Mossoff, *Institutional Design in Patent Law: Private Property Rights or Regulatory Entitlements*, 92 SO. CAL. L. REV. 921, 938–39 (2019) (arguing that the eBay decision undermines the reliability of patent property rights); see also F. Scott Kieff & Henry E. Smith, *How Not to Invent a Patent Crisis*, in REACTING TO THE SPENDING SPREE: POLICY CHANGES WE CAN AFFORD 55, 67 (Terry L. Anderson & Richard Sousa eds., 2009) (arguing that the eBay decision improperly separates the standard for patent injunctions from that for real property injunctions).

²⁰⁵ See Lisa R. Pruitt, *A Survey of Feminist Jurisprudence*, 16 U. ARK. LITTLE ROCK L.J. 183, 192–93 (1994) (surveying the relational themes in feminist jurisprudence).

²⁰⁶ CAROL GILLIGAN, IN A DIFFERENT VOICE: PSYCHOLOGICAL THEORY AND WOMEN'S DEVELOPMENT 160 (1982).

²⁰⁷ See, e.g., SARAH KEENAN, SUBVERSIVE PROPERTY: LAW AND THE PRODUCTION OF SPACES OF BELONGING (2016); Davina Cooper, *Opening Up Ownership: Community Belonging, Belongings*,

define innovators in a particular way, but performing patent exclusivity may misalign with a feminine standpoint that understands the self in relation to, rather than in opposition to, others and the world.²⁰⁸

This dissonance seems manifest in the data characterizing the patent gender gap. Empirically we know that female scientists and engineers are less likely than their male counterparts to think about commercialization of their work, less likely than their male counterparts to engage in self-promotion regarding their discoveries, and thus less likely than their male counterparts to think about patenting.²⁰⁹ The reflexive response to this difference is to favor training women to think about commercialization, to encourage them to promote themselves, and to assist them in applying for patents. That is the response we see now from the USPTO and other responsible agencies.²¹⁰

But as some feminist commentators have pointed out, the assumption that women need to think more like men is itself a problematic expectation.²¹¹ It is not altogether clear that valorizing commercialization, self-promotion, and exclusivity of new discoveries is necessarily a productive or healthy way to think about scientific and technological progress. Such performances tend to be distant from and disassociated with the feminine role in the modern Western societies that value patents. And it is more than a little problematic to ask, much like Henry Higgins, why a woman cannot be more like a man, or at least to ask why female inventors and entrepreneurs cannot be more isolated, elitist, hierarchical, dominating, extractive, exploitative, and exclusive. Rather than assuming that women must embrace such performances to enjoy the full benefits of the patent system, perhaps patents need to be re-enacted to accommodate female participation, and perhaps to encourage men to think about innovation more like women.

and the Productive Life of Property, 32 L. & SOC. INQUIRY 625 (2007); Jennifer Nedelsky, *Law, Boundaries, and the Bounded Self*, 30 REPRESENTATIONS 162 (1990).

²⁰⁸ See generally CATHERINE KELLER, FROM A BROKEN WEB: SEPARATION, SEXISM, AND SELF (1986) (describing how different conceptions of identity form a web of understanding of being).

²⁰⁹ Murray & Graham, *supra* note 9, at 682–83; Stephan & El-Gainainy, *supra* note 8, at 479–80.

²¹⁰ See, e.g., United States Patent & Trademark Office, Study of Underrepresented Classes Chasing Engineering and Science Success: SUCCESS Act of 2018, at 21–25 (2019) <https://www.uspto.gov/sites/default/files/documents/USPTOSuccessAct.pdf> (detailing USPTO and SBA programs to encourage women and minority innovators to participate in patenting).

²¹¹ Inmaculada de Melo-Martín, *Patenting and the Gender Gap: Should Women Be Encouraged to Patent More?*, 19 SCI. & ENG. ETHICS 491 (2013) (questioning whether enhanced participation of women in patenting would be socially desirable).

V. CONCLUSION

There is an unfortunate irony in the present attention given to the gender gap in patenting. Although doubtless well-intentioned, the concern that women are excluded from the patent system helps to re-inscribe the centrality of patents by insisting that women must be included in order to be fully realized as researchers, as entrepreneurs, and as people.²¹² As Jessica Lai points out, the prevailing portrayal of the gender gap in patenting to some extent lays the blame for the deficit of female innovation on women for failing to conform—if only more women were to go into science and engineering, adopt the right attitudes, make the right connections, and pursue commercialization like their male counterparts, they could profit from the patent system.²¹³ This response implicitly assumes that women are the aberrant actors who need to learn to adapt to the patent system, rather than assuming that the fault lies in the patent system, which should perhaps instead adapt to the needs and expectations of excluded women.

The exposition of performativity above should demonstrate why this approach to closing the patent gender gap cannot succeed. The misalignment between enacting invention and enacting gender will not be resolved by guiding more women into science and engineering (as socially desirable as that effort may be for any number of other reasons). The social roles of patents, not merely the social roles of women, would require revision. Reconstituting innovation and invention is no simple task given the reflexive circularity of patent enactment; the norm of the masculine inventor is stabilized by a vast array of social expectations which it in turn helps to stabilize.

Rather, the constraints imposed by patent performativity must form the basis for their own reform. Here we turn back to Judith Butler, who shows how the constraints of performative social norms may be turned to resist those same norms. In the context of performative gender, Butler famously offers the example of the transvestite, who performs gender transgressively.²¹⁴ “Drag” performances, according to Butler, appropriate the norms of gender, playing them against themselves to rework the possibilities of gender.²¹⁵ Such observations point the way to parallel reworking of the social tropes associated with patenting and innovation. Transgressive re-orientation of patent isolation, elitism, hierarchy, dominance, extraction, and exclusivity might similarly expose the performance of inventorship to re-interpretation and open new possibilities for enacting innovation.

²¹² Cf. Blomley, *supra* note 80, at 47 (noting that critiques of property ownership models may performatively re-enact those models by emphasizing their centrality).

²¹³ See Jessica C. Lai, *The Role of Patents as a Gendered Chameleon*, 30 SOC. & L. STUD. 203, 206 (2020).

²¹⁴ JUDITH BUTLER, *GENDER TROUBLE: FEMINISM AND THE SUBVERSION OF IDENTITY* 175 (1999).

²¹⁵ *Id.*

To be sure, Butler cautions that, at least in the case of gender, enactment remains compelled, constrained, and effectively mandatory.²¹⁶ Gender is a characteristic on which societies force individuals to take some stance. Even those who adopt non-binary or gender fluid performances must do so with reference to the concept of gender, and to the dominance of masculine or feminine norms. Society is perhaps less exercised with regard to inventorship than it is with regard to gender—one need not necessarily engage with innovation, although it should be noted that the failure to do so in effect takes a stand regarding innovation, by making a choice *not* to be defined as an inventor. But once the individual actively engages with the role of inventor, the reference points are constrained and largely fixed. The inventor must, for example, by definition be a person of extraordinary skill in the art, because if the invention could be developed by one of ordinary skill, it is by definition unpatentable. The choice to be an ordinary inventor is not currently accommodated within patent enactment.

Thus, we cannot expect that the defining tropes of patent enactment can be avoided, but Butler's analysis suggests that they can be *subverted*. Performative constraints may be repurposed to mark out a space for greater diversity. We see indications in recent scholarship of how patents might be “queered” in this fashion. Some commentators have begun to question the assumption that the promotion of technical progress is always beneficial.²¹⁷ Others have challenged the notion of “progress” itself, asking whether innovation may be defined differently than the extractive purposes of current patent policy.²¹⁸ In the copyright context, Severine Dusollier has similarly argued that intellectual property should be re-imagined as a set of inclusive, rather than exclusive rights.²¹⁹ Geertrui van Overwalle has explicitly attempted to operationalize such inclusive rights for the patent system, outlining a system for inclusive, rather than exclusive patents.²²⁰ Such glimmers of resistance to the existing enactment of patents indicate the potential for defining more inclusive performances of inventorship and innovation.

²¹⁶ Butler, *supra* note 53, at 24.

²¹⁷ See, e.g., Daniel J. Hemel & Lisa Larrimore Ouellette, *Innovation Institutions and the Opioid Crisis*, 7 J.L. BIOSCIENCES 1 (2020) (exposing the role of the patent system in creating and escalating opioid abuse).

²¹⁸ Margaret Chon, *Postmodern 'Progress': Reconsidering the Copyright and Patent Power*, 43 DEPAUL L. REV. 97 (1993).

²¹⁹ Severine Dusollier, *Inclusivity in Intellectual Property*, in INTELLECTUAL PROPERTY AND GENERAL LEGAL PRINCIPLES – IS IP A LEX SPECIALIS? 101 (Graeme Dinwoodie ed., 2015).

²²⁰ Geertrui Van Overwalle, *Inventing Inclusive Patents: From Old to New Open Innovation*, in 1 KRITIKA: ESSAYS ON INTELLECTUAL PROPERTY 206 (Peter Drahos, Gustavus Ghidini & Hans Ullrich eds., 2015).