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Hired to Invent vs. Work Made For Hire: Resolving the Inconsistency Among Rights of Corporate Personhood, Authorship, and Inventorship

*Sean M. O'Connor**

I. INTRODUCTION

This Essay focuses on the interrelation of three legal doctrines that affect the allocation of ownership and attribution of products of the human mind. The first, corporate personhood, grants corporations rights of personhood similar to those of natural persons. The second, the work-made-for-hire doctrine (WMFH) under copyright law, allocates ownership and attribution for copyrightable works to the employer of the natural-person author—even where that employer is a nonnatural, legal person such as a corporation. And the third, shop rights and the hired-to-invent exception, permits courts to grant equitable licenses or assignments to employers for their employees' inventions. These three doctrines have very different backgrounds and rationales. Yet, they are increasingly brought to bear simultaneously in innovative firms where creative works are developed that include copyrightable and patentable elements.

At the same time, the three doctrines are inconsistent with regard to the result of their application to questions of allocation of ownership and attribution of creative works. As a preliminary matter, “ownership” means the right to the legal title of the creative work, whereas “attribution” means the right to claim recognition as the author or inventor of the creation. Corporate personhood accords corporations nonexclusive lists of enumerated powers, such as the power to own and convey property, together with catchall powers to do whatever is necessary or convenient

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to achieve their business goals. These rights and powers seem to follow those of natural persons.¹ On its own, this doctrine would seem to allow corporations to be authors and inventors in both ownership and attribution, similar to natural persons. But corporations are not natural persons, and they cannot be said to “create” or act in the real world in the way that human agents can. Thus, there is artificiality to this concept of corporations as authors or inventors. WMFH is partly consistent with corporate personhood, as it in certain situations grants ownership and attribution rights in works of authorship to the corporate person as employer (as discussed in Part III).² By contrast, the common law doctrines of shop rights and the hired-to-invent exception, together with federal patent-law rules of inventorship, do not allow corporate inventors.³ At most, corporations can be assignees of patent titles and applications, which are given the attributes of personal property under the Patent Act.⁴ This rule gives the corporation ownership of the patent or application, but not attribution as inventor. Inventorship attribution is reserved for only natural-person inventors, and the failure to list all of the natural-person inventors can invalidate the patent.⁵

The inconsistency in these doctrines and their application, even when written agreements between creators and corporate persons exist, is leading to uncertainty and litigation.⁶ This problem is likely to get only worse as corporations develop more “convergence” products that contain copyrightable and patentable elements, such as video games and smartphone applications. Accordingly, this Essay argues that Congress should amend both the Copyright Act and the Patent Act to harmonize the ownership and attribution allocation rules, while expressly preempting shop rights and the hired-to-invent exception under state common law. This harmonization would center on allocating ownership of inventions and works of authorship to corporations, while still allocating attribution inalienably to inventors and authors. In this way, firms would get the ownership rights they need to justify investment in the inventions and works, as well as to facilitate orderly development, manufacturing,

1. See, e.g., DEL. CODE ANN. tit. 8, §§ 121–22 (West 2011); MODEL BUS. CORP. ACT § 3.02 (2011).

2. See 17 U.S.C. §§ 101, 201(b) (2011).

3. See 35 U.S.C. §§ 101, 102(c), 102(f) (2011); Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 131 S. Ct. 2188, 2192, 2194–95 (2011); United States v. Dubilier Condenser Corp., 289 U.S. 178 (1933); DONALD CHISUM, CHISUM ON PATENTS § 22.01 (2011).

4. 35 U.S.C. § 261.

5. See *infra* Part IV.

6. See, e.g., *Roche Molecular Sys.*, 131 S. Ct. at 2188; Larry Rohter, *Record Industry Braces for Artists' Battles Over Song Rights*, N.Y. TIMES, Aug. 15, 2011, at C1, available at <http://www.nytimes.com/2011/08/16/arts/music/springsteen-and-others-soon-eligible-to-recover-song-rights.html?pagewanted=all>.

and distribution of products embodying the inventions and works. At the same time, creators would be able to retain attribution rights crucial for their professional development and credentials.

The Essay briefly reviews corporate personhood in Part II. It then outlines the background context and current state of the law governing authorship in Part III and inventorship in Part IV. Finally, Part V proposes that: (1) the WMFH provision in the Copyright Act be amended to grant inalienable attribution rights to the natural-person creators of copyrightable works; and (2) the Patent Act be amended to add a WMFH provision for patentable inventions that expressly preempts shop rights and the hired-to-invent exception under state common law, while also granting inalienable attribution rights to natural-person inventors of patentable inventions.

II. CONCEPTS OF CORPORATE LEGAL PERSONHOOD

The corporation as a legal concept is not limited to the business corporation, even though the majority of literature concerning corporate law treats it that way.⁷ The origins of the form and practice of incorporation are murky, with some commentators ascribing corporate or proto-corporate forms to ancient Rome,⁸ and others to ancient India.⁹ This attribution generally varies depending on whether one is looking for a legal entity meeting the standard legal criteria for a modern business corporation,¹⁰ or focusing solely on the indicia of a collection of individuals who have come together to act as one “corporate” body.¹¹ Another point of distinction is between systems in which the corporation can be formed only as a privilege granted by a sovereign (“concession” systems) and those in which the incorporators have the right to form the entity after following certain formalities (“free-incorporation” systems). Contemporary corporate law scholars primarily choose free-incorporation systems and the four criteria of the modern business corporation as the model of what they seek in the historical record. Accordingly, these scholars focus

7. See Liam Séamus O'Melinn, *Neither Contract nor Concession: The Public Personality of the Corporation*, 74 GEO. WASH. L. REV. 201 (2006).

8. ELLEN GOODMAN, *THE ORIGINS OF THE WESTERN LEGAL TRADITION: FROM THALES TO THE TUDORS* 202 (1995); Paul G. Mahoney, *Contract of Concession? An Essay on the History of Corporate Law*, 34 GA. L. REV. 873 (2000).

9. Vikramaditya S. Khanna, *The Economic History of the Corporate Form in Ancient India* (Jan. 9, 2012) (unpublished manuscript), available at http://www.law.yale.edu/documents/pdf/cbl/khanna_ancient_india_informal.pdf.

10. The four characteristics set out by Clark are the ones most often used: “(1) limited liability for investors; (2) free transferability of investor interests; (3) legal personality (entity-attributable powers, lifespan, and purpose); and (4) centralized management.” ROBERT C. CLARK, *CORPORATE LAW* 2–4 (1986).

11. GOODMAN, *supra* note 8.

on the many early noncorporate forms of commercial enterprises (such as partnerships) that exhibit antecedents of such properties.¹² But these scholars then overlook the first actual entities formed as “corporations”—as discussed below—because they were generally not used for business purposes and required the concession of a sovereign.

The term and concept “corporation” derived from the *universitas*, *corpus*, and *collegium* of Roman law.¹³ At its core, the concept relied on the transformation of individuals into one new corporate body.¹⁴ The essential characteristic of incorporation was the voluntary joining of individuals into a formal community.¹⁵ Under Emperor Justinian, the state itself was conceived of as a unitary institution of individuals formed under higher political authority.¹⁶ Municipalities and private organizations, including political clubs and trader guilds, were also conceived of as corporations; they were groups of individuals who chose to become “one body” and to act and speak as one in certain matters. But these entities’ rights of legal personhood—such as the right to own property, to make contracts, and to sue and be sued—were entirely dependent on a grant from the sovereign, in true concession-system fashion.¹⁷ Christianity itself was self-organized as a corporation, in that the Church and its members were taken quite seriously to be the body or corpus of Christ.¹⁸ This sense of group persona and purpose as the defining characteristics of a corporation also arose from the early Germanic *genossenschaft*, an association that constituted the household, warrior band, clan, or village.¹⁹

In this sense, corporations were prolific in the Middle Ages and transcended the regular order of feudal, tribal, kinship, or clan affiliations because they were based on voluntary affiliations of mutual interests. Parts of the Church were also corporations, including abbeys, monasteries, and individual churches or parishes. A major development came in the twelfth century when the Church as a whole declared itself a corporate entity that transcended any secular governments. As such, the Church did not need concessions from any of them to be an independent legal person. Because this move engendered conflict between the papacy

12. See, e.g., Henry Hansmann et al., *Law and the Rise of the Firm*, 119 HARV. L. REV. 1335 (2006).

13. GOODMAN, *supra* note 8.

14. *Incorporation*, OXFORDDICTIONARIES.COM, http://oxforddictionaries.com/definition/incorporate?region=us&q=incorporation#incorporate__6 (last visited Apr. 14, 2012).

15. GOODMAN, *supra* note 8. This section is summarized from Goodman.

16. *Id.*

17. There is some evidence that before Emperor Augustus, such corporations could be formed without the concession of the state as a matter of free association. See J. A. C. THOMAS, TEXTBOOK OF ROMAN LAW 469–75 (1976).

18. GOODMAN, *supra* note 8 (citing 1 *Corinthians* 12:27).

19. *Id.*

and the various royal sovereigns, this episode proved once again why sovereigns had good reason to be wary of independent, self-forming legal persons beyond their control. Notwithstanding these issues of church and state, the concept of the corporation as a set of individuals who give up some of their rights to become mere members of a single corporate body arguably provides the best justification for granting corporations the status and rights of legal persons. In essence, this original form of corporation simply *was* a single legal person.

By contrast, what we would consider to be sole proprietorships and partnerships tended to be more commercial in nature. For example, the Italian *commenda* of the late-Medieval and Renaissance periods was an early form of limited partnership based solely on contractual relationships.²⁰ The hallmark of these commercial organizations was that they were generally formed for a single venture or voyage.²¹ But many English courts would not enforce the contracts underlying the *commenda* form, and so British traders could not use it.²² This led to a further business entity innovation, whereby traders would buy the charters of moribund corporations that had been formed for other purposes to use instead for the traders' business ventures.²³ In other cases, the traders entered into contractual relationships and issued "joint stock" shares in a manner that functionally approximated a chartered corporation and would generally be enforced by British courts.²⁴

Paul Mahoney suggested that British traders' practices could have led to the development of corporations based not on concession chartering, but instead simply on evolved principles of contract, property, and possibly even tort law.²⁵ But he pointed to Lord Coke's declaration in the 1612 *Case of Sutton's Hospital* that incorporation could not legally occur without the concession and grant of privileges by the Crown as the turning point that thwarted the development of de facto contract-based corporations.²⁶ Mahoney argued that notwithstanding this impact, Coke's edict slowly but steadily lost much of its force over the next century, allowing creative lawyers and merchants to form de facto legal persons again.²⁷ But the passage of the Bubble Act by Parliament in 1719 once again

20. Mahoney, *supra* note 8.

21. *Id.*

22. *Id.*

23. Katharina Pistor et al., *The Evolution of Corporate Law: A Cross Country Comparison*, 23 U. PA. J. INT'L ECON. L. 791, 806 (2002).

24. Mahoney, *supra* note 8.

25. *Id.*

26. *Id.* (citing *The Case of Sutton's Hospital*, (1612) 77 Eng. Rep. 960 (K.B.) 964–65).

27. *Id.*

brought an end to these pseudo-corporations.²⁸ It would not be until 1825 that the Bubble Companies Act would bring free incorporation to England.²⁹

The development of free-incorporation systems for business corporations in Europe and the United States during the 1800s arguably began the ascendancy of the perspective that the only kind of corporation is the business corporation.³⁰ While nonprofit and municipal corporations were still being formed in substantial numbers, attention became focused on the developing law regarding business corporations. This may be because the laws for business corporations were changing rapidly, especially by comparison to the statutes for nonprofit and municipal corporations. At the same time, the business corporation was becoming something quite different from its antecedents.

In the United States, states began to compete for firms to incorporate within them because of the revenues obtained from corporate charters, which included franchise fees and taxes, as well as the economic development that occurred when the firms also set up operations in the state.³¹ Corporate purpose requirements were loosened until they reached the modern standard that allows corporations to be formed simply “for any lawful purpose.”³² Stock par-value requirements, which were intended to keep a lid on favoritism and questionable stock grants, were reduced to de minimis amounts or even eliminated entirely.³³ The term of the corporation’s existence was allowed to be perpetual (until or unless dissolved by the shareholders or by state action in highly egregious situations).³⁴ Ultimately, loosening these requirements led to the twentieth-century notion that corporations were perpetual profit-making ventures with the primary goal of wealth maximization for their shareholders.³⁵ Further, the rapid growth in the size of corporations and shareholder classes, together with the separation of owners and managers facilitated

28. Bubble Act, 6 Geo., c. 18 (1719) (Eng.); Mahoney, *supra* note 8.

29. Bubble Companies Act, 6 Geo. 4, c. 91 (1825) (Eng.).

30. See O’Melinn, *supra* note 7; Pistor et al., *supra* note 23.

31. See, e.g., JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET: A HISTORY OF THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE* 42 (3d ed. 2003); Lucian Ayre Bebchuck, *Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law*, 105 HARV. L. REV. 1435 (1992); William L. Cary, *Federalism and Corporate Law: Reflections Upon Delaware*, 83 YALE L.J. 663 (1974).

32. See, e.g., DEL. CODE ANN. tit. 8, § 101(b) (West 2011); MODEL BUS. CORP. ACT § 3.01 (2011).

33. See, e.g., DEL. CODE ANN. tit. 8, § 151 (classes of stock may have par value or no par value); MODEL BUS. CORP. ACT § 6.21 (board may determine the level of adequate value to be received in exchange for shares).

34. See, e.g., DEL. CODE ANN. tit. 8, § 122(1); MODEL BUS. CORP. ACT § 3.01(1).

35. See, e.g., *Dodge v. Ford Motor Co.*, 100 N.W. 668 (Mich. 1919).

by the rise of a professional managerial class, meant that any real notion of a common sense of purpose for the corporation—other than wealth maximization—evaporated.³⁶

Currently, the Model Business Corporation Act (MBCA), established by the American Bar Association, sets out a nonexclusive list of enumerated powers of personhood for corporations. But it also includes the catchall provision that, unless otherwise limited by its articles, a corporation “has the same powers as an individual to do all things necessary or convenient to carry out its business and affairs.”³⁷ A number of jurisdictions have substantially adopted the MBCA. Delaware, the leading jurisdiction for incorporation, has a different statute: the Delaware General Corporation Law (DGCL). But the DGCL establishes powers of legal personhood that include substantially similar analogues to those set out in the MBCA, including the catchall provision.³⁸ Given the broad scope of these powers, one might expect that authorship and inventorship would easily be included within them. Yet, the current situation is a mixed bag because of superseding legal doctrines within federal law. Corporations can be authors under copyright law, but they cannot be inventors under patent law. We turn now to each of these roles in the next two Parts.

III. CORPORATIONS AS AUTHORS

Under the WMFH provisions of the Copyright Act, employers and parties who commission the creation of copyrightable works can stand in as the sole author for such works.³⁹ They need not acknowledge or give attribution to the natural-person creators, and they need not pay any extra compensation to secure title beyond whatever they already agreed to pay the employee or independent contractor. But the means of establishing

36. This notion, of course, was a central driver and theme for Adolf Berle in *The Modern Corporation and Private Property*. See generally ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* (1932).

37. “Unless its articles of incorporation provide otherwise, every corporation has perpetual duration and succession in its corporate name and has the same powers as an individual to do all things necessary or convenient to carry out its business and affairs” MODEL BUS. CORP. ACT § 3.02.

38. Delaware General Corporation Law provides as follows:

In addition to the powers enumerated in . . . this title, every corporation, its officers, directors and stockholders shall possess and may exercise all the powers and privileges granted by this chapter or by any other law or by its certificate of incorporation, together with any powers incidental thereto, so far as such powers and privileges are necessary or convenient to the conduct, promotion or attainment of the business or purposes set forth in its certificate of incorporation.

DEL. CODE ANN. tit. 8, § 121(a).

39. 17 U.S.C. §§ 101, 201(b) (2011).

the WMFH relationship differ as between employees and independent contractors. Employees are deemed to have submitted to the WMFH relationship simply by being employees and creating a work within the scope of their employment. No writing is required. In fact, to alter this default, the employer and employee must enter into a signed writing specifically disclaiming the WMFH relationship.⁴⁰ By contrast, parties commissioning independent contractors must secure a writing expressly establishing the commissioned works as WMFH.⁴¹ Further, any work so commissioned must fit within one of nine enumerated categories of works.⁴²

One crucial consequence of applying WMFH status to a work is that it cuts off the termination rights that natural-person authors have when they assign or license their works.⁴³ This termination right was added into U.S. copyright law as part of the Copyright Act of 1976,⁴⁴ and as such it applies only to assignments and licenses executed after January 1, 1978. The right vests thirty-five years after the execution of the grant and continues for five years from that date.⁴⁵ Its purpose is to allow authors the opportunity to get out of unfavorable deals they strike when they start out and have inadequate resources to value and negotiate for their rights.⁴⁶ The termination right gives artists a second bite at the apple. Further, it is not waivable.⁴⁷ Because the right first appeared in the 1976 Act, the first termination windows are opening right now.⁴⁸ Accordingly, the provision is only now being put to the test. So far, record

40. *Id.* § 201(b). This rule has raised particularly interesting issues with regard to faculty scholarship and teaching materials, which are not resolved as easily as has been traditionally believed. See SEAN M. O'CONNOR ET AL., LEGAL CONTEXT OF UNIVERSITY INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER 60-63 (2010), available at http://sites.nationalacademies.org/PGA/step/PGA_058712.

41. 17 U.S.C. § 101.

42. *Id.* The categories include works specifically ordered or commissioned as (1) a contribution to a collective work, (2) a part of a motion picture or other audiovisual work, (3) a translation, (4) a supplementary work, (5) a compilation, (6) an instructional text, (7) a test, (8) answer material for a test, or (9) an atlas. *Id.* A "supplementary work" is as follows:

[A] work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes.

Id. An "instructional text" is "a literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities." *Id.*

43. *Id.* § 203.

44. Copyright Act of 1976, Pub. L. 94-553, 90 Stat. 2541 (1976).

45. 17 U.S.C. § 203.

46. H.R. REP. NO. 94-1476, at 124 (1976).

47. 17 U.S.C. § 203(a)(5).

48. See, e.g., Rohter, *supra* note 6.

labels in particular are showing every sign of contesting termination notices.⁴⁹ The labels claim that the recording contracts the artists signed were actually WMFH agreements, with the artists characterized as either employees or independent contractors.⁵⁰ The artists, in response, deny the WMFH interpretation and assert that the contracts were merely assignments or licenses.⁵¹

While the contracts executed by major labels will likely turn out to be fairly clear as to whether or not they are WMFH—as they will have been drafted by highly experienced lawyers well-versed in the law—contracts drafted by parties without access to sophisticated copyright attorneys may not be so easy to interpret. Based on my experience as a practicing intellectual property attorney, many business people and attorneys who are not copyright specialists fail to grasp the difference between WMFH, on the one hand, and assignments or licenses, on the other. Accordingly, I have reviewed many contracts that conflate the two. An independent-contractor agreement will sometimes purport to establish a WMFH commission, but the work in question will not fall into any of the nine enumerated categories. In other cases, an independent-contractor agreement concerning a work that might not fit into one of the enumerated categories will adopt a “belt and suspenders” approach, in which a savings clause is added to effect an assignment in the event that a court finds that there is not a WMFH. This is a perfectly fine legal tactic, and it will get the commissioner of the work at least some rights. But it means that the availability of the termination right cannot be known until or unless a court adjudicates whether the contract in fact effected a WMFH commission. Accordingly, we can expect a substantial amount of litigation in the coming years.

The next Part examines how and why there can be no “corporate inventor” and thus no patent-law analogue to WMFH. The question then is why copyright law provides for WMFH. The remainder of this Part seeks to answer this by sketching some early history of the nature of authorship in classical antiquity and the later development of copyright during the West’s early modern period.

In classical antiquity, there was no such thing as the creative, self-expressing artist that we are so familiar with today.⁵² Works were created

49. *Id.*

50. *Id.*

51. *Id.*

52. See PAMELA O. LONG, OPENNESS, SECRECY, AUTHORSHIP: TECHNICAL ARTS AND THE CULTURE OF KNOWLEDGE FROM ANTIQUITY TO THE RENAISSANCE 7–10, 43–45 (2001); Mario Biagioli, *Genius Against Copyright: Revisiting Fichte’s Proof of the Illegality of Reprinting*, 86 NOTRE DAME L. REV. 1847 (2011).

as functional objects with pleasing elements.⁵³ Much of what we would consider the “fine arts” today were considered the “imitative arts”—imitating pleasing aspects of nature in painting, sculpture, and music.⁵⁴ Literary works were either factual treatises, allegorical stories, poetry, or drama intended to convey moral messages.⁵⁵ Only poetry was considered to be “new” or original to the writer, though it was not attributed to the writer. Rather, it was seen as a manifestation of “divine madness,” in which the poet channeled supernatural messages.⁵⁶ Concomitant with this absence of a sense of the creative genius of the artist was the absence of any sense that the “author” of a work had to be the natural persons who were producing part or all of it. Instead, the “author” was the person or entity who *authorized* the work to be produced, or the person or entity under whose *authority* it was produced.⁵⁷ From these exemplars, it is clear how the term “author” arose in the first place.⁵⁸

This sense of the author as an authority helps explain why experts, learned men, and even rulers had books written using their name as the author, even where they neither crafted the content nor scribed the work.⁵⁹ It was perfectly acceptable for them to be considered the author of the “new” work by having merely selected or edited the work of others.⁶⁰ This selected material could have been created through commission specifically for the new volume, or it could have been taken from preexisting content in other sources.⁶¹ In this way, there was neither copyright infringement (because there were no copyrights) nor plagiarism, even when exact passages were copied from the works of other authors. The role of the author was simply to put his imprimatur of authority on the volume.⁶² Readers wanted to know that a certain known expert had endorsed the content, regardless of the source from which that content originated.⁶³ Beyond this practice, during one period of European history,

53. See Paul O. Kristeller, *The Modern System of the Arts: A Study in the History of Aesthetics (I)*, 12 J. HIST. IDEAS 496, 498–503 (1951).

54. See *id.* at 497.

55. LONG, *supra* note 52, at 7–10, 18–45.

56. Kristeller, *supra* note 53, at 500.

57. LONG, *supra* note 52, at 7–10, 16–45.

58. The word “author” arises in English from the Latin word *auctor* by way of Anglo-Norman word *autor*, which includes cognates. *Author*, OXFORDDICTIONARIES.COM, <http://oxforddictionaries.com/definition/author?region=us&q=author> (last visited Apr. 14, 2012).

59. LONG, *supra* note 52, at 7–10, 18–45.

60. *Id.*

61. *Id.*

62. *Id.* at 10–12.

63. *Id.* at 7–12.

merely being the patron of a creator's work entitled the patron to be the sole attributed author.⁶⁴

Even after the Romantic sense of the artist as a creative genius producing uniquely self-expressive works took root centuries later,⁶⁵ it did not fully displace this sense of "author" as the one who commissions, oversees, or produces the work.⁶⁶ This may be in part because many masterworks required a staff of artisans to help fulfill the artist-author's vision.⁶⁷ Thus, Michelangelo and other great pre-Romantic artists' precedent of employing artisans charged with specific tasks as part of the overall project continued. Notwithstanding these contributions—many of which could be quite substantial—the studio director, such as Michelangelo, retained the sole authorship of the final product.

In sum, even as authorship developed from the authority under which a project was done to the person whose creative genius produced the work, there remained a sense that the author could still be the person or entity who commissioned or directed the project. But what does it really mean for a nonnatural legal person, such as a corporation, to have a vision for a work to be produced? Technically, it needs to only commission the work to be done. But the sense of "author" that emerged from the Romantic period was of the visionary genius who could envision and then produce, directly or through assistants, a masterwork. A corporation does not have this capacity, at least not in and of itself, separate from its members or directors. The older sense of the corporation as something that made its members into one body politic and allowed them to speak with one voice and act as one being in the world supports the Romantic sense of author on behalf of corporations. The vision to be authored could be the collective vision of the members and directors, such that the corporation could truly be considered the author. Unfortunately, the modern shareholder-wealth-maximization model of the business corporation does not support the Romantic model of authorship. Instead, shareholders, directors, officers, employees, and other stakeholders all bring different and often competing positions to the table. It seems silly to say that there is any true collective voice of the modern, large business corporation. Thus, the WMFH doctrine seems to be a curious legacy that does not really fit within the current corporate environment.

64. *Id.* at 9.

65. *See, e.g.*, Biagioli, *supra* note 52.

66. *See supra* note 58.

67. *See, e.g.*, CATHERINE L. FISK, *WORKING KNOWLEDGE: EMPLOYEE INNOVATION AND THE RISE OF CORPORATE INTELLECTUAL PROPERTY 1800–1930*, at 212–15 (2009).

IV. CORPORATIONS AND INVENTORS

The patent system does not allow for nonnatural corporate persons to be inventors. While it is commonly understood that inventorship lies only in natural-person inventors, nothing in the Patent Act expressly states this.⁶⁸ But the idea is generally understood to arise from various provisions within Title 35 as a kind of penumbral rule.⁶⁹ Chisum stated that “[t]he presumptive owner of the property right in a patentable invention is the single human inventor.”⁷⁰ The Patent Act establishes express rules of inventorship that seem to support this position.⁷¹ Further, in *Stanford v. Roche*, the Supreme Court implicitly affirmed this principle by citing its many precedents for the proposition that title vests only in inventors as an initial matter, not in their employers.⁷²

The problem is that these cases seem to assume that “inventors” must be natural persons based on the notion that only natural persons can produce inventions. For example, the Court states that “an inventor owns ‘the product of [his or her] original thought.’”⁷³ But, again, nothing in the Patent Act expressly provides that “inventors” can only be natural persons. At the same time, it may be equally reasonable to hold that copyrightable works are “the product of [a natural person’s] original thought,” to use the Supreme Court’s statement about why inventors have to be natural persons.⁷⁴ So this dictum should apply equally to copyrightable works. Perhaps, then, this is why the Copyright Act has its express WMFH provision; the default is that any products of the human mind belong to the sentient natural persons who alone can create them (in contrast to nonsentient corporate persons). Under this view the Copyright Act expressly legislated around this default for policy reasons by defining “author” as including corporate persons. This argument is addressed in more detail below. First, however, further exploration of the Patent Act’s treatment of inventorship is needed.

In cases of joint inventorship, an “inventorship entity” that acts like a general partnership is created.⁷⁵ Unlike a corporation, this is not an entity with legal personhood status. Instead, it is a collective of inventors that allows each member to assign or license his or her rights to the pa-

68. Patent Act of 1952, Pub. L. 82-953, 66 Stat. 792 (codified as amended at 35 U.S.C. §§ 1–376).

69. Commentators generally point to 35 U.S.C. §§ 101, 102(c), 102(f) (2011).

70. 8 CHISUM, *supra* note 3, § 22.01.

71. 35 U.S.C. § 116.

72. Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 131 S. Ct. 2188, 2194–95 (2011).

73. *Id.* (quoting *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 188 (1933)).

74. *Id.*

75. *See, e.g.*, 1 CHISUM, *supra* note 3, § 3.08[2].

tent. But because inventorship rights are indivisible, each joint inventor's share covers the entirety of the patent, regardless of his or her inventive contribution.⁷⁶ Thus, for example, any joint inventor's license to a third party will destroy the ability of the other joint inventors to grant an exclusive license. From these principles there arise two type of joinder problems. The first is nonjoinder, in which not all the true inventors are listed in the patent. This can invalidate the patent until it is remedied.⁷⁷ The second is misjoinder of inventors, in which an individual named as an inventor did not in fact make a substantial contribution to the invention. Misjoinder may be common, especially in large labs where a principal investigator—the director of the lab who is responsible for grants and other related issues—believes that he or she should be listed as an inventor on every patent application coming out of the laboratory. But as harmless an exercise in vanity as this may seem, it can invalidate the patent.⁷⁸ Accordingly, it is critical for patent applicants and their assignees to diligently ensure that all and only those who made substantial contributions to the invention are listed as inventors on the patent application.

For our purposes, it is critical to separate *inventorship* from *ownership*. Inventors may be only natural persons and their names must remain on the patent document even if they assign (sell) it to someone else. By contrast, anyone, including corporate persons, can own patents. The Patent Act gives patents the attributes of personal property, meaning that they are freely alienable.⁷⁹ Inventors can assign their patents, as well as grant exclusive licenses under them, so long as such assignments and exclusive licenses are in writing.⁸⁰ The Patent Act provides that any “certificate of acknowledgment under the hand and official seal of a person authorized to administer oaths” in the United States or abroad is prima facie evidence of an assignment or license.⁸¹ Accordingly, natural-person inventors can never give up attribution rights as the inventors, and no one

76. 35 U.S.C. § 116.

77. *Id.* §§ 116, 256, 262.

78. Misjoinder and nonjoinder can be remedied under the correction-of-inventorship statutory provision of 35 U.S.C. § 256. But there must have been no deceptive intent behind the misjoinder or nonjoinder. *Id.* A court can order the correction of inventorship upon a finding that a true inventor was omitted or an illegitimate inventor was listed, so long as no deceptive intent was found. *Id.* In this way, the patent can be saved from invalidation during an infringement proceeding. Thus, misjoinder and nonjoinder are not necessarily fatal to a patent owner's infringement suit, but the added complexity is surely not worth the convenience of informality by the patent applicant beforehand.

79. *Id.* § 261.

80. *Id.*

81. *Id.* But the Patent Act also provides a bona fide purchaser defense where an assignee's title is contested by another who claims to be an assignee if (1) the latter did not record the assignment in the USPTO within three months from either the date of its purported receipt of assignment or before the later assignee's receipt of assignment; and (2) the former had no actual, constructive, or implied knowledge of the assignment to the latter. *Id.*

can take that from them, even after they have sold the ownership rights to the patent to someone else.

While the Patent Act establishes the nature and requirements of ownership, assignments, and licenses, it is not the exclusive source of law for these transactions because the contracts and equitable relationships underlying them are governed by state and federal common law.⁸² If there is an express contract, then these federal and state common law contract principles govern its interpretation.⁸³ But in the absence of a written agreement, things get interesting. A tripartite scheme of default common law rules, often mistakenly referred to *in toto* as “shop rights,” governs how and when employees must assign or license their inventions to their employers. The leading case on shop rights is the Supreme Court’s decision in *United States v. Dubilier Condenser Corp.*,⁸⁴ which details this tripartite system. The first part is the true shop right: where an employee uses his or her employer’s resources or time to invent, the employee may retain title but must grant a perpetual, nonexclusive, non-transferable license to the shop.⁸⁵ It is important that the license not be transferable, and questions have arisen as to whether a shop right can survive the acquisition of the firm by another firm or any other succession of ownership in which a material change of control takes place.⁸⁶ The second part is the hired-to-invent exception to the shop right: when the employee was specifically hired to invent the sort of thing ultimately invented, title to the invention will equitably vest in the employer.⁸⁷ The challenge with this part is the evidentiary support required of employers to show that an employee was specifically hired to invent a kind of good or service.⁸⁸ The third part has no specific name, but it addresses situations where employees invent on their own time and with their own resources, and where the employee was not hired to invent that kind of thing.⁸⁹ In these instances, employees retain their titles free and clear,

82. See, e.g., *Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 583 F.3d 832 (Fed. Cir. 2009).

83. *Id.*

84. *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 (1933). Note that *Dubilier* involved federal-government employees and was decided before a presidential executive order established the requisite writing to supersede the common law default rules as to government employees and their inventions. See *id.* Thus, ironically, *Dubilier* does not currently control the disposition of rights in inventions created by government employees, but it does control the disposition of rights in inventions created by employees of other organizations where no other written agreement or binding policy was in place.

85. *Id.*

86. See, e.g., *Roche Molecular Sys.*, 583 F.3d at 832.

87. *Dubilier Condenser Corp.*, 289 U.S. at 178.

88. *Id.*

89. *Id.*

with no licenses necessarily granted to their employers (unless the employees decide to grant them).

For our purposes, the issue raised by the shop-rights doctrine's hired-to-invent exception is that some parties have attempted to make it into a patent-law version of WMFH. It is not. The clear difference is that the natural-person inventors remain as inventors and must be listed in the patent. Thus, the doctrine has no effect on *inventorship*. The hired-to-invent exception affects only allocation of *ownership* of the invention and any patent arising from the invention. While this might seem to be a distinction without a material difference because the exclusive rights and economic rents flowing from the patent are still transferred, such a view overlooks the significant value that many inventors place on their attribution as inventors.⁹⁰ Promotions and accolades in industry, government, and academia can flow in part from being named as an inventor on an important patent.⁹¹ Under the WMFH doctrine in the copyright system, no such attribution need be given to the natural-person creators, and so they must forego these other benefits. If they assign or license the copyright instead, where it is not a WMFH, they can contractually require the assignee or licensee to give them attribution. Note also that the Copyright Act does not require the listing of the author anywhere, but only the copyright owner. Thus, an assignment can result in the assignee being able to register the copyright in only the assignee's name, with no record of the author (be it a corporate or a natural person). Interestingly, no termination right for assignments or licenses analogous to that of the Copyright Act exists in the Patent Act.

V. UNIFYING ALLOCATIONS OF COPYRIGHT AND PATENT RIGHTS THROUGH THE MEANS OF INNOVATION AND INNOVATION-PRODUCER CONSTRUCTS

As set forth above, there are two ways in which corporate persons can control authorship and inventorship rights. The first way is if the corporation receives ownership, control, or authorization from natural persons affiliated with the corporation. In this case, the authorship or inventorship is initially attributable to the natural persons and must be conveyed to the corporation. This is what happens in the case of assignments of patents or copyrights. The second way is if the authorship or inventorship is attributable to the corporate person initially. This is what happens in WMFH. Under current law, it cannot happen for inventorship.

90. See FISK, *supra* note 67, at 251–55.

91. *Id.*; see also *Chou v. Univ. of Chi.*, 254 F.3d 1347 (Fed. Cir. 2001).

Why does this distinction matter? First, it matters because attribution, which can be equally important as or even more important than economic rights, hangs in the balance. Second, the initial attribution of authorship or inventorship to the corporate person makes it seem as if we really do believe that the corporate person is equivalent to a natural person in all senses, including having the ability to create. For example, I encourage students in my business and entrepreneurship law courses to treat the corporate entity as if it is an actual extra person in the room to drive home the professional responsibility aspects of working with corporate clients. But I do not believe, nor do I expect them to believe, that the entity truly *is* a distinct being with existence in the physical (or even metaphysical) world. Further, I do not believe that any contemporary jurist or layperson believes that the corporation has corporeal or spiritual existence.⁹² Third, the distinction matters because we currently use conceptualizations of corporations to justify different legal constructs that should have the same underlying rationale.

Assuming that we *do* need to rationalize our notions of authorship and inventorship, the remainder of this Part argues that we should leave attribution initially with natural persons only. This avoids the awkward ontological and metaphysical issues of elevating a legal fiction to an actual being on par with a natural person. It is also consistent with Lord Coke's pronouncement that corporations "cannot commit treason, nor be outlawed, nor excommunicated, for they have no souls."⁹³ I would add that corporations as legal constructs simply cannot invent or author (in the contemporary use of the latter term) because they are not sentient, creative beings. This position also recognizes the high value that we currently place on expression and products of the human mind, as well as the individuals who produce these products.

92. O'Melinn argued that Chief Justice Marshall believed corporations were immortal beings with souls based on the latter's statements in *Trustees of Dartmouth College v. Woodward*, 17 U.S. (4 Wheat.) 518 (1819). O'Melinn, *supra* note 7, at 207. O'Melinn relied on Marshall's statement that "[i]t is chiefly for the purpose of clothing bodies of men, in succession, with these qualities and capacities, that corporations were invented, and are in use. By these means, a perpetual succession of individuals are capable of acting for the promotion of the particular object, like one immortal being." *Dartmouth Coll.*, 17 U.S. (4 Wheat.) at 636. But I do not think that Marshall intended anyone to think he was saying that corporations are *literally* immortal beings. Marshall said that corporations act "*like* one immortal being," not "*as* one immortal being." *See id.* I am less sure what O'Melinn himself believes the ontological status of corporations to be, as his article argued that corporations are neither concessions of the state nor nexuses of contracts, but instead some kind of immortal or ensouled being. O'Melinn, *supra* note 7, at 207.

93. *The Case of Sutton's Hosp.*, (1612) 77 Eng. Rep. 960 (K.B.) 973. O'Melinn used this quote to illustrate the backdrop against which Marshall's "revolution" in American corporations law, in which corporations *are* elevated to the status of real beings, ostensibly occurred. O'Melinn, *supra* note 7, at 207.

At the same time, we should allow the corporate person to receive control and ownership of (or authorization for) products of the human mind generated by natural persons. This especially makes sense for “propertized” products such as those represented by patents and copyrights. Reasons why we should allow for the transfer of ownership but not for the attribution of rights flow from the constructs of the *means of innovation* and *innovation producer* that I address elsewhere.⁹⁴ The remainder of this Part summarizes these constructs and then uses them to justify transfer-of-ownership rights, but not attribution rights, for products of the human mind.

Methods are central to everything we do as creative humans. While we often focus on the artifacts we produce, those artifacts have their value in the overarching method of which they are but one component. For example, medicine is not an end in and of itself, but instead a component of a means of treating a patient. Even fine-arts artifacts that seem to exist for their own aesthetic value can be seen as part of a larger method to please, calm, enlighten, disturb, provoke, etc. At the same time, I define innovation as the design of new problem solving methods, rather than simply the production of new things. Thus, the use of existing problem-solving methods to address a particular issue is not innovative. But creating a new means to address that issue is.

The processes of designing and using new problem solving methods are the *means of innovation*: a neologism I coined in my forthcoming book to evoke and update the Marxist Industrial Age *means of production* for the Information Age.⁹⁵ These processes are their own higher order, or more abstract method, similar to design principles. At the most abstract level are “meta methods” that are broadly directed toward, and thus identify, specific ends. “Art” is the meta-method of manipulating physical or mental objects for specific ends, drawing on the term’s older and broader sense as the root of *artifice*, *artificial*, *artisanal*, and *artifact*. “Science” is the meta-method of acquiring purely contemplative knowledge about the world around us, drawing similarly on an older and broader sense of that word from its root of *to scire*, or “to know.” “Technology” is literally the meta-method of a “science of *techné*,” where *techné* is the ancient Greek term for artisanal activities in which artisans had a rational system of knowledge and methods to produce their results. Thus, the science of *techné* being developed under the original development and use of the term *technology* was to be a systematic study of *techné* itself. An alternate use later developed to mean the application of

94. SEAN M. O’CONNOR, *METHODOLOGY: ART, SCIENCE, TECHNOLOGY, LAW, AND THE MEANS OF INNOVATION* (forthcoming 2013).

95. *Id.* The means of production were physical assets, like factories, labor, and capital.

knowledge from the new sciences of the early modern period to accelerate artisanal innovation. And finally, “law” is the meta-method of ordering relationships among people and objects.

Just as the question of control of the means of production was one of the defining issues of the Industrial Age, so arguably will the question of control of the means of innovation be one of the defining issues of the Information Age. Already, we see passionate debates over whether patents should be issued on tax-compliance methods, genetic-diagnostic test methods, science-research methods, business methods, and even legal methods such as filing patent applications. Each of these is currently debated as a stand-alone issue. Yet, clearly they are all united by the power of methods and the concern over their ownership and control. Likewise, there are pitched debates over whether noncompete agreements and other methods of controlling the movement of creative class workers should be allowed, limited, or outright prohibited.⁹⁶ These are all really questions about control of the means of innovation.

Related to the means of innovation and my focus on methods over artifacts is the concept of the “innovation producer.” This role is different from that of the inventor and is closer in some ways to the old notion of “author” as the authority under which a project was done.⁹⁷ The innovation producer is the person who can bring together all the resources needed to develop an idea or vision into something that can be produced at a cost that makes it reasonably accessible to the market. This is simply the abstraction of various specific production roles, such as that of a movie producer, music producer, academic research lab director, etc. Thomas Edison was more of an innovation producer than an inventor because in addition to his vision of what products were needed, he excelled at bringing together people and materials. This skill allowed Edison to turn inventions and know-how into useful products such as a commercially viable electric light bulb.⁹⁸ Likewise, the great artists of the Renaissance and early modern periods were innovation producers who had sizeable staff and resources to help them realize their grand artistic visions.⁹⁹

What does all of this mean for our question of attribution? It means that the innovation producer and key team members will demand attribu-

96. See, e.g., Matthew Marx et al., *Noncompetes and Inventor Mobility: Specialists, Stars, and the Michigan Experiment* (Harv. Bus. Sch., Working Paper No. 07-042, 2012), available at <http://www.hbs.edu/research/pdf/07-042.pdf>.

97. See *supra* Part II.

98. Contrary to popular belief, neither Edison nor his lab invented the electric light bulb. Instead, they discovered the first filament that had a long enough life to make the electric light vacuum bulb commercially viable. See, e.g., *The Incandescent Lamp Patent*, 159 U.S. 465 (1895).

99. See FISK, *supra* note 67.

tion in part because it is their prime credential. But it also means that control of the innovations needs to be captured by the entities through which innovation producers develop their work. Otherwise, projects will not be realized because fragments of IP will be vested in different places. Thus, the natural persons associated with an entity initially will get attribution, even though they may have already conveyed their economic or other legal rights to the entity.

To effect the changes suggested here, Congress would need to amend the WMFH provisions of the Copyright Act eliminating the right of the hiring party to be the author. Instead, the hiring party would be only the mandatory assignee. Further, a provision would need to be added to grant inalienable rights of attribution to the natural-person creators of copyrightable works, similar to the requirements of the Patent Act.¹⁰⁰ At the same time, the Patent Act should be amended to require that inventions created by employees within the scope of their employment be deemed to have been assigned to their employers. This provision should be drafted to expressly preempt state common law, including the shop-rights system. There remains an open question regarding whether, and in what manner, parties should be allowed to contract around these statutory default rules of ownership and attribution.

VI. CONCLUSION

To summarize, the inconsistent theorization of corporate personhood, authorship, and inventorship presents real problems that are manifested in the very different systems of copyright and patent law with regard to ownership and attribution of products of human creativity. This Essay rejected the notion that corporate persons can be deemed to have been endowed with the creative faculties of sentient humans for purposes of legal attribution of authorship or inventorship. Further, such a bizarre legal fiction does significant harm to the creative natural persons who increasingly must sell their creative faculties—rather than simply their labor—to employers. Creative persons need to secure attribution for their works, as such credit must be represented in their resumes and professional portfolios to ensure that they remain viable in the job market. At the same time, firms that serve as innovation producers need to have certainty as to their ability to control the exclusive rights of ownership over copyrights and patents. Firms may invest significant time and resources into hiring, supporting, and guiding creative persons in order to develop new goods and services based on new IP. In this way, the questions of allocation of ownership and attribution for creative output are central to

100. *See supra* Part IV.

the issue of who controls the means of innovation. The latter question, in turn, is becoming central to the socio-legal-political debates of the twenty-first century. In conclusion, this Essay argues that Congress should amend the Patent Act and Copyright Act to grant inalienable rights of attribution for creative works to the natural-person creators, while simultaneously creating a default rule that ownership rights accrue to the hiring party.