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PROLEGOMENON TO A MEMETIC THEORY OF COPYRIGHT: COMMENTS ON LAWRENCE LESSIG'S THE CREATIVE COMMONS

Thomas F. Cotter*

I would like to thank the Florida Law Review for inviting me to respond to Professor Lawrence Lessig's Dunwody Lecture, The Creative Commons. As the following discussion will show, there is little if anything in Lessig's analysis with which I disagree. I nevertheless thought it might

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Fredric G. Levin College of Law. I thank Lyrissa Lidsky and Bill Page for their thoughtful comments. Any errors that remain are mine.
2. Well, maybe one thing. For most of our history, Congress required authors to comply with a variety of formalities as a condition to the existence or enforcement of federal copyright rights. These have included, at various times, deposit and registration requirements; a requirement that copyright owners take affirmative steps to renew their copyrights; a rule that publication of copies without copyright notice resulted in the forfeiture of federal copyright; and a requirement that copies of certain works be manufactured in the United States or Canada. See generally 2 MELVILLE W. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT ch. 7 (2002) (discussing formalities other than renewal); 3 NIMMER & NIMMER, supra, §§ 9.02-07 (discussing renewal); 1 WILLIAM F. PATRY, COPYRIGHT LAW AND PRACTICE ch. 5 (1994) (discussing formalities). Over the years, Congress has prospectively abolished most but not all of these formalities. See 17 U.S.C. § 304(a)(3)(B) (2003) (since 1992, making copyright renewal automatic, for works for which renewal otherwise would have been required); id. §§ 401-405 (effectively making copyright notice optional with respect to works published on or after March 1, 1989); id. § 407(a) (requiring deposit of works published in the United States, but stating that compliance is not a condition of copyright protection); id. § 408(a) (making registration optional); id. § 601(a) (requiring U.S. or Canadian manufacture only for certain works published on or before July 1, 1986). But see id. § 304(a)(4) (providing incentives to register a claim to copyright renewal); id. §§ 401(d), 402(d) (providing incentives to use copyright notice); id. § 407(d) (providing monetary penalties for failure to deposit); id. §§ 410(c), 412 (providing incentives to register); id. § 411(a) (requiring registration of United States works, as defined in § 101 of the Copyright Act, as a precondition to filing a civil action for infringement). In his lecture, Lessig appears to advocate reintroducing deposit and registration requirements. See Lessig, supra note 1, at 767-68. He makes this point more explicitly in his recent book, in which he also advocates reintroducing copyright renewal. See LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 250-52 (2001) [hereinafter LESSIG, THE FUTURE OF IDEAS] (proposing that copyright owners be entitled to, at most, fifteen renewable five-year terms); see also WILLIAM M. LANDES & RICHARD A. POSNER, INDEFINITELY RENEWABLE COPYRIGHT (U. Chi. L. Sch. John M. Olin L. & Econ., Working Paper No. 154 (2d Ser.) 2002), available at http://ssrn.com/abstract_id=319321 (discussing the merits of either an indefinitely renewable copyright, or a copyright that could be renewed periodically for up to 100 years). Lessig does not advocate resuscitating copyright notice requirements or the blatantly protectionist manufacturing requirement. See Lessig, supra note 1, at 774-75.

For now, I remain skeptical of the notion that the reintroduction of copyright formalities would be a worthwhile endeavor. For one thing, reintroducing mandatory formalities into U.S. law might
be useful in this Essay to sketch out the contours of a body of research I am just beginning to undertake, and which I hope might lead to a better understanding of several bodies of law, including intellectual property law. This body of research is based upon an emerging field known as memetics, which proposes a new theory of how information evolves and is transferred from one "host" to another. More specifically, the theory posits that units of information, dubbed "memes," replicate and evolve in ways that are analogous in some respects to the replication and evolution of genes. I will suggest in this Essay that memetics might illuminate some aspects of copyright law, including some of the issues Lessig discusses in his lecture.

require the United States to withdraw from international copyright treaties, as Lessig admits. See Lessig, Future of Ideas, supra, at 330 n.14; see also Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886 [hereinafter Berne Convention], revised by July 24, 1971, art. 5(1), 25 U.S.T. 1341, 828 U.N.T.S. 221 [hereinafter Paris Convention] (stating that the enjoyment and exercise of copyright rights "shall not be subject to any formality"); Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, art. 9, 33 I.L.M. 1197, 1201 (1994) [hereinafter TRIPS] (requiring member nations to comply with, inter alia, article 5 of the Berne Convention); WIPO Copyright Treaty, Dec. 20, 1996, art. 1(4), 36 I.L.M. 65, 68 (1997) (same); WIPO Performances and Phonograms Treaty, Dec. 20, 1996, art. 20, 36 I.L.M. 76, 87 (1997) (providing that the enjoyment and exercise of rights guaranteed under the treaty "shall not be subject to any formality"). Whether withdrawal from all of these treaties would be desirable is, in my view, doubtful. In any event, I suspect that it might be better to expend efforts toward the achievement of more attainable goals—although I admit that, if the definition of an attainable goal is one that does not violate any treaty provision, the number of such goals is rapidly decreasing. See Berne Convention, art. 7(1) (specifying a minimum copyright term, for most works, of life of the author plus fifty years). More generally, it is arguable that formalities are consistent with a utilitarian theory of copyright, inasmuch as only those works whose authors care about (are motivated by) the copyright incentive will bother to comply with the relevant formalities. Works whose authors are not so concerned or motivated will fall into the public domain, where they should be. See generally Roger D. Blair & Thomas F. Cotter, An Economic Analysis of Damages Rules in Intellectual Property Law, 39 WM. & MARY L. REV. 1585, 1669-72 (1998) (discussing the advantages and disadvantages of formalities). Historically, however, some formalities—most notably, the copyright notice requirement—sometimes resulted in inadvertent forfeiture of copyright and could be quite unpredictable in their application. For an illuminating discussion of the intricacies of copyright notice, see Estate of King v. CBS, Inc., 194 F.3d 1211, 1222 (11th Cir. 1999). Whether the potential benefits of formalities are, on balance, worth the trouble is to my mind unclear.


The ultimate significance of memetic theory to copyright nevertheless remains an open question, and I hope to elaborate upon some of the ideas presented herein in a forthcoming, more comprehensive, work.

Memetics is probably best viewed as an offshoot of a body of work within evolutionary theory which posits that evolution operates largely at the level of the individual gene, rather than at the level of the organism.\(^5\) In other words, evolutionary changes occur, and sometimes persist, not because these changes necessarily help individual organisms to survive, but rather because they help individual genes to replicate and proliferate, in whatever organism those genes happen to be located.\(^6\) The so-called "selfish gene" theory offers an explanation for some forms of animal and human behavior, such as altruism, that are difficult to explain in terms of their benefit to the individual organism.\(^7\)

In his 1999 book, *The Selfish Gene*, Richard Dawkins speculated that genes might not be the only "replicators" that exist in nature and that undergo a Darwinian process of natural selection.\(^8\) In particular, Dawkins proposed that human culture might be the end-product of natural selection operating upon units of information, which he termed "memes."\(^9\) At that time, Dawkins did not attempt a rigorous definition of the term "meme," but suggested that memes included such things as "tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches."\(^10\) The Oxford English Dictionary now defines a meme as "[a]n element of a culture that may be considered to be passed on by non-genetic means, esp. imitation,"\(^11\) and other "memeticists" have proposed alternative definitions.\(^12\) Robert Aunger, for example, has recently delineated a theory according to which memes are configurations within the brain that can replicate themselves in other parts of the brain and in other brains.\(^13\)

Memeticists have argued that memes satisfy the three criteria that must exist for natural selection to take place, namely (1) heritability or replication, (2) variation, and (3) fitness.\(^14\) Heritability means simply that

\(^5\) For discussions of what has come to be called the "selfish gene" theory, see, e.g., DAWKINS, supra note 3; ROBERT L. TRIVERS, SOCIAL EVOLUTION 137-40 (1985); W.D. Hamilton, *The Genetical Evolution of Social Behaviour*, 71 THEORETICAL BIOLOGY 1 (1964).

\(^6\) See DAWKINS, supra note 3, at 88.

\(^7\) See id. ch. 6.

\(^8\) See id. at 192.

\(^9\) See id. ch. 11.

\(^10\) Id. at 192.

\(^11\) 3 OXFORD ENGLISH DICTIONARY: ADDITIONS SERIES 293 (Michael Proffitt ed., 1997).

\(^12\) See, e.g., BLACKMORE, supra note 3, at 63-66; BRODIE, supra note 3, at 27-33; DENNETT, supra note 3, at 344; DUGATKIN, supra note 3, at 117.

\(^13\) See AUINGER, supra note 3, at 196-97.

\(^14\) See BLACKMORE, supra note 3, at 10-11; DENNETT, supra note 3, at 343.
an entity is capable of passing on certain attributes to another entity. Memeticists posit that memes replicate themselves by either vertical transmission (e.g., a parent passes along a religious tradition to a child) or horizontally (e.g., I tell you a joke). Memes allegedly also satisfy the second criterion, variation. Variation can be unintentional (e.g., you forget the exact words I used to tell you the joke) or intentional (you deliberately alter the joke). Third, memes may encounter more or less favorable environments, and those memes that manifest variations conferring some selective advantage in their environments will replicate at a faster rate—will be more “fit”—than their non-varying competitors. Significantly, the interests of a meme may differ from the interests of its human “host.” Much of the perverse appeal of memetics centers on the question of how “bad” memes—memes that increase the risk of injury or death to their hosts or others, for example—may proliferate.

Indeed, it is the persistence of behaviors that appear contrary to the host’s interest that provides perhaps the best evidence in support of the existence of memes. To be sure, a meme that kills its host before the host can pass on the meme will not last long, but bad memes can leave their host alive long enough to “infect” others. For example, a meme that encourages suicide bombing may kill its host, but it also may garner enough publicity and sympathy to succeed in replicating inside the brains of other hosts. Additional support for the existence of memes stems from the professed ability of memetics to explain aspects of human culture that other accounts, such as evolutionary psychology, do not explain quite as well. One example might be the content of religious beliefs. Although some evolutionary psychologists and biologists have developed theories of why human beings have a taste for religion, memetics may offer a

15. See BLACKMORE, supra note 3, at 14; DAWKINS, supra note 3, at 15-16; DENNETT, supra note 3, at 343. Dawkins further suggests that for natural selection to take place, replicators must exhibit fidelity, fecundity, and longevity. See DAWKINS, supra note 3, at 194. Aunger distinguishes heritability from replication and goes into considerable detail regarding the conditions that are necessary for replication to occur. See AUNGER, supra note 3, at 25-26, 73-75.

16. See BLACKMORE, supra note 3, at 14; DAWKINS, supra note 3, at 192-94; DENNETT, supra note 3, at 343.

17. See BLACKMORE, supra note 3, at 14; DAWKINS, supra note 3, at 194-95; DENNETT, supra note 3, at 343.

18. See BLACKMORE, supra note 3, at 14; DAWKINS, supra note 3, at 196-99; DENNETT, supra note 3, at 343.

19. See BLACKMORE, supra note 3, at 27; DENNETT, supra note 3, at 349.

20. See DAWKINS, supra note 3, at 110-11; DENNETT, supra note 3, at 362.

21. See, e.g. E.O. WILSON, ON HUMAN NATURE ch.8 (1978) (speculating that some religious beliefs provide a genetic advantage); STEVEN PINKER, HOW THE MIND WORKS 557 (1997) (suggesting that religious beliefs are an evolutionary by-product of other brain functions). For a more recent account, see DAVID SLOAN WILSON, DARWIN’S CATHEDRAL: EVOLUTION, RELIGION, AND THE NATURE OF SOCIETY (2002). For evidence that belief in God is tied to the biological
complementary, and perhaps more precise, explanation for why some specific beliefs and doctrines (such as the belief in an afterlife, religious celibacy, and so on) have been more successful in replicating themselves in human brains than have other, competing memes.  

Although the evidence that memes exist seems reasonably persuasive to me, I will not attempt in this Essay to prove whether memes really exist, and, if so, which particular version of memetic theory is correct.  

What I will suggest, however, is that if memetics succeeds in establishing itself as a science, it may have some implications for copyright law—and perhaps that even if memetics does not succeed, it nevertheless may provide a useful perspective on, or metaphor for, certain phenomena that we observe within the copyright system. In the following pages, I will sketch out a few possible ways in which memetics might illuminate some aspects of copyright law, though as noted above, I plan to explicate these and other possibilities more fully in a forthcoming article.

As suggested above, memes (assuming they exist) are, more or less, ideas that inhabit human brains. In accordance with this definition, individual memes would seem to be analogous to ideas or facts, in which copyright does not subsist. "Works of authorship," such as literary and musical compositions, might then be viewed as mutually supportive combinations of memes, or "memeplexes." If so, then it might be useful


22. See BLACKMORE, supra note 3, ch. 15; BRODIE, supra note 3, ch. 10; LYNCH, supra note 3, ch. 5. Among the "Good Tricks," see infra note 62 and accompanying text, of (some) religious memes are their ability to answer questions that the human brain finds of interest (what is the meaning of life?), to engender a sense of belonging and a sense of beauty, to kindle altruism, to discourage consideration of competing religious memes, and so on. See BLACKMORE, supra note 3, at 188-95. Moreover, some memes (religious or not) may have a better chance of survival when bundled together with other, reinforcing memes in a "coadapted meme complex," or "memeplex." See infra note 26 (discussing memeplexes). Blackmore further speculates that when particular religious memes "infect" a particular group, those memes may confer a survival advantage or disadvantage upon members of the group in relation to other groups, thus either enhancing or retarding their ability to proliferate over time—and perhaps effecting evolutionary change at the group level. See id. at 195-202.

23. There are many critiques of memetics, among them that there is no physical proof of memes' existence; that memes, if they exist, do not exhibit sufficient fidelity to replicate in accordance with natural selection; and that memetics does not explain any phenomena more convincingly than other theories. For responses to some of these critiques, see BLACKMORE, supra note 3, at 53-66; DAWKINS, supra note 3, at 193-94; DENNETT, supra note 3, at 356.

24. See supra notes 8-11 and accompanying text.


26. Memeticists speculate that memes sometimes combine themselves with other, mutually reinforcing, memes so as to increase their probability of replicating. See BLACKMORE, supra note 3, at 19-20; DAWKINS, supra note 3, at 197-99. Dawkins uses the term "coadapted meme complex" to describe this phenomenon, but Blackmore and some others now use the catcher phrase
to think of the copyright system as part of the environment within which rival memeplexes replicate and evolve. On this view, changes in copyright law will, by affecting the memetic environment, affect the type, number, and variety of memeplexes that will be produced and disseminated within that environment. To put it another way, copyright operates as a system of “memetic engineering”—but if so, then copyright might be susceptible to problems similar to those that can arise in connection with other novel “engineering” systems, such as genetic engineering and social engineering.

To illustrate, the first U.S. Copyright Act, as Lessig notes, forbade only the unauthorized printing, publishing, republishing, and vending of copyrighted works. Copyright extended only to “maps, charts, and books,” and even then only to those maps, charts, and books whose authors complied with the statutory formalities. In addition, copyright appears to have protected only against the literal or near-literal copying of a work in substantially its entirety. Early case law permitted content users to publish unauthorized abridgements, sequels, and even translations, until well into the nineteenth century. Over time, however, Congress gradually extended copyright protection to other works, created additional rights, including the adaptation right; and expanded the copyright term from its initial duration of fourteen years (renewable for an additional fourteen) to its current term—life of the author plus seventy years. Moreover, as it exists today, copyright protects not only against literal copying but, in an appropriate case, against copying such aspects of the work as its plot and its fictional characters—though deciding precisely at what level of abstraction such aspects are sufficiently developed to fall within the “expression,” as opposed to the “idea” side of

“memplex.” BLACKMORE, supra note 3, at 19; DAWKINS, supra note 3, at 199.

Although a few scholars have considered the extent to which memes or memeplexes are analogous to copyrighted works, none have addressed this topic in much detail. See J.M. BALKIN, CULTURAL SOFTWARE: A THEORY OF IDEOLOGY 47-48 (1998); BLACKMORE, supra note 3, at 53; DAWKINS, supra note 3, at 195-96; DENNETT, supra note 3, at 344.

27. See Lessig, supra note 1, at 768.
28. See id.
29. See id. at 769.
30. See id.
31. See id.
32. See id.
33. See id.
34. See id. The adaptation right is the exclusive right to prepare, or authorize the preparation of, derivative works. See 17 U.S.C. § 106(2) (2003). A derivative work is a work based upon another, underlying work. Familiar examples include translations, abridgements, and motion picture adaptations. See id. § 101.
35. See 17 U.S.C. § 302(a) (2003); Lessig, supra note 1, at 764.
36. See 4 NIMMER & NIMMER, supra note 2, § 13.03[A][1].
37. See 1 NIMMER & NIMMER, supra note 2, § 2.12.
the line, can be quite difficult.\textsuperscript{38}

From the standpoint of memetics, this expansion of copyright scope and duration has conferred upon content owners considerable power to ensure the fidelity of memetic transmission, to reduce memetic variation, and more generally to guide the course of memetic evolution; and perhaps memetic theory can shed light on whether conferring such extensive power upon content owners is wise. To be sure, there are plausible arguments in favor of, for example, an expansive adaptation right. In the absence of such a right, the first person to make a particular adaptation may effectively preempt the field, discouraging anyone else from adapting the same work; this may be a bad outcome, if the first adaptor is not as talented as another adapter would have been. Alternatively, perhaps no one would bother to create a resource-intensive derivative work, if others were free to create competing derivative works based upon the same underlying work.\textsuperscript{39}

Others have argued that the adaptation right encourages copyright owners to create works that will give rise to valuable spin-offs,\textsuperscript{40} and that it reduces the probability that overuse will cause the value of a copyrighted work to fall.\textsuperscript{41} There are also some potential drawbacks, however, which other scholars have noted\textsuperscript{42} and which memetics might further help to illuminate.

Drawing first upon the analogy to genetic engineering, it is conceivable that too much control and too little variation might retard memeplexes from evolving in ways that otherwise would be desirable from the standpoint of their human hosts. Critics sometimes argue that genetic engineering may reduce genetic diversity in ways that can prove harmful to human health,\textsuperscript{43} and perhaps memetic engineering can have analogous

\textsuperscript{38} See Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930) (Hand, J.) (formulating the famous “abstractions” test).

\textsuperscript{39} See Neil Weinstock Netanel, Copyright and a Democratic Civil Society, 106 YALE L. J. 283, 379 (1996).

\textsuperscript{40} See 2 Paul Goldstein, Copyright § 5.3, at 5:81 (2002).

\textsuperscript{41} See Landes & Posner, supra note 2, at 13-15.

\textsuperscript{42} See, e.g., Mark A. Lemley, The Economics of Improvement in Intellectual Property Law, 75 TEX. L. REV. 989, 1063-65 (1997) (arguing that conferring power upon copyright owners to control even radical improvements upon their works may inhibit innovation); Netanel, supra note 37, at 377-80 (arguing that the adaptation right serves some legitimate purposes, but that if the right is too strong it may inhibit valuable transformative uses); Stewart E. Sterk, Rhetoric and Reality in Copyright Law, 94 MICH. L. REV. 1197, 1204 (1996) (arguing that in the typical case the adaptation right adds no material incentive to create underlying works).

\textsuperscript{43} See David Suzuki & Peter Knudtson, Genethics: The Clash Between the New Genetics and Human Values 307-15 (1989) (discussing how genetic uniformity in the United States corn crop left that crop uniquely vulnerable to disease); Maurizio G. Paolotti & David Pimentel, Genetic Engineering in Agriculture and the Environment: Assessing Risks and Benefits, 46 BIOSCIENCE 665, 665 (1996). Advocates of genetic engineering, however, have argued that while monocropping may leave organisms susceptible to disease, monocropping is not a necessary consequence of genetic engineering. See David R. Purnell, International Implications of New
consequences. To be sure, the analogy between genes and memes only goes so far. Although genetic uniformity can leave organisms vulnerable to unforeseeable changes in the environment, the only effect of memetic uniformity may be to make life more boring and anodyne. The human species will survive, even if new authors can use underlying works only as authorized by the latter works' owners. But a world in which only authorized, approved, and sanitized derivative works can exist may be much less interesting than one in which authors and artists have some freedom to transgress established boundaries. Granted, content owners have an incentive to authorize the production of derivative works that people want to see and hear, so perhaps diversity is more, not less, likely to result from a strong adaptation right. To the extent that this argument measures people's wants exclusively in terms of their willingness to pay, however, critics might counter that it assumes an impoverished view of human welfare. Moreover, some evidence from the related field of patent law suggests that owners are sometimes oblivious to the possibility of improvements upon their technology, or are satisfied with resting on their laurels. Thus, although the evidence is not conclusive, there may be some reasons to fear that too much control will reduce a healthy memetic diversity.

A second analogy is to social engineering. Scholars such as Friedrich Hayek and James Scott have condemned social engineering schemes, under which the state engages in central planning, on several grounds. One

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44. See 2 GOLDSTEIN, supra note 40, § 5.3, at 5:81.

45. See, e.g., Thomas F. Cotter, Legal Pragmatism and the Law and Economics Movement, 84 GEO. L.J. 2071, 2127, 2131-32 (1996) (arguing that exclusive reliance upon willingness to pay as a criterion of social welfare biases the analysis in favor of those with an ability to pay, but also noting problems with alternative measures of social welfare).


47. 1 F.A. HAYEK, THE FATAL CONCEIT: THE ERRORS OF SOCIALISM (W.W. Bartley, III ed., 1988); JAMES C. SCOTT, SEEING LIKE A STATE: HOW CERTAIN SCHEMES TO IMPROVE THE HUMAN CONDITION HAVE FAILED (1998). I should note that Scott does not go as far as Hayek in condemning all social planning, but rather those schemes that he describes as embodying "high modernism." See Scott, supra, at 342-47. I also recognize that there may seem to be some tension between suggesting that the market may be an imperfect institution for assessing individual preferences, on the one hand, see supra text accompanying note 42, and then invoking the authority of a super-defender of markets like Hayek, on the other. Some libertarians, however, including Hayek himself, have expressed a degree of skepticism over the merits of a strong system of intellectual property

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problem is that central planners can never have perfect knowledge of all of the social needs and desires that (ideally) they would try to serve. A related problem is that planners are incapable of foreseeing all of the possible unintended consequences of social engineering programs. A third is that planners, being human, are insufficiently virtuous to manage such programs in the public interest. Perhaps a strong copyright system can be condemned on similar grounds. To be sure, there is one potentially significant difference between central planning schemes, on the one hand, and the copyright system, on the other: under the copyright system, copyright rights rest in (literally) millions of private hands, and not with the state. But copyright can, in some though not all cases, confer government-sanctioned monopoly power upon the holder of the right; even copyright defenders recognize this fact. To the extent that copyright owners cannot foresee all of the possible uses of their works, or the consequences of foreclosing some possible developments, we might encounter problems analogous to—though concededly less disastrous than—those that can result from social engineering schemes. In short, rights. See, e.g., White v. Samsung Elecs. Am., Inc., 989 F.2d 1512, 1513 (9th Cir. 1993) (Kozinski, J., dissenting) (arguing that even advocates of strong property rights must recognize the need for such amenities as public streets and parks); HAYEK, supra, at 37 (expressing skepticism over whether the patent system induces meaningful invention); Tom G. Palmer, Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects, 13 HARV. J.L. & PUB. POL'Y 817 (1990) (reviewing libertarian arguments for and against intellectual property rights, and finding the arguments in favor wanting). Moreover, to the extent that copyright sometimes confers market power upon content owners, the use of the pricing system to discern consumer preferences may be imperfect. See Dan L. Burk, Muddy Rules for Cyberspace, 21 CARDOZO L. REV. 121, 134 (1999) (arguing that if content owners price above marginal cost, consumer preferences will not be fully revealed). Whether it is the state or a private actor that exerts market power, the interests of some potential users may get short shrift.

Hayek's ideas about cultural evolution appear to have been rooted to some extent in biological thinking, and they arguably anticipate some current ideas in both evolutionary psychology and memetics. See HAYEK, supra, at 15-16, 21-28, 135-40; see also Todd J. Zywicki, Was Hayek Right About Group Selection After All? Review Essay of Unto Others: The Evolution and Psychology of Unselfish Behavior, by Elliot Sober & David Sloan Wilson, 13 REV. AUSTRIAN ECON. 81 (2000). Although this brief essay is not the place to explore the nuances of Hayek's thought on cultural evolution, I hope to give it fuller consideration in my forthcoming work.


49. See HAYEK, supra note 47, at 7-8, 44-45, 71-72, 81-82; SCOTT, supra note 47, at 11-22, 264, 344.

50. See HAYEK, supra note 47, at 32-33, 44-45,103-04; SCOTT, supra note 47, at 264.

51. See, e.g., LANDES & POSNER, supra note 2, at 9 (posing the rhetorical question whether there are "good substitutes . . . for Shakespeare's plays or Mozart's piano concertos?"); see also SCOTT, supra note 47, at 8 (arguing that Hayek and other libertarians fail to note that "the failures of modern projects of social engineering are as applicable to market-driven standardization as they are to bureaucractic homogeneity").
some unguided, serendipitous memetic evolution\textsuperscript{52} may be preferable to a system of centralized control under which, for example, the heirs to the Brothers Grimm could have arbitrarily vetoed Walt Disney’s adaptation of \textit{Snow White}.\textsuperscript{53}

Another insight from memetics is that the interests of owners and of their copyrighted memeplexes may sometimes diverge, and the resulting conflicts may play out in a number of ways. Ex ante, of course, the interests of the owner and the owner’s memeplex tend toward consistency, because (by hypothesis) the copyright system increases the probability that the memeplex will be created and disseminated in the first place. Once the owner has created and published the memeplex, however, their interests may part, because the owner often has an interest in \textit{limiting} dissemination. Economic theory predicts that, to the extent a copyright confers market power, the owner will limit output and set price at the point at which marginal revenue equals marginal cost; in a competitive market, price would be set at marginal cost and output would increase accordingly.\textsuperscript{54} From the memeplex’s ex post perspective, however, its owner’s financial health is irrelevant, and hence we might expect to see memeplexes replicating whenever and wherever they perceive a chink in the owner’s copyright “armor.”\textsuperscript{55} On this view, efforts to instill social norms against

\begin{itemize}
\item[52.] Perhaps the word “unguided” is too strong. Completely \textit{random} memetic variation, such as typographical errors, are not likely to lead to anything a human host would consider an improvement. \textit{See} \textit{Dennett, supra} note 3, at 125-26. Memetic improvements will be guided by \textit{someone}, and thus the question is one of who does the guiding. In this regard, the analogy to genetic and social engineering problems may not seem precise, but I have suggested above that problems similar to those that may arise under genetic and social engineering nevertheless may arise under memetic engineering schemes as well.
\item[53.] Actually, the Brothers Grimm benefited as well from having a creative commons. They based some of their fairy tales upon stories they collected from middle- and upper-class women friends (who in turn got their material from their nannies and other servants). \textit{See} \textit{Jack Zipes, Once There Were Two Brothers Named Grimm, Introduction to the Complete Fairy Tales of the Brothers Grimm} \textit{xxiv, xxvii} (Jack Zipes trans., 1987) (1857) \textit{[hereinafter Brothers Grimm]}. Other stories they took “directly from books or journals,” although the brothers edited their source material and added some material of their own. \textit{Id. See also Brothers Grimm and Folk Tale} \textit{69} (James M. McGlathery et al. eds., 1988), for several essays discussing, among other things, the Brothers’ methods for collecting source material.
\item[54.] \textit{Lessig is certainly right, by the way, when he says that you would not want young children to read the “original” Brothers Grimm fairy tales, which include such gems as The Jew in the Thornbush (a story every bit as charming as the name suggests), and a version of the Snow White story in which the evil stepmother meets her end by being forced to dance in red-hot iron slippers. Lessig, supra note 1, at 763-64; see also Brothers Grimm, supra, at 204, 398.}
\item[55.] \textit{See Glynn S. Lunney, Jr., The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act, 87 VA. L. REV. 813, 864-67 (2001).}
\item[55.] Of course, memes do not really perceive anything. Speaking about memes (or genes, or other replicators) as if they have conscious desires and motivations is simply a conventional shorthand for the observation that these entities sometimes appear to human observers to act \textit{as if}
copying may be doomed to failure, and the ensuing "arms races" between circumvention and anti-circumvention devices virtually inevitable. Tensions between owner and memeplex may be even higher when the memeplex itself carries instructions that tell users, in effect, to "copy me"; an example would be a religious or political text that exorts its readers to proselytize others. If the copyright owner subsequently renounces the religious or political views expressed in the text, his natural inclination (and perhaps his legal right) may be to suppress the work, but the natural inclination of readers infected by the memeplex will be to flout the copyright laws. Perhaps the strength of the memetic pressure to replicate

they had such desires and motivations. See BLACKMORE, supra note 3, at 13; DAWKINS, supra note 3, at 200.

56. As Lessig has noted in another work, there are four ways to try to control behavior: laws, norms, "architecture" (in the sense of technological constraints), and the market. See LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 87-88 (1999). I am suggesting in the text above that, if memes is correct, it may be more difficult than many people realize to establish meaningful social norms against copying. In a sense, information really does want to be free.

57. References to such competitions as "arms races" are numerous. See, e.g., Jane C. Ginsburg, Copyright and Control Over New Technologies of Dissemination, 101 COLUM. L. REV. 1613, 1628-29 (2001); Raymond Shih Ray Ku, The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology, 69 U. CHI. L. REV. 263, 319 (2002); cf. DENNETT, supra note 3, at 351 (comparing memes' competition to break through hosts' filtering systems to an arms race). A further insight is that, to the extent that a work of authorship is a complex of memeplexes (e.g., a novel consisting in part of fictional characters, plot, and so on), the constituent sub-memeplexes may find it in their interest, depending upon their environment, to defect and replicate independently of the parent memeplex. Content owners may have to scramble, for example, to control the unauthorized uses of their fictional characters. See Leslie A. Kurtz, The Independent Legal Lives of Fictional Characters, 1986 WIS. L. REV. 429 (discussing and critiquing some aspects of copyright and trademark treatment of fictional characters); see also Rosemary J. Coome, Authorizing the Celebrity: Publicity Rights, Postmodern Politics, and Unauthorized Genders, 10 CARDOZO ARTS & ENT. L.J. 365, 383-86 (1992) (celebrating the unauthorized use of famous characters such as Captain Kirk in stories printed in "fanzines"). Moreover, an individual fictional character may be nothing more than a congeries of individual memes, some of which may replicate faster if they defect. Thus "Mickey Mouse" as a whole might be better off if he remains subject to control by Disney, because this control will prevent uses of the character that diminish his long-term value; but some constituent attributes of Mickey Mouse (the mouse ears?) might replicate faster as free agents. Cf. DAWKINS, supra note 3, at 200 (noting that "[a] simple replicator... cannot be expected to forgo short-term selfish advantage even if it would really pay it, in the long term, to do so").

58. Some memeticists analogize memes to viruses or parasites. See, e.g., BRODIE, supra note 3, at 27; LYNCH, supra note 3, at 2. Others caution against the overuse of this analogy, however. Not all memes are bad; in fact, most are probably benign or even helpful to their hosts. See ALINGER, supra note 3, at 228-29, 254; BLACKMORE, supra note 3, at 22; DENNETT, supra note 3, at 364-65.

59. See Worldwide Church of God v. Phila. Church of God, Inc., 227 F.3d 1110 (9th Cir. 2000) (rejecting fair use defense to a church's unauthorized copying and distribution of a religious work, where the copyright owner of the work had renounced the views expressed in the work and suppressed its further publication). I have written extensively about this case elsewhere. See
under these circumstances should be relevant to the assertion of a fair use defense, although the precise manner in which memetics might be relevant remains to be worked out.  

Finally, memetics might prove relevant to the fair use defense in at least one additional respect. Some scholars have argued that certain works have so changed the culture in which we live that, in order to engage that culture, we must be able (in some contexts, at least) to reproduce substantial portions of those works, with or without the consent of their owners; perhaps memetics adds some further weight to this argument.


60. Presumably it would have to be something more concrete than “the memes made me do it.” Nevertheless, one possible implication of memetics for cases such as Worldwide Church of God, 227 F.3d at 110, is the recognition that religious doctrine can be a very powerful memeplex. Several memeticists have described religions as memeplexes. See BLACKMORE, supra note 3, at 187-203; BRODIE, supra note 3, ch. 10; DAWKINS, supra note 3, at 192-93, 197-99; LYNCH, supra note 3, at 97-133; see also supra note 22 and accompanying text. On this view, perhaps a memeticist would recommend that people who are “infected” by certain religious memes should be entitled to some form of accommodation, if not under the Copyright Act itself then under the Free Exercise Clause or the Religious Freedom Restoration Act, in much the same way that people suffering under other disabilities are entitled to accommodation under the Americans With Disabilities Act.

Another interesting possibility would be to require copyright owners to exploit their works, either through compulsory licensing or by deeming their copyrights to be abandoned after a period of nonuse. Lessig himself has suggested such measures. See LESSIG, supra note 2, at 258-59 (suggesting that copyright owners should be required to “use it or lose it,” and proposing compulsory licensing as a possible response to nonuse). At present, lack of use can give rise to a presumption of abandonment in trademark law, see 15 U.S.C. § 1127 (2003), but not in copyright. In some cases, the very same activities may constitute an abandonment of trademark rights in a fictional character but not of the concomitant copyright rights. See Silverman v. CBS, Inc., 870 F.2d 40 (2d Cir. 1989). Even so, we might want to think about the implications of such a rule a little more. Suppression and censorship sound bad when the underlying work is good or at least neutral. But what if the copyright owner of, say, The Turner Diaries decided to suppress that work? ANDREW MACDONALD, THE TURNER DIARIES (1996). Would that be a bad thing? The problem is that copyright is supposed to encourage the creation and dissemination of works of authorship, but it is hardly a necessary consequence that only true and beautiful works will be created. Indeed, memetics suggests precisely the opposite: that works will be created and disseminated if they are good replicators, and good replicators need not be good for their hosts or for others. See BRODIE, supra note 3, at 166 (noting that “valueless and demeaning junk” is often a very good replicator).

61. The point has been made not only with respect to copyrights, but also with respect to trademarks and celebrity images. See ROSEMARY J. COOMBE, THE CULTURAL LIFE OF INTELLECTUAL PROPERTIES: AUTHORSHIP, APPROPRIATION, AND THE LAW ch.1 (1998); Rochelle Cooper Dreyfuss, Expressive Genericity: Trademarks as Language in the Pepsi Generation, 65 NOTRE DAME L. REV. 397, 397-98, 416-17 (1990); Rochelle Cooper Dreyfuss, We Are Symbols and Inhabit Symbols, So Should We Be Paying Rent? Deconstructing the Lanham Act and Rights of Publicity, 20 COLUM.- V.L.A. J.L. & ARTS 123, 137-41 (1996); Wendy J. Gordon, A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property, 102 YALE L.J. 1533, 1583-
Memeticists claim that the most successful memes are the ones that develop a "Good Trick," such as selectively changing their environment to the detriment of other memes. Perhaps in some cases the best way to challenge the power of memes (or memeplexes) that have substantially changed their environment is to recast those very same memes (or memeplexes) in a different light. Copyright law permits some such challenges under the fair use doctrine, and while the most common examples probably are critical reviews and other commentary, the Supreme Court has recognized that parodies can perform a similar critical function.

In this regard, a recent case that pushes the limits of the fair use doctrine is *Suntrust Bank v. Houghton Mifflin Co.* In *Suntrust Bank*, the Eleventh Circuit vacated an injunction against the publication of Alice Randall’s book *The Wind Done Gone*—which retells the story of *Gone With the Wind* from the standpoint of the slaves—on the ground that the fair use doctrine probably immunized Randall’s use of plot and character elements from the earlier work. The question is whether the court was correct, to, in effect, expand the definition of critique or parody to cover a work that retells a familiar story from the perspective of other characters; after all, if *The Wind Done Gone* is just a sequel, it infringes the copyright owner’s right under current law to prepare derivative works. But if, as suggested above, the most effective way to critique the memes embodied in or exemplified by a text is sometimes to recast those memes in a different perspective, the Eleventh Circuit may well have been correct to conclude that the defendant’s use was fair. To conclude otherwise might


62. See BLACKMORE, supra note 3, at 27 (stating that memes “might spread because they appear to provide advantages even when they do not, because they are especially easily imitated by human brains, because they change the selective environment to the detriment of competing memes, and so on”); RICHARD DAWKINS, *THE EXTENDED PHENOTYPE: THE GENE AS THE UNIT OF SELECTION* 110-11 (1982) (similar); DENNETT, supra note 3, at 349. The term “Good Trick” is Dennett’s. See DENNETT, supra note 3, at 77.


65. 268 F.3d 1257 (11th Cir. 2001).

66. See id. at 1276.

67. See Note, *Originality*, 115 HARV. L. REV. 1988, 1995-97 (2002) (arguing that the Eleventh Circuit reached the correct result in *SunTrust Bank*, but that in characterizing *The Wind Done Gone* as a parody, “rather than a work that criticized or commented on subjects outside of the underlying work, the court downplayed the book’s originality and emphasized the extent to which it simply attacked *Gone With the Wind*”). The author concludes that the court “effectively created, under the rubric of parody, a new fair use exception covering rewritings that are not necessarily parodic,” that is, works that do not necessarily ridicule the underlying work. Id. at 2001-02. In response, I suppose one might argue that Alice Randall could have critiqued the pro-antebellum-South memes embodied in *Gone With the Wind* without necessarily copying Margaret Mitchell’s
have disabled an effective weapon against the ideas embodied within a powerful memeplex. The problem, of course, is how to distinguish the critical from the merely derivative. Where the appellate court (and Lessig) see *The Wind Done Gone* as largely critical, 68 the district court appears to have viewed it as largely derivative. 69 Not having been infected by the memes from either book, 70 I will remain neutral on the fact issue. The principle embodied in *Suntrust Bank*, however, may be an important one for future cases, to the extent that we wish to encourage memetic diversity.

One final thought centers on Lessig’s discussion of “property.” Lessig notes that the concept of private property is essential to the optimal use of land and other scarce resources, but he cautions against applying the property concept in exactly the same way to intellectual “property.” 71 One reason for this distinction is that intellectual property, unlike real and personal property, is nonrivalrous, meaning that many people can use the same work of authorship or patented invention without depleting it; 72 other reasons relate to the unique transaction costs and other costs that would arise if every use of another’s idea required compensation. 73 These concerns, which are hardly new, 74 probably explain among other things the constitutional mandate that copyrights and patents subsist for only “limited times.” 75 As Lessig and others have noted, however, rhetorical appeals to the sanctity of property—for example, to the idea that intellectual property should be as robust as other forms of property, notwithstanding its peculiar characteristics—have become common and may have facilitated the expansion of intellectual property rights in recent years. 76

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specific *memeplexes* (characters, plot, etc.). The issue then becomes the familiar factual inquiry into whether the defendant took more than was necessary to effectively make her point. *See Campbell*, 510 U.S. at 573, 587, 589. To the extent that the expression in *Gone With the Wind* powerfully and persuasively replicates the more fundamental idea-memes, however, the use of some portions of that precise expression may be the most effective counter to the idea-memes.

68. *See Suntrust Bank*, 268 F.3d at 1270-71; Lessig, *supra* note 1, at 765.
70. But I did see the movie of *Gone With the Wind* a long time ago, and I have read the opinions in *Suntrust Bank*. So I guess I have been infected with at least some of the relevant memes.
71. *See Lessig, supra* note 1, at 775-76.
73. *See LANDES & POSNER, supra* note 2, at 7-8.
75. *See U.S. CONST.* art. 1, § 8, cl. 8.
76. *See Lessig, supra* note 1, at 775-76; *see also* Cotter, *supra* note 72, at 564; Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687, 1693-97 (1999); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEX. L. REV. 873,
of the "property meme" in contexts in which it makes little if any sense, from the standpoint of public policy, may be a particularly telling example of a rogue meme, replicating without regard to the interests of its human hosts.\footnote{77}

One possible critique of the approach outlined in this Essay is that all or most of the legal implications I have suggested above may follow from other, more conventional analyses, and that memetics therefore does not really add anything new to the mix. As Daniel Farber has written, however, with respect to legal doctrine "an interlocking web of belief, in which each belief is supported by many others rather than by a single foundational 'brick,' is inherently far sturdier than a tower."\footnote{78} Memetics arguably does provide something valuable even if it only provides new reasons for certain results, or illuminates standard problems from a new perspective. I would be interested in hearing from interested readers as I elaborate upon these ideas within the context of the more comprehensive work-in-progress.


77. More specifically, the property meme operates to the benefit of memeplex owners, but not to users—and perhaps not to the owners either, if we consider their long-term interest in maintaining a commons from which to draw source material for future work.

It might be instructive to come up with a list of other legal concepts, useful enough within the limited contexts that engendered them, that later expanded into realms in which they have done more harm than good. Lessig's examples of doctrines that originated under different technological backgrounds than those which exist today might fall within this class. See, e.g., Lessig, supra note 1, at 769.

78. See Daniel A. Farber, Legal Pragmatism and the Constitution, 72 MINN. L. REV. 1331, 1336 (1988); see also Cotter, supra note 45, at 2084 n.52 (noting similar expressions in the writings of other writers).