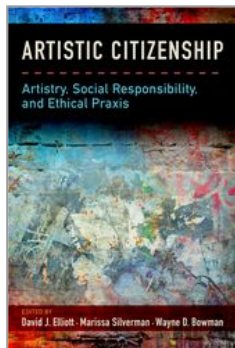


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Artistic Citizenship: Artistry, Social Responsibility, and Ethical Praxis

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Print publication date: 2016

Print ISBN-13: 9780199393749

Published to Oxford Scholarship Online: October 2016

DOI: 10.1093/acprof:oso/9780199393749.001.0001

Alchemies of Sanctioned Value

Music, Networks, Law

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DOI:10.1093/acprof:oso/9780199393749.003.0018

Abstract and Keywords

The idea of intellectual property (IP) has been hotly debated in theoretical and practical disciplines reaching far beyond the domain of legal scholarship. Should creative and innovative works be the object of ownership? Does the law have the ability to configure developments and encourage innovation in the arts and sciences? Should the author-concept govern the legal ownership of artifacts of culture? Should cyberspace alter the shape of copyright law? These are some of the many questions concerning IP that have been raised in recent times. This chapter engages the dialectics of digital music as it pertains to its legal modes of economic valuation. It discusses two opposing positions on the matter before gesturing toward a third position. Along the way, the chapter attempts to reconfigure the terms of the debate.

Keywords: intellectual property (IP), copyright law, digital music, ownership, innovation

The idea of intellectual property (IP) has been hotly debated in theoretical and practical disciplines, reaching far beyond the domain of legal scholarship. Should creative and innovative works be the object of ownership? Does the law have the ability to configure developments and encourage innovation in the arts and sciences? Should the author-concept govern the legal ownership of artifacts of culture? Should cyberspace alter the shape of copyright law? These are some of the many questions concerning IP that have been raised in recent times. The following argument engages the dialectics of digital music as it pertains to its legal modes of economic valuation. The argument tacks between two opposing positions on the matter before gesturing toward a third position. Along the way, the chapter attempts to reconfigure the terms of the debate.

A Deleuzian Turn

It has become commonplace to identify the evolution of digital technologies over the previous two decades, supported by the infrastructure of open networks, as a great site of social cultural emancipation. New efficiencies in search of functionality and peer-to-peer connectivity, it appears, have led to enhanced distribution systems, limitless public access to material and information, and a more open, free, disseminated, and democratic society. It is as if the impact of connected devices on digital media is best characterized as unleashing the genie from the bottle of cultural restraint, social discipline, economic controls, and even political authority. In recent decades, methods of academic inquiry have emerged to effectively map and diagnose the empirical character of these proliferated networks and the distributed flow of cultural objects enabled by them.

(p.360) These inquiries also evaluate the transformations in techniques of the body and the processes of subjectivation that emerge within the new sociotechnical environments. With roots in the Marxist-inflected postmodernism of Louis Althusser's "overdetermination" (or causal multiplicity), as well as the more ethnographically inflected "actor-network theory" of Bruno Latour (objects construed as aspects of networks comprised of human and nonhuman actants), recent theory tends to reconfigure the character of empirical facts

and historical processes along complex new lines. Far from understanding the latter as fixed entities or ontological objects within demonstrable developmental logics, these methods emphasize the importance to empiricism of heterogeneity and hybridity. For example, in sync with the “rhizomatic” approach of Gilles Deleuze’s philosophy, John Law describes his approach to social theory less as method and more as “mess.” Facts emerge as historically mediated amalgams on variously scaled levels; they are characterized by sociotechnical blending, metamorphoses, assemblages, and so on. *Actant* (Latour), *Mediant* (Appadurai), *Rhizome* (Deleuze), *Assemblage* (Delanda), and *Mess* (Law) are key terms for current social and cultural analysis.

Interestingly, the social life of music today functions as a kind of test case for evaluating the impact of recent sociotechnical developments in just these terms. It is, in many respects, at the vanguard of new practices of cultural production and distribution. Once bounded by market commodification, music in the digital age has been paradoxically transformed into an elusive digital information object, easily accessed, downloaded, and streamed across interconnected communication platforms and devices. Its heterogeneous global circulation intersects in a hybrid field of multiple actants or mediants. Music today vividly traverses what Deleuze calls a “diagonal” between the human and the nonhuman, the integral artwork and the relational assemblage, and, above all, the zones between what is commercially viable and the noncommercial.

How does the Deleuzian paradigm speak to the political economy of music today? This chapter will focus on the economic implications of music’s new sociotechnical condition, demonstrating along the way both the reach and the limit of the terms proffered by the Latourian/Deleuzian diagnostics for their valuation. At first glance, these diagnostics speak resonantly to the proliferation of novel techniques of music making, no less than its networked dissemination. In comparison with other cultural commodities (movies, videos, etc.), the relatively small size of the digital music file, especially in its compressed format, enabled efficient (high-speed/low-bandwidth) transmission and access within the

evolving network. In the absence of a coherent response from the music industry, which was notoriously slow to adopt online retail strategies, the Internet became a diffuse and undefined free zone for music's distributed circulation. Far from being merely segmented into sellable units of production, music was increasingly retrieved at minimal or even no cost to the listener/adopter. The music industry, which could not foresee the autonomy of subjects and the independence of networks, recoiled in alarm from this new anthropological reality, and within a decade lost about half of its mass. Music's commodity status was effectively (p.361) being threatened by widespread peer-to-peer file sharing. By downloading and streaming free music, listeners were infringing upon the traditional copyright protections that stakeholders in commercial music had increasingly enjoyed. An entire history of music's commercial exploitation was potentially coming to an end. It is as if the refinement of music's commodity form had paradoxically incubated its very antithesis, the genie of unfettered music unleashed from the bottle of its commodity form. A compensable musical unit had transformed into an ephemeral node in a dense network of transmission lines. In short, the network for music's distributed circulation could be described as a kind of free, even anarchic, rhizome.

Commodity Inversion

It is no small irony that the peculiar form of music's *commodification* at the beginning of the 21st century was the condition for the possibility of its *de-commodified* rhizomic production and circulation. On the subject of the size of the digital music file alone, two important industrial strategies need to be contextualized. In other words, both the segmentation of sound and music into bounded products of moderate length and the new digital formats that enabled their high-speed transmission were historically underwritten by commercial imperatives in specific corporate settings. First, the evolution of the standard length for the popular song (which ranges approximately between 3 and 5 minutes), occasionally attributed to the length of the early 45 rpm phonograph record, was, in fact, more systematically calculated in the context of marketing strategies characteristic

of the early phonograph era in the United States. By the mid-1920s, standardized verse-chorus formulas, gradually compressed from about six to seven verses (with eight to 10 lines) to two to three verses (with a maximum of four lines), had become the preferred structure for songs crafted in Tin Pan Alley. In comparison to the lengthy, complex, lyricized storytelling found in frontier ballads, children songs, and cowboy songs of 19th-century American vernacular (or folklore), the songs of Tin Pan Alley were short, simplified, and formally standardized. Additionally, music became increasingly vested in property rights during this period. After the passing of the Copyright Act of 1891, songwriters, lyricists, arrangers, and particularly publishers reliably received royalties for music (see Suisman, 2009). This constellation of industrial imperatives encouraged the high-speed production of short standardized songs synchronized to thematic fashion. The standard song structure and moderate length of a copyright-protected popular song was well suited to a retail strategy that bolstered sales by limiting the life of a product (a strategy termed *planned obsolescence* during the Great Depression) and predominated for the ensuing century.

The second important innovation that enabled music to circulate widely online involved the invention of compression-decompression algorithms (codecs) for reducing the data required for digital transmission in the late 1980s. While text (p.362) files are relatively small, image and sound files use a more complex positional numeral system, which poses problems for transmission over low-bandwidth Internet connections. Each pixel in an image file, for example, is assigned a hexadecimal color value. Using various numeric character references (NCRs) to represent characters that are not directly encodable (known as a markup language), codecs mathematically represent the same information, or its approximation, in ways that require less storage space than the uncompressed file. For example, gif files deploy “lossless” compression—the codec detects repeated sequences of pixels and assigns them a number—while MP3 files deploy “lossy” compression, which entails a dimension of signal loss. By using perceptual masking and other compensatory audio techniques, however, the MP3 format compressed music into

relatively small file sizes where the loss in sound quality was not obviously perceptible. While some audiophiles lamented the loss in signal depth, the greatly increased speed of transmission and downloading appeared to be a worthwhile trade-off for the average listener.

It is important to note that the Motion Pictures Experts Group (MPEG) digital format was pioneered in a collaborative corporate setting, the Institute of Integrated Circuits at the Fraunhofer-Gesellschaft in Germany in the 1980s. At the time, Fraunhofer was seeking to develop a digital standard for integrating digital audio and video. Ironically, just as the International Organization for Standardization (IOS) in Switzerland approved the MPEG standard in 1992, the format was hacked and widely circulated online (see Gillespie, 2007; Sterne, 2012). Neither Fraunhofer nor the IOS could foresee the openness and the independence of the digital architecture to come, nor the extent to which it would be exploited for social networking and communication. Peer-to-peer applications quickly emerged, allowing music users to become distributors as well. Although they were frequently short-lived, sites like MP3.com facilitated widespread trafficking in digital music sound files. In 1999, Napster allowed users to search and access the music collections of other users (by way of the song title or band name) without actually posting them to the web. This tactical maneuver allowed a user simultaneously to function as a server in real time. Napster mediated the protocols that facilitated the actual exchange, thereby empowering ordinary users to engage in disintermediated communication with other users. While Napster's search function was centralized, the model for sharing—at least from the point of view of the adopters—was effectively decentralized. Despite the closure of the original Napster, new technologies (such as Gnutella, Morpheus, and Kazaa) that further decentralized their modus operandi quickly emerged. Instead of deploying a central search function, Gnutella, for example, linked a request for a file to clusters of users, who, in turn, were linked to further clusters of users in a series of nested tree structures. These platforms quickly exceeded Napster's already-considerable user base.

In sum, music had become the most ubiquitously trafficked free cultural object in the early digital era. The irony is that this traffic was incubated in the context of systematic industrial imperatives that rationalized musical production as much as it was the intervention of software engineers, libertarians, ordinary (p.363) users, hackers, netizens, and so on. For progressive media theorists and economists, information and cultural expression is inherently both *nonscarce* (not depleted by use) and *nonexcludable* (not easily removed once consumed), which is why it needed to be artificially sustained in the context of the free market. Far from reflecting free market capitalism at work, the argument goes, the legal edifice known as copyright operates instead as a government-subsidized and government-instituted limited-term monopoly on the copying of cultural content. Additionally, these practitioners argue, the current copyright legal regime does more to undermine than to foster innovation and productivity (see Benkler, 2006; Lessig, 2008). For the purposes of this argument, it is evident that the legal restraints placed on the reproduction of protected cultural fare would encounter the limit in the context of compressed files distributed within the emerging digital network. The widespread gift-like culture that took hold was complex and overdetermined; it was constitutively linked to the narrowly commercial (instead of affective and social) conception of music held by the industry, as well as the unanticipated fallout of a technological shift sponsored by a hybrid array of corporate, educational, and independent actors. In Deleuzian parlance, one might describe the proliferation of new techniques of cultural production and dissemination in a digital environment in terms of a rhizome—control mechanisms set adrift from centralized intermediaries; networked social interactions proliferating texts, images, and sounds; heterogeneous dissemination systems delinked from commercial mandates; and so on. Like a rhizome in Deleuze's terms, it is as if subterranean offshoots had irrepressibly emerged from nodes within the system.

Music, Techno-Rhizome

Perhaps it should come as no surprise that Deleuze actually regarded music as a useful model for grasping his philosophical project (see Deleuze & Guattari, 1980). Grounded in conceptual hybridity, Deleuze figured music as a flow of pure becoming in a field of affective intensities. Unlike the natural, social, or cognitive sciences, music could open into a “plane of consistency,” which meant that its heterogeneous elements could be conceived on a continuum rather than ranked by categories. Thus drawn into the same analytic level, free of aprioristic selection and hierarchy, music’s nodes and lines were dispersed as if in a rhizome instead of a tree structure. While updated for modern sensibilities, Deleuze’s conception of music remained resonant with the tradition of 19th-century romanticism, which regarded music as an ephemeral, distributed art form, engaged in modes of transformation, variation, becoming, and so on (see Scherzinger, 2014). It is tempting, therefore, to conclude that music’s social condition is better suited to the decentralized digital network that permits its free circulation than it is to the industrial model that segmented it into artificial commodities. Commentary on the emerging music stylistics created within current technological conditions frequently emphasizes a Deleuzian turn. Some argue that novel nonlinear modes (p.364) of musical composition formally recapitulate the very networked architectures of digital technologies, while others argue that the interpellative powers of new technologies have produced new sociocreative processes attuned to recombinant intertextuality—techniques of remix and mash-up, music grounded in sampling, the *riddim* method in Jamaica, the dub method of dubstep, and so on (see Sinnreich, 2010; Goodman, 2010; Harper, 2011). Musical forms, by this argument, approximate the logic of hyperlinks in a network instead of functioning in a linear structure. In other words, the convergence of consumer electronics and digital music distribution has launched an era of rhizomic musical praxis anchored in an array of heterogeneous elements.

This kind of argument is elegant, but—by conflating technosocial processes on a micro level with those on a macro level—it depends on what Gilbert Ryle calls a category mistake. The relation between the formal stylistics of music and the sociotechnical environments that support them is notoriously vexed. The apparent isomorphism between beats and samples in a modular network, for example, and the web-based production and distribution mechanisms that are their technological support is more of a convenience than it is empirically accurate. For example, to identify the mash-up as a nonlinear network implies that its commercial counterpart, the industrial popular song, is somehow linear. How can this idea be sustained in the context of ubiquitous standards that exhibit a prominently circular structuring of verse-chorus segments? As demonstrated earlier, music's commodity form—characterized by a calculated standardized form of moderate length that is easily reproduced in an industrial setting—conditioned the possibility for its seamless integration into the open network. To conflate, or even correlate, the technical aesthetics of a musical style with the infrastructural network that incubated it is to bring associations from the one falsely to the other. The progressive promise of a newly networked musical style, for example, may poetically (but inaccurately) draw attention to the progressive aspects of the open network. Both, at a general associative level, are like rhizomes. It is the texture of these kinds of signifying associations that have brought a misleading kind of Deleuzian thought into prominence in the discourse around music in the digital age.

Enclosure, in a Double Sense

Why is the Deleuzian image of cultural production and distribution in the digital age misleading? What if the political economy of music today is the inverse of that implied by the Deleuzian model outlined earlier (however simplified)? What if music, above all other cultural activity, intrinsically lends itself, not to the freely disseminating flow of gifts, but precisely to the corporate encroachments on technical affordances procured in an online environment? For all the appearances of an anarchic circulation of free culture, for example, we are simultaneously witnessing the unprecedented arrogation of this circulation by large-scale multinational

corporate entities in two—largely contradictory—senses.

(p.365) On the one hand, the rapacious capacities of search engines, social networks, retail outlets, and other online platforms for *the surveillance and collection of free data supplied by the public* reflect the instrumentalization of noninstrumental abilities on an unprecedented scale. Far from simply proffering enhancements and efficiencies in search of functionality, social networking, recommendation algorithms, and so on, the gathering and mining of big data (ravaged from an unprotected public domain) casts light on the paradoxical *financial* investment corporations have in the *free* flow of culture. Curiously, the progressive embrace of distributed free content (no less than the resistance to the enclosure of the commons) marches in uncanny step with the demands of these economic stakeholders.

The great paradox of the Internet is that the enhancements it affords in terms of sharing, experiencing, purchasing, interacting, hyperlinking, and networking are constitutively linked to enhanced control systems for surveillance and tracking. Sometimes this link is more or less inherent to the technical function (as is the case with recommendation software, search engines, and so on), but mostly it is manufactured in the terms of legal agreements for use (mobile phone applications, social networks, and so on). It would not be an exaggeration to say that every purchase, sale, upload, download, email, chat, post, hyperlink, log-in, and so on generally leaves a digital trace that can be collated to compile long-term profiles on users. These sets of big data are both largely invisible to the public that effectively compiles them and monetized downstream without compensation to that public. According to various economists and software engineers, Silicon Valley has actively promoted the ideas of open-source software, free culture, and crowdsourcing to investors and brokers (see Lanier, 2011). Defenders of the “long tail” theory for the probability distribution of retailing strategies likewise argue for the statistical reliability of free user-generated content (see Anderson, 2006). In the context of improved online distribution and search functionality, the algorithmic mining of big data, whose metrics depend on

large-scale public inputs, has become an important, if not essential, dimension of modern economics.

The relationship between new technical media and shifting economics of production has interesting implications for the social processes of subjectivation. We have witnessed an era in which new creative *habiti* have developed around digital networks, producing affect as the most elementary cultural technique for binding devices and communicative platforms to fairly centralized multinational corporate headquarters (such as Google, Amazon, and Facebook, to name only the most obvious). The algorithms that determine the constitution of our world have become increasingly capacious, with implications not only for economics, politics, and culture but also for our subjectivity, and even our sense perception. If Bentham's panopticon was the dominant image for Foucault's modern disciplinary state apparatus, the opposite is true for the architecture of Internet surveillance. It is not that the Internet user experiences the haunting possibility of being watched from a central control tower and thus comports his or her social behavior accordingly, as Foucault had maintained in the context of discipline, (p.366) but rather that he or she *knows* he or she is being watched (by automated bots at the very least), but nonetheless does *not* submit his or her behavior to social tempering. Designed to externalize every desire, maximize access, proliferate consumption, and hasten click-rates, platforms controlled by the corporate sector reflect a vested interest in a friction-free flow of information, grounded in affect. Data sets, in short, are enriched by unbounded subjectivity. One might call this the free culture for schizophrenic capital.

On the other hand, the increased institutionalization of permission-based distribution and access controls undercuts the cornucopian image presented by the Deleuzian framework, however deftly the apparently unimpeded cornucopia is actually monetized in the age of big data. Once again, the paradox of the Internet—its potential for the surveillance of seemingly friction-free digital traces—has intensified the scope and reach of digital rights management of copyright-protected culture. In other words, just as the Internet enables

high-speed copying with little quality loss, it also enables enhanced detection of copying, and new opportunities for control and enforcement. Here, too, music lends itself especially well to this kind of legal encroachment on its public circulation. Most obviously, music is generally consumed by way of repeated listening, which opens lucrative opportunities for companies offering pay-as-you-go listening services tethered to access control protection systems. We witness here an attempt to monetize affective capacities—an opportunity to transform intangible experience and sentiment into profit.

In fact, with the passing of the Digital Millennium Copyright Act of 1998 (DMCA), the use of technological protections facilitated a system of pay-per-use (view/listen/install), effectively linking access itself to an automatic debit mechanism. In their representations to Congress, the copyright lobby argued that, barring a set of precise circumstantial exceptions, any reproduction of a work was the exclusive right of the copyright holder. Since exceptions had not been enumerated for Internet-based copies in the 1976 Act, copyright owners were entitled to monetize on the appearance of all digital copies online. Remarkably, copyright owners argued that this right should be extended to reproductions found anywhere on a computer, including the volatile Random Access Memory (RAM) (see Litman, 2006, pp. 22–32). The policy maneuver was a transformation of traditional copyright law, which distinguished between fixed reproductions (such as phonographs and books) and unfixed ones (such as broadcasts and exhibitions). Ephemeral copies, such as those found in radio or television broadcasts, reduce what economists call the “option value” of the reproduction and were not protected by copyright law. Since a reproduction of a work found in RAM could technically be saved to a hard drive, stakeholders in copyright protections argued that the copy was essentially fixed in a tangible medium. Concomitantly, its option value had become blurred. The fundamental right associated with the copyright owner is the right to authorize the reproduction of protected work that has been *fixed* in a sufficiently stable *tangible medium*. In the open network, therefore, ephemeral uses of a work were concretely

transformed into traceable fixed ones. Consumption could now be regulated in accordance (p.367) with the fundamental operation of computers. In a context of metered usage (or pay-per-use), music was potentially an enticing boost to the bottom line of the music industry.

Another reason music lends itself well to monetized circulation relates to its historical redefinition in the late 18th century. Music's technical and metaphysical character provided a powerful conceptual, moral, and philosophical basis for the modern economics of information. In other words, the very legal conceptions that ground copyright protection for information objects found in music its most powerful alibi. Technically speaking, musical craftsmanship is opaque to a large sector of the listening population, a fact that lends itself particularly well to a romantic conception of authorship. Nineteenth-century writings on music frequently linked its rarified, abstract, and highly specialized compositional process to the profoundly mysterious creative inspiration of genius. In the romantic conception, the element of craftsmanship could be minimized just as the element of inspiration could be maximized. In sync with romantic metaphysics, inspiration differed from craftsmanship insofar as it was said to emanate from *within* the composer instead of from the material culture surrounding him or her. According to various theorists, the originality of the inspired creative spirit was directly linked to the originality of the formal work, which thereby became the distinctive product and, by extension, property of the composer (see Goehr, 1994; Boyle, 1997).

Without disavowing the important way music transforms and enhances social and individual life, it is a poetic peculiarity of the law that it crafts a metaphysical conception of the author to devise a system that distinguishes which workers receive property rights in the objects they create and which ones do not. It is an additional peculiarity that the majority of real-life stakeholders in musical copyright are *not*, in fact, authors in any construable sense of the word. In the context of the music industry today, artists usually receive only a small fraction of the royalties and sales associated with their works; most of the revenue is diverted toward content industries and portfolio

holders themselves (including an army of publishers, promoters, lawyers, lobbyists, and so on). Despite their distance from the actual legal justifications for copyright protection, representatives of the culture industries are nonetheless able to hitch a profitable ride on the metaphysical niceties of an invented author-function.

The romantic author figure performs a kind of alchemical work, transforming “ideas” (the discovery of material facts, natural laws, etc.), which are not eligible for property rights, into “expressions” (the discovery of materials apparently out of the metaphysical blue sky), which are so eligible. Copyright protects expressions in works from being copied without permission but provides no protection for the ideas, facts, principles, systems, or discoveries that underlie them. The author-function thereby serves effectively to mediate between ideas that are regarded as a public good and a brand of ideas that are regarded as privately created. Even if most ideas, however defined, are realistically inflected by expression, just as most expressions are inflected by ideas, only expressions are construed as private property. Music, above all, plays a considerable ideological (p.368) role in mediating social antagonisms between private and public. This maneuver permits the modern liberal state simultaneously to embrace the egalitarianism of the public world, and to protect the hierarchies of the private one. The egalitarian principle remains confined to the public sphere. In other words, the *agon* of a polity is held in check by a metaphysically inflected system of property rights. Music’s power of expression, one might say, is transformed into a kind of social expression of power.

Allomorphism of the Law (or the Fallacy of the Undistributed Middle)

It is important to note that the two forms of enclosure upon creative work outlined previously are in fact in a contradictory relation to one another. If content industries are invested in cementing access-control protection systems and copy-control protection systems into technological devices and communicative platforms, service providers are invested in the opposite—the friction-free flow of unfettered data points. It is

possible to describe the legal outcomes of this interindustry struggle as a series of detailed negotiations between lobbyists for the content industries, on the one hand, and Internet service providers (ISPs), on the other. Indeed, before the passing of the DMCA, service providers were granted an exemption from liability for their users' uploads and posts on the condition that they agreed to remove or block access to copyright-protected material when alerted to infringing files by content providers. The safe harbor was the direct result of a negotiated agreement during the 105th Congress over the question of liability for copyright infringement online. But it reflected a pattern of copyright lawmaking in the United States that had long taken the form of negotiated settlements between powerful private parties, with sometimes competing vested interests. In the first decade of the 20th century, for example, the interests of copyright holders (musicians, composers, publishers, etc.) conflicted with those of the then-new "talking machine" (phonograph), motion picture, and piano roll industries. Since the latter were absent from the negotiations in 1906, the bill that emerged did not favor them. As a result, in ensuing conferences, the proposals were modified to better reflect the operations of these industries: Compulsory licenses were granted for mechanical reproductions of musical compositions, on the one hand, and all jukebox operators were granted a complete exemption, on the other (see Litman, 2006, pp. 70–77).

For all the appearance of balancing the conflicting demands of copyright law by way of negotiated concessions, however, these conferences have historically facilitated interactions between copyright-intensive businesses and institutions increasingly at the expense of publically oriented institutions of learning, public domain advocates, and the like. One may speak here of the inertial tendencies of copyright laws passed in the previous century, which generally bear the marks of a relatively narrow set of interests. The occasional benefits to the public (such as the broadcasting provision in the 1909 Act, arguably, or (p.369) the safe harbor provision in the 1998 Act) accrue as if by accident; they often represent more of a symptomatic fall out of an intercorporate struggle than a genuine confrontation with a public sphere. In this scenario,

public interest is only served in the gaps opened by conflict between powerful industry players. In fact, the tendency to exclude direct discussion of public interests in the lead-up to statutory action intensified in the age of the Internet. The decade leading up to the DMCA, for example, witnessed a massive increase in copyright-related campaign contributions to politicians, with the aim of gaining leverage over copyright policy in Congress. Perhaps it is not surprising that the provisions of the DMCA witnessed the de facto erosion of a host of exemptions that had been historically granted to underrepresented interest groups, public and private alike—jukebox operators, record companies, cable television systems, radio and satellite broadcasters, music stores, restaurants, libraries, educational institutions (such as schools and universities), and so on. The exemptions are under threat because the DMCA included language prohibiting the manufacture and use of *any* device or service that could circumvent copyright protection. The underlying logic of this legal maneuver is ensnared in a non sequitur known as the *fallacy of the undistributed middle*. Simply put, just because all infringements involve copies does not mean that all copies involve infringements.

It would not be difficult to list an array of logical problems with the provisions of the DMCA, insofar as it renovates the meaning, scope, and authority of copyright protection with frequently contradictory effects in actual practice. Take, for example, the case of Napster discussed earlier. Recall that Napster's technology facilitated access to music collections of geographically remote users. Napster had a central search function, but, since collections were not posted online directly, the model for sharing was effectively decentralized. Napster's model thereby posed a direct challenge to the basic economic principles underlying the legal distribution of commercially valuable information, which had hitherto been controlled by corporate intermediaries (record labels, film companies, etc.). After the largest record labels brought suit against it in 1999 (*A&M v. Napster*), Napster was ordered to shut down its then-current operations and reconfigure itself as a commercial platform. The kind of defense that characterized the 1984 "Betamax" case (*Sony v. Universal*) failed in this new context,

at bottom, because Napster could actually circumvent infringing uses, whereas Sony could not. In the case of the videocassette magnetic tape recording format, deployed in relatively closed social networks, infringing uses could not be as readily detected, which led the court to protect the substantial potential for noninfringing uses. Although the question concerning the illegality of noncommercial file sharing is itself hotly contested and in doubt, *A&M v. Napster* effectively opened the door to the preemptive circumvention of *any* sharing. One logical consequence of this decision is that, de facto, *all* noncommercial exchange is judged illegal before proven legal. We detect here not only a case of the fallacy of the undistributed middle but also the logical impossibility for Napster, in practice, to divert users from infringing/noncommercial behavior. This is particularly alarming given (p.370) the reluctance of the music industry in the late 1990s to move their retail operations onto the Internet.

As Napster rose to prominence, the music industry, under the auspices of the Secure Digital Music Initiative (SDMI) coalition, was formulating technical rights management systems that could be incorporated into devices (MP3 players, CD or DVD drives, flash memory devices) and networks (Internet or wireless networks, set-top boxes, or modems). The approach was multipronged, including both watermark and encryption technologies. Digital watermarks are sequences of binary digits (bits) associated with a work that enable its identification and tracking. A digital watermark can trigger a technological device to behave in certain ways. For example, it can prompt a device to offer a software upgrade. The upgraded version of the software could, in turn, technically distinguish between SDMI-protected content and noncompliant (unmarked) content, and disable playback for the latter. Even if an artist released unmarked content, the SDMI upgrade could potentially restrict its playback. By using technological artifacts themselves as the site for legal intervention, digital rights management both perpetuates a syllogistic fallacy and automates its enforcement. Unable to register the situational domains that distinguish what is legally permissible to do with a copyrighted work from what is not legal, automated enforcement asymmetrically expands the

rights of some stakeholders and diminishes, if not obliterates, the rights of others. It preemptively places constraints on reproduction and distribution of digital information by embedding copy-protecting technical watermarks, digital locks, license agreements, and encryption technologies, effectively circumventing access controls or authorization on specified devices, as well as preventing the copying, distributing, viewing, pausing, transferring, syncing, and so forth of copyright-protected material. By shifting the focus from the adoption or use of content to the design of technical conduits for content, traditional copyright protection is extended from the present into the future, speculatively circumventing *possible* infringement. Such auto-policing undermines uses formerly enabled by the copyright framework, which traditionally balances the rights of authors and their publics. For example, DRM prevents uses that are in accordance with the “first sale” doctrine (which permits the resale and sharing of works), the religious services exemption (which waives the public performance right in religious contexts), and the “fair use” doctrine (which exempts a range of educational, domestic, and other types of expressive uses of works). This kind of enclosure on sanctioned cultural behavior paradoxically undermines the proper functioning of other aspects of the law. It becomes a kind of law-disabling law. The fundamental character of copyright is thereby altered, its operational meanings metamorphosing into different forms even as it retains its justifications *under the auspices of the same basic law*. Some of its guiding principles are quietly amplified, others are diminished, and still others are abolished entirely. In short, we witness an *allomorphism* of the law.

As the details of the law mutate, it becomes less clear which institutions can appropriately be called upon to ensure its proper functioning. For example, the idea of a “broadcast flag,” a copy protection system designed for digital televisions (p.371) and receivers, was considered and assessed by the Federal Communications Commission (FCC) in 2003 (see Gillespie, 2007). The traditional role of the FCC is to monitor the content for broadcast media (such as radio and television) and to oversee the granting of licenses for slices of the spectrum. The broadcast flag, however, was designed to be a

government-mandated form of encryption that could detect and monitor the redistribution of television content in a networked environment. At stake in assessing the flag was not the type or quality of content that could be broadcast, but rather the technical character of a conduit *for* content. The commission was becoming caught up in issues that were beyond its remit. In the past, the FCC had never been tasked to arbitrate either the legality of technological functionality or the algorithmic computation associated with the broadcast flag. Indeed, in 2005, the American Library Association (ALA), in conjunction with a collection of consumer and digital technology advocate groups, challenged the FCC's ruling on the flag (see *American Library Association et al v. Federal Communications Commission and United States of America*, 2005). The ALA argued that the ruling, which pertained to copyright, was beyond the FCC's jurisdiction, and, after some debate, the regulation was officially eliminated in 2011. Nonetheless, as computing and broadcasting converge (whereby distribution increasingly coincides with consumption), DRM technologies continue to become assembled directly into networks and devices.

Scaled up to the level of society as a whole, if technical barriers can be built directly into the communication platforms, devices, and networks that are central to contemporary social life (participation in community, commerce, conversation, etc.), then social life itself could be preemptively regulated to prohibit circumvention of the law. For example, if manufacturers of DVD players are legally mandated to omit a recording function on their playback devices, or if DVDs encode a "regional" restriction on the playback of DVDs, circumvention of copyright protection cannot, as a technical matter, take place on those devices. By basing the compensable unit of copyright protection on the *copy* itself—however ephemeral its actual distribution, or however volatile its term in a memory chip—we disable what many consider to be the fundamental operation of networked computers: reproduction of files in stable digital form. Under this reading, a law undermines a basic technical principle of a new technology.

This is not the only view. Some theorists argue that, far from proliferating copies by operational definition, the digital network in fact renders copies redundant. In this view, the fundamental principle of the global Internet necessitates the existence of *one* file only. Online streaming services for music and films operate on the basis of this idea: Companies like Netflix and Spotify deliver content by granting access to a kind of “master file” in real time over a network (see Lanier, 2011). In the context of the open network, the need for multiple copies becomes technically redundant. Of course, this principle is fundamental only to the extent that the system is fast, fluid, and openly accessible. For all their conceptual differences, these interpretations of the digital architecture coincide on the question of DRMA. Whether the Internet is construed as a “giant copy machine” or its inverse, a zero-copy machine, digital rights management disables (p.372) its fundamental method of operation in both cases (see Kevin Kelly in Lanier, 2014, p. 223).

The disabling of technical functionality concomitantly disables legal defenses (such as fair use), which have been recognized hitherto by a lengthy copyright tradition and case law. Programming the machine to perform below capacity, copyright owners are thereby able both to wall off legitimate uses of cultural information and to remove from the public the very public domain material that is inevitably incorporated in protected works. Lodging the power to disable technical functionality in the hands of a subset of commercial actors, therefore, has significant implications for the future of cultural freedom, legal transparency, and social equity. For example, *encoding law* preemptively in devices and platforms illegitimately expands the legal scope of copyright, and may even contradict a fundamental principle of the law itself, the presumption of innocence. Under these conditions, it becomes quasi-mandatory for all cultural expression and exchange to be structured on the commodity form, with music’s overtly experiential and social values thereby shoehorned into commercial terms. With automatic technical controls effectively substituting for legal controls, social life becomes increasingly operationalized to conform to market values.

Figures of Agency

Despite the evident encroachment of digital rights management in recent decades, the track record for its successful implementation has been strikingly mixed. As the *ALA et al v. FCC & USA* case in 2011 indicates, the industry has faced considerable setbacks when it came to the direct encoding of law in devices and networks. In the case of the broadcast flag, the pushback emerged from consumer and technology advocate groups in an alliance with librarians, but the countervailing figures of agency in fact cast a much wider net. From self-conscious activism and critical academic commentary to the rapacious deployment of circumvention technologies supplied by software engineers, wiki contributors, free software advocates, and hackers, the attempt to impose technical restrictions on open networks has met its match in the general practice of the unruly every day. It would not be an exaggeration to say that collaborative peer-to-peer networking and sharing, demonstrably indifferent to its legality, has become a dominant sociocultural technique today. The actions of a critical mass of listeners seem to indicate an interest in music's affective, sentimental, and experiential values over and above its monetary ones. As if locked in a constitutive dialectic with the encroachment of DRM itself, the efficiencies in distribution systems, search functionality, peer-to-peer connectivity, and so on, which are conditions for the possibility of DRM, have ushered in its antithesis, the encroachment of a free zone of decentralized everyday cultural practice.

The decrease in computational costs, enhancements in digital signal processing, and networked architectures have arguably ushered in a period of cultural production sustained more by collaborative volunteerism than by commodity (p.373) exchange, market signals, or managerial strategies. Some of this activity operates by way of a strategic incorporation of the law. Examples include the institution of free, or open-source, software, which paradoxically deploys copyright and licensing law (the GNU General Public License) to undermine its deleterious effects and to foster collaboration, and open, peer-produced online reference tools, such as Wikipedia, whose content is likewise released under a GNU Free Documentation

License. But the vast majority of peer-to-peer production and sharing is simply set adrift from the institutionalized economic structures that are conceived to guide it. While this widespread anthropological reality challenged the economic interests of various content industries, new commercial interests have capitalized on it. Indeed, the decentralized and nonproprietary practice of sharing and downloading information objects has become ubiquitous, and practically defines the fundamental features of major corporate sites like YouTube, MySpace, Facebook, and Google+. Music played a prominent part in this transformation (My Space integrated its platform with major music labels, Facebook built a partnership with the Spotify streaming service, Google built an online music store linked to Google+, etc.). The new models for music consumption were built on the success of music to early forms of online networking in the 1990s. Of all the informal exchange that characterized the early days of the Internet, music was perhaps the most successful early example of commercial culture that began to circulate outside of its market imperatives.

It is instructive to compare the attempts to impose digital rights management by the music industry with those of the movie industry. When DVDs came to the market, the mainstream motion picture studios introduced a content scrambling system (CSS) to restrict their play on licensed DVD players. Manufacturers of DVD players were forced to license the key to unlock CSS descrambling software in their players. The license specifications included restrictions on the geographical regions in which DVDs could be played and disabled the skipping function for commercials, trailers, and copyright messaging that appeared before the movie. While it restricted access, digital encryption like CSS did not actually prevent copying. Manufacturers of hardware were thus additionally compelled to exclude a “record” function on their players. In short, the DMCA successfully ensured that CSS was implemented as a matter of law.

In contrast, recall that the Recording Industry Association of America (RIAA) responded to the rise in amateur file trading in the late 1990s by introducing the SDMI. SDMI sought to embed rights management information in musical pieces via

digital watermarks, which could be detected by playback devices to make it impossible to play copies of an illicit file that was once SDMI protected. To ensure that devices were SDMI compliant, the music industry argued that playback hardware needed to be standardized to trigger the disabling upgrade. The consumer electronics industry had no direct financial interest in imposing proprietary security solutions to their portable digital devices. And yet, despite the interindustry conflict, an agreement was in fact reached in 1999, which outlined rights management specifications for mobile devices.

(p.374) Nonetheless, SDMI did not succeed the way CSS did.

The failure can be attributed to the rise of the MP3 as a dominant format for music, as well as the increasing importance of Internet-enabled computers, doubling as playback devices. The computer and software industries had a different set of business opportunities from those of both the content industries and the consumer electronics manufacturers, and they emphasized the importance of open networks, efficient formats for content delivery, and optimal functionality. The agency of the music-listening public was another important factor contributing to the failure of SDMI. Even advertising campaigns by computer manufacturers (such as Apple's "Rip, Mix, Burn" campaign for iTunes) indicated an allegiance to a new kind of musical culture, characterized by peer-to-peer sharing, downloading, and collaboration. It is instructive in this regard that Apple's relatively low-level digital rights restrictions played an important role in the initial success of iTunes in the early 2000s. Even the inclusion of the "FairPlay" DRM system was eventually abandoned in favor of increased functionality (enabling the conversion of files to MP3 formats, etc.) (see Cosentino, 2006). In sum, music escaped the restrictions of DRM for a variety of intersecting reasons: unstable business models for different industrial sectors; widespread adoption of new digital technology that allowed the public to communicate with a vast audience; the repeated hacking of encryption technologies; and a "netizen" worldview that emphasized the importance of equal citizens, free information, and resource sharing in an open network.

Arguably, public interest thereby temporarily trumped a narrow proprietary one.

Geographies of *Chrysopoeia* and *Sideropoeia*

Interestingly, the publically oriented aspirations of citizens, hackers, free-software engineers, netizens, wiki enthusiasts, and others can be at odds with the aspirations of culture producers in the Global South. Scaled up to an international arena, we witness information resources from the United States, Japan, and Europe (music, films, software, pharmaceuticals, etc.) increasingly transformed into property (by way of patents, licenses, and copyright protections), while information resources of the non-West (traditional music, indigenous knowledge, genetic resources, etc.) are construed as belonging in the public domain. Cultural artifacts, knowledge bases, and biological and scientific resources of the non-West thereby are treated as if they were raw materials—public domain resources—available for exploitation and refinement elsewhere. In alchemical fashion, raw materials circulate like gifts in the global commons, but gain value as soon as they become materially fixed in the exchange economies of the West. Examples of appropriated pharmaceutical knowledge abound. W. R. Grace patented a pesticide derived from Indian farming practices associated with traditional knowledge of the *neem* tree; the Lilly Company patented a DNA sequence derived from the *vinca* alkaloid from a periwinkle plant in Madagascar, which constitutes the basis of a compound used in chemotherapy; and a patent was (p.375) placed on a chemical from the plant providing *curare*, found on Makushi Indian arrowheads, which was exploited as an effective muscle relaxant (Boyle, 1997, pp. 125–130). All these patents underwrote products worth millions of dollars, and yet Indians, Madagascans, and Makushis did not receive compensation for the role they played in their discovery.

In alchemical fashion, the patenting of genetic information derived from indigenous knowledge elevates the economic value of information in one place, and simultaneously demotes its economic value in another. By a mechanism that responds to the contingency of political geography alone, information is

unevenly transformed into value. If *chrysopoeia* is the alchemical method that transforms base metals into gold, then *sideropoeia* is the method that reverses such valuation, transforming gold into base metal. Local pharmacological experience therefore undergoes the alchemy of *sideropoeia*, while information sequences derived from that experience undergo that of *chrysopoeia*. Not only do these dual alchemies risk the very survival of indigenous practices by diminishing their worth, but so, too, is the sustainability of the ecological environments that support these nonvaluable practices threatened. This is inevitable in a context where intellectual copyright law, by brute default, generally favors the innovations in a biology laboratory over related forms of traditional ecological knowledge.

Likewise, choreography, songs, and myths migrate out of developing nations unprotected by intellectual property rights, but simultaneously secure substantial profits as they are appropriated into exchange economies of the West. Once again, examples abound. Take the case of appropriations of African music alone. Pete Seeger's folkish rendition in the 1950s of South African composer Solomon Linda's vocal piece "Mbube" became the basis of "The Lion Sleeps Tonight." Although the song was immortalized in the successful musical *The Lion King*, the African composer did not receive royalties or recognition during his lifetime. Malcolm McLaren's "Double Dutch" (1983) was an undisguised appropriation of Zulu jive style combined with a typical *mbaqanga* groove. Although it was McLaren's highest charting single release, no African composers were credited or paid for their contributions. The "hindewu" riff at the beginning of Herbie Hancock's song "Watermelon Man" from *Headhunters* (1973) was directly copied from musicians from Central Africa. Hancock's drummer Bill Summers found the music on an ethnographic recording made by Simha Arom in 1966. Although the music circulated widely (by way of both covers and samples), Hancock did not attribute songwriting credits to the African musicians upon whose expression it was based, even as he received royalties from artists who borrowed the riff from him. The list goes on. Adam and the Ants drew on drum patterns recorded in Burundi for mega-hits like "Ant Music" and "I

Want Candy”; Paul Simon drew on a variety of African styles in his hugely successful album *Graceland*, including *isicathamiya*, township *jive*, and *mbaqanga* music; Beyoncé borrowed choreography and sounds from various African artists, such as the Mozambican dance troupe Tofo Tofo, which leveraged a high-selling hit like “Run the World (Girls)” in 2011. In all cases, the African artists upon whose (p.376) work these commercially successful musical works relied were left unattributed, and hence uncompensated by copyright protections.

Of course, when musicians, artists, and authors within the exchange economies detect plagiarism of their works, lawsuits are quick to follow. In the last year alone, examples are legion. For instance, despite denying an influence, Sam Smith settled out of court and paid royalties to Tom Petty for his hit song “Stay With Me” (2014), which had a distinct resemblance to the song “I Won’t Back Down” (1989), written by Petty, Jeff Lynne, and Jimmy Naples. More recently, a court ruled that Robin Thicke and Pharrell Williams had infringed Marvin Gaye’s copyright in their song “Blurred Lines” (2015), on grounds that it channeled the “feel” of Gaye’s “Got to Give It Up.” Although the ostensible composer of this “feel” is dead, Williams and Thicke were ordered to pay \$7.4 million to Gaye’s surviving family. In short, it is worth noting that the actual workings of legal protections for intellectual property systematically include in and exclude from its reward structure certain types of authors and nonauthors. In this context, the progressive effort to expand the cultural commons, free information, and resource sharing in an open network encounters a limit. This is because the withering of proprietary values and relations in one sphere is constitutively linked to the widening of proprietary values and relations in another sphere. In other words, the raw materials provided by the public domain are a logically entailed supplement to the proper functioning of property relations in the exchange economy. In fact, the conceptual imbrication of the property idea in that of the commons idea provides powerful vested interests the opportunity to assign notions of authorship and intellectual property almost ad hoc. Not surprisingly, there is enough legal precedent to adjudicate almost every copyright

issue in all directions with equal validity (Boyle, 1997, p. 19). Just as the author concept is able to adjudicate between individual subjects as either private persons or public citizens, the IP concept is able to adjudicate between individual labor as either property or gift. Taken alone, the concepts are internally divided—Deleuzian individuals—with the powers nonetheless to mete out *chrysopoeia* for some and *sideropoeia* for others.

Any solution aiming to tackle the dialectical realities of economic valuation schemes today needs to negotiate between the Scylla of hierarchized exchange relations and the Charybdis of egalitarian gift economies. It should therefore come as no surprise that representatives from the Global South frequently place contradictory demands on the content of treatises providing the legal framework for international copyright protection; they simultaneously call for both *more* copyright protection in some spheres (such as indigenous information objects) and for *less* copyright protection in other spheres (such as cyberspace, which favors nations with the technological capacity to exploit it). In 1996, for example, delegates at the international diplomatic conference in Geneva held by the World Intellectual Property Organization (WIPO) pressed the US delegation to soften its vision of fortified copyright in the context of digital rights management (Litman, 2006, pp. 128–130). The majority of these developing nations voted down the idea that a temporary copy in a computer's RAM was protected by (p.377) copyright. Likewise, the proposal that a company or an online platform that provided a conduit for the transmission of copies could be held liable for copyright infringement was eliminated. Concomitantly, fair use proposals were extended to the digital environment. The problem for stakeholders on the losing end of these international treatises is that the binary format of the discourse (calling for *either* more *or* less IP rights) creates the conditions for the undermining of equitable remuneration schemes for intellectual work in an international frame.

It is beyond the purview of this chapter to elaborate comprehensively on solutions to the impasse. Perhaps IP law needs to be adjusted in a way that allays the contradictions

inherent to the current legal language. First, it might need to shift its emphasis away from the traditional notion of the copyright holder's right to *copy* a work and toward the holder's right to the *commercial* exploitation of that work. This entails abandoning reproduction itself as the primary compensable unit while simultaneously protecting work from unacknowledged appropriation for profit. The shift in emphasis would simultaneously grant rights holders a more constrained protection of their works than suggested by the increasingly expansive statutory wording, and also acknowledge the commercial exploitation of hitherto unprotected work in the public domain. This shift would realign the balance of the social bargain between public citizens and private rights holders. If the focus is resolutely on financial gains derived from the use of a work, the law could at once reduce the structural advantages of current stakeholders who increasingly enclose their works in technological protections that exceed their legal remit *and* reduce the structural disadvantages of stakeholders whose work automatically falls into the free zone of the public sphere.

Second, the copyright law may seek to recalibrate the kinds of rights holders that are eligible for copyright protection. Scores of musicians, engineers, designers, and other information workers today mount their content online at no cost to the public. Musicians were at the forefront of this development. Employment in these professions is frequently reduced to a precarious form of on-call self-employment. Numerous websites have appeared to facilitate the process of efficiently linking employers to short-term employees. For example, a music-oriented site like uniquesound.com offers freelance composers for hire. Amazon's *Mechanical Turk* scales this concept by offering flexible on-demand workers for a multitude of tasks. While such work is still granted a semiprofessional status, most online cultural production today is completely free. We witness here the degradation of knowledge work in cyberspace, a *sideropoeic* process not unfamiliar to non-Western knowledge workers. One might call this the *Africanization* of cultural production and the concomitant gradual emergence of a class of *nouveau* poor in the West. By casting a wider net for compensable production,

copyright could ensure that firms and platforms that benefit financially from carrying free content are eligible to compensate users and content providers. If content is monetized downstream in the form of big data, it could be accounted for and properly reimbursed at the source. Instead of a one-way flow of finance, this transformation would encourage a two-way flow. In sum, the dark side of the Internet's great paradox—the enhanced control systems (p.378) for surveillance and digital tracking—could be used for a more comprehensive accounting of online labor. A musical work in this schema, for example, could become a less radically errant rhizome and a more properly accounted for techno-rhizome. It is gestures such as these that may begin to encourage a more equitable distribution of wealth than that produced by the schizophrenic geographies of *chrysopoeia* and *sideropoeia*.

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