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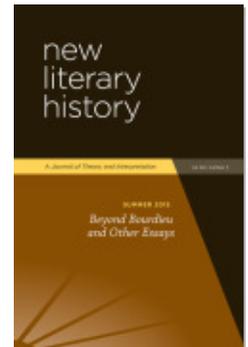
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## Making Time: Temporality, History, and the Cultural Object

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# Making Time: Temporality, History, and the Cultural Object

Georgina Born

ONE OF THE MOST trenchant criticisms levelled at Pierre Bourdieu's work is its poverty with respect to theorizing time, change, and history, particularly apparent in his studies of art and, generally, cultural production. Even in his most apparently historical text, *The Rules of Art*, which aims to historicize changing modes of artistic production by tracing the genesis of the "autonomous" subfield of cultural production through the careers of Flaubert, Manet, and Baudelaire, the analysis is stubbornly structuralist. In this and other writings on cultural production, questions of history cross-fade into accounts of the structural dynamics of the field—which are drawn from Bourdieu's analysis of late nineteenth-century France, and then hypostatized.<sup>1</sup> Repeatedly, discussion of the particular historical conditions of artistic production recedes to be replaced by a synchronic account of agonistic position-taking by "protagonists" who pursue "strategies" so as to wage "struggles," "confrontations," "coups," and "revolutions."<sup>2</sup> Bourdieu's inability to theorize transformation and change in cultural history connects to two further problems: the absence of any positive account of aesthetic traditions, their historical productivity and variable longevity, and the problematic nature of his account of agency. Several critics articulate these linked concerns. For Craig Calhoun, Bourdieu is effective at theorizing reproduction but weak on transformation.<sup>3</sup> In turn, James Bohman notes that Bourdieu provides an unconvincing account of reflexive agency, failing to explain "how it is that innovation [and] new forms of expression . . . are possible,"<sup>4</sup> while Richard Jenkins argues bluntly that "despite the significance which [Bourdieu] attaches to the temporality of practice, his theory becomes a machine for the suppression of history."<sup>5</sup>

In light of these lacunae, this essay traces out a series of current paths in the analysis of time, change, and history in relation to cultural production. The challenge of developing new perspectives on such matters does not arise solely from critiques of Bourdieu. *New Literary History* has itself been the recent setting, in an issue on problems of historicism

and “contextualization,” for discussions of the limits of periodization in literary studies and for critical reflections on the models of history and of literary and cultural change associated with such paradigms as the Cambridge School of intellectual history and New Historicism.<sup>6</sup> Thus, “as the essays gathered here maintain, historical *contextualism* narrowly construed has promoted disregard for dimensions of historical temporality and cultural space to which *context* as such opens rich possibilities of access. . . . Literary studies sorely need better models for the consideration of innovation, creativity, and radical change.”<sup>7</sup> But literary studies are not alone among the humanities. Musicology articulates a similar need for renewal, such that a prominent figure cautions that “the historical study of music has hardly been conducted on the grounds of serious reflection about historiographical principles,”<sup>8</sup> while another criticizes the tendency to reduce history to a temporal horizon in which a unified human consciousness is the origin of all historical development, a “pure succession.”<sup>9</sup> The intensity of methodological soul-searching in post-New Historicist musicology is evident in recent conferences that recast foundational disciplinary assumptions; hence such pained reflections as “we have much to learn from disciplines that were never able to assume the presence of a canon and an associated system of value to begin with.”<sup>10</sup>

What follows in this essay is an attempt to develop alternative perspectives on time in cultural production drawn from anthropology, social theory, and (less so) art history—perspectives that are often in dialogue. If historical musicology faces a methodological crossroads, new thinking on creative processes in art and cultural production with questions of time to the fore can be gleaned from these disciplines, and especially from anthropology.<sup>11</sup> In particular, the essay proposes several linked departures: the need to analyze the multiplicity of time in cultural production; the contributions of the art or cultural object—as a nonhuman actor<sup>12</sup>—to the production of time in not one but several dimensions of temporality; and the importance of bringing such thinking into articulation with theorizing history. The conceptual exercise is a general one, but its key features are later exemplified by music: in this, the article resists the tendency to treat music as exceptional with respect to the other arts. Rather, music is shown to be pregnant with insights for the other arts in regard to theorizing time. The last part takes the conceptual work done in earlier sections to ethnographic and historical research on contemporary digital musics.<sup>13</sup> It will become clear that music provides an auspicious terrain for retheorizing time and history, and digital musics intensify these potentials.

## From the Anthropology of Time to Process and Becoming

The evolving anthropological scholarship on time gives a window onto fertile currents in theorizing time, conceptualizing social processes as immanent in time and time as immanent in social processes, with more and less humanist orientations. In a seminal overview, Nancy Munn proposes that time is an “inescapable dimension of . . . social experience and practice.”<sup>14</sup> Insisting that all time experience is ontological as opposed to representational—in the sense that “people are ‘in’ cultural time, not just conceiving or perceiving it”—she contends that time-reckoning involves a constant process of engaging the past and future in the present: “This whole symbolic process may be called . . . ‘temporalization’. . . . [and we] may think of temporalization as going on in multiple forms, ‘all the time’” (*CAT* 100, 104). She draws from the anthropological corpus an array of forms of time, among them the social rhythms constituted by the everyday “unfolding of activities,” the ecologically based spatiotemporal periodicities evident in, for example, the seasonal movements of pastoralist groups from camp to village, and the transgenerational temporalities embodied in kin-based lineages and descent groups. Building on Clifford Geertz’s application of Alfred Schütz’s social phenomenology, she argues that social time is grounded in “consociative processes in which people actively create intersubjectivity and a sense of coordinated lifetimes in the ‘vivid present’ of daily interaction” (*CAT* 99). She notes also how developmental processes embodied in the reckoning of descent groups create both a sense of historical progression from the ancestral past and an emphasis on descendants—“on dynamic growth.” In any culture, Munn suggests, such developmental processes are enmeshed in distinctive experiences of how “the ‘present’ of the subject (individual or group) is the reference point from which one looks backward to origins or ‘pasts’ and forward to what might emerge from the present” (*CAT* 99–100). She links this argument to Edmund Husserl: “the past-present-future relation . . . is intrinsic to all temporalizations . . . inasmuch as people operate in a present that is always infused, and which they are further infusing, with pasts and futures or—in Husserl’s subject-oriented language—with relevant ‘retentions’ and ‘protentions’ [sic]” (*CAT* 115).<sup>15</sup>

Both the generative nature and the limitations of Munn’s essay are worth noting. Generatively, her identification of pervasive “temporalizing practices” engaged in the production of time, her scaling-up of Husserl’s retentions and protentions to human lifetimes and transgenerational dynamics, and her analysis of time as multiple, and of the synergies between such temporalities, all recur in later work by other writers. In

terms of limits, both her pronounced humanism and her abstraction of the theorization of time from any account of historical process are questioned by later writers, playing out anthropology's long-standing problematization of its relationship to history.<sup>16</sup>

Two major currents develop subsequently in the anthropology of time; both have analogues in philosophy and social theory, and both surface also in relation to cultural production. One concerns new thinking on multiple temporalities, the other neovitalist process theories animated through the influence of Henri Bergson, Alfred North Whitehead, and Gilles Deleuze. The latter strand takes its theoretical orientation from what Elizabeth Grosz calls the "uncanny convergence" between these writers on antiteleological conceptions of time as emergence, openness, or becoming—"as a form of bifurcation or divergence . . . as *difference*."<sup>17</sup> In particular, a wave of social theory from the 2000s took Deleuze's reading of Bergson's *durée* as formative for conceptualizing the temporal dimensions of becoming. Vikki Bell, for example, criticizes Butlerian ideas of performativity for what Deleuze called "preformism," whereby "the real is thought to be the image of, or to resemble, the possible that it realizes. . . . [That is,] performativity is *pre*formativity whenever analysis claims to describe the idea(l)-form that the subject is said [merely] to imitate or instantiate." She advocates instead a belief in differing as an "ontological assumption," evident in the creativity and self-organization of the material world, such that "life is not passive adaptation to the activity of the external environment but is itself an active response, a differentiation."<sup>18</sup> Brian Massumi argues, in turn, for the primacy of emergence and process, for "fluidifying with Bergson," such that "position no longer comes first, with movement a problematic second." Rather, "positionality is an emergent quality of movement . . . [such that] continuities under qualitative transformation . . . can only be approached by a logic [that grasps] the self-disjunctive coincidence of a thing's immediacy to its own variation."<sup>19</sup>

Varieties of process theory have found their way into anthropology in two ways. They appear in general attempts to reformulate the anthropology of time. Indicative here is the work of Matt Hodges, which, referencing Bergson and Deleuze, develops the case that *durée* "is the manifold substance of 'history' itself" and prefigures "an epochal revolution . . . a shift from static, a-temporal analytical frames to approaches grounded in the ontological assumption that social life exists in 'time,' 'flow' or 'flux.'"<sup>20</sup> But process theories surface also in anthropological studies of cultural production, most influentially in the work of Tim Ingold. Rather than form being explicable on the basis of the design that gave rise to it, Ingold suggests that form arises through engagements between

maker and materials, a process akin to growth or autopoiesis—"the self-transformation over time of the system of relations within which an . . . artefact comes into being."<sup>21</sup> More generally, Ingold and Elizabeth Hallam problematize the modernist view that creativity is the antithesis of imitation; rather, creativity should be understood as the ubiquitous "production of novelty through the recombination of already extant elements, or . . . as a process of growth, becoming and change." Indeed, creativity is necessarily improvisational, where "the improvisational creativity of which we speak is that of a world . . . 'always in the making'" (CC 16, 3). For Ingold and Hallam, such improvisation is inherently temporal; equating it with Bergson's *durée*, they portray it as guided but not determined by the past. They turn to Whitehead's concept of concrescence,<sup>22</sup> which suggests that creativity lies "in that very movement of becoming by which the world, as it unfolds, continually surpasses itself" (CC 11, 47).

However attractive certain features of these variant process theories may seem—the critique of teleology and of "spatial" ontologies of time, the drive to overcome subject-object dualisms—they remain inadequate for rethinking time in relation to both history and cultural production. This is because, in advocating a "monotemporality of becoming" (OTR 243), they fail to acknowledge the plural temporalities in operation both in human and nonhuman life and in cultural production. Nor, therefore, can they begin to address either the variance in rates and qualities of change or the stabilities that may be effected by the polyrhythms engendered by social processes and cultural forms through time.<sup>23</sup> To meet these crucial demands, new approaches to multiple temporalities are required.

### On Time's Multiplicity and the Emergent: Enter the Nonhuman

In extending the case for the multiplicity of time, a number of allies can be mobilized. One is the early twentieth-century social theorist Gabriel Tarde, rediscovered in the last decade as a prototheorist of affect and association, and a formative influence on Deleuze.<sup>24</sup> Tarde's relational sociology dwells on dynamic relations of imitation, differentiation, and opposition as they circulate via subjects and objects and as they foster contagion, diversification, and resistance. While Tarde is invariably interpreted spatially, in a previous essay I showed how his work contains the germ of a methodology concerned not only with spatial but with temporal relations and transformations. For Tarde, I suggested, the tem-

poral and spatial occupy a single conceptual gesture (OTR). By alerting us to the aggregation of such processes as they multiply across scales, to the potential for escalation and sedimentation, for differential curves of change and the emergence of plateaux, Tarde moves far beyond an analytics of becoming.

Another ally is Foucault, evident in his elucidation of multilayered temporalities in such works as *Discipline and Punish*, where he charts the invention of a certain “mechanics of power” over the course of the eighteenth century—a “political anatomy of docility.”<sup>25</sup> This was effected through the circulation and coagulation of numerous “techniques of coercion,” notably the modeling of the factory on the monastery, with its strenuous temporal orderings, resulting in the disciplinary procedures of the timetable—such that time was not only controlled, measured, and partitioned, but its quality had also to be assured through constant supervision. As Foucault insists, “The invention of this new political anatomy must not be seen as a sudden discovery. It is rather a multiplicity of often minor processes, of different origin and scattered location, which overlap, repeat, or imitate one another, support one another, [and] distinguish themselves from one another according to their domain of application.”<sup>26</sup> Here is a method that strongly recalls Tarde, and in these ways Foucault alerts us to time as multiple and mediated, formed and formative.<sup>27</sup>

A third ally is art historian Alexander Nagel in his text *Medieval Modern: Art Out of Time*.<sup>28</sup> Questioning the verities of Panofskyian humanist art history, where the demarcation of artistic periods and styles proceeds by way of symptomatic authors and works, Nagel proposes that both in the Renaissance and in the twentieth century, anachronism has been a condition of art’s production. He demonstrates his case by tracing “cross-temporal surfacings,” “gatherings or foldings of chronological time” manifest in “art works that refuse to stay stably in their time” (*MM* 26). In the early Bauhaus, for instance, Nagel tracks with reference to Walter Gropius, Adolf Behne, and others how “cathedral thinking”—a fascination with the medieval integration of art, architecture, and society—infused their mélange of avant-garde polemics, socialist ideals, and religious rhetoric. Expanding on the cross-temporal arcs spun between twentieth century techniques of installation, indexicality, replication, and collage and medieval and early modern art, he argues: “To say that art is taken out of time is not to say it is timeless but that its relationship to time and history becomes multiple. . . . [These] artists’ dialogues with medieval art were real cross-temporal encounters . . . [exposing] modern art to figurations of a premodern temporal consciousness, . . . nothing less than alternative models of time” (*MM* 23).

As if infected by these currents, and building on Munn, multiple temporalities have become central to recent anthropologies of time. Thus, Wendy James and David Mills point to the sometimes conflictual counterpoint between plural social rhythms, as well as to potential dissonances between individual and collective experiences of time. Emphatically, they contend, “plurality in time-scales . . . [is] ‘normal’ rather than anomic in human history. There is no such thing as ‘social time’ except *in time*, and as part of what we usually mean by history.”<sup>29</sup> Laura Bear, for her part, pursues the “heterochrony of modern time” and the efforts entailed in bringing “incommensurable rhythms and [temporal] representations into synchronicity.” Like the majority of this writing, her focus is on human subjects in their encounter with the material world, and she adds a concern with the “acts of labour through which conflictual social rhythms, representations, and non-human time are mediated”; indeed, following Marx, she proposes that issues of hierarchy and conflict lie at the core of the analysis of modern social time.<sup>30</sup> While a great deal is gained from this body of work—see, for example, Sian Lazar’s powerful analysis, with reference to contemporary Argentinian politics, of the interferences set up between “epochal” and “attritional” time as they are mediated by political events—a key issue remains undeveloped.<sup>31</sup> For this anthropological work tends to focus primarily on the human subject, and this is accompanied by a relative neglect of long-term material trajectories affecting social change as well as the production of time by the nonhuman world—including the art or cultural object. In attending to the genesis of time by human practices, this anthropological work fails to grasp how nonhuman entities and processes create temporalities that bear on human life and get entangled in “temporalizations.”

One of the strongest conceptual challenges to this neglect with respect to time comes from social theorist William Connolly when he asks, “Is there real creativity in culture and human agency but not in the rest of nature and the cosmos?” His avowedly metaphysical yet propitious response effectively synthesizes the previous currents identified. For Connolly, both natural and human systems have the potential for self-organization and for “modes of emergent causality that are neither reducible to chance nor to . . . a classic concept of causality.”<sup>32</sup> With reference to complexity theory and Whitehead, he portrays “a world of becoming” composed of “multiple, interacting, and partially open temporal systems” of different scale, each moving at different speeds, each having its own degree of agency (*WB* 9). Among these heterogeneous open systems he makes room for the dynamic long-term trajectories wrought not only by political economy—the temporalities animated, for

example, by global capital flows, changing legal and policy regimes—but by biological evolution, physical “force-fields,”<sup>33</sup> climate change, and the “soupy earth.”<sup>34</sup> Moreover, each temporal system is “marked by pluri-potentiality as it forms intersections with others,” engendering through their mutual interferences emergent causalities (*WB* 38).<sup>35</sup>

### Multiple Temporalities, Cultural Object, and Genre: Recent Anthropologies of Art

It is recent anthropological writings on art and cultural production that respond most bountifully to these cumulative directions. In them, time is conceived as multiple, and anthropology’s humanist proclivities are rebalanced in significant ways: specifically, the art or cultural object is endowed with a capacity to generate both time and space. Invariably, the analytical focus is on the forms of temporal mediation by which the object is constituted and which it in turn initiates—how the cultural object is both produced in time and produces time.

Three writers—Alfred Gell, Karin Barber, and Christopher Pinney—exemplify these qualities. Although it is not focally concerned with time, Gell’s *Art and Agency* can be read as connecting the anthropology of art to time in two ways. In his account, the art objects that result from creative agency—from Melanesian and African carvings and fetishes, to the works of Velázquez, Vermeer, and Duchamp—condense relations between persons, and between persons and things. Through the object’s circulation, these relations are dispersed both spatially and temporally; that is, the artifact mediates and relays social relations across space and time. But in this process, both the objects and the social relations are transformed: the art object “has a kind of career; it changes not only via its changing interpretation in performance or reception, but it can change even in its very physical form” (*OM* 16).

Taking a further step, Gell draws—like Munn—on Husserl’s model of internal time-consciousness in which past and future are continually altering in cognitive time as they are apprehended from a changing present. Central to this model of time are retentions—memories or traces of the past—and protentions—projections or anticipations. Hence, the past is always experienced through retentions of previous events, just as the future is experienced through protentions of possibilities. Gell’s innovative move is to apply this Husserlian model to the relations engendered between component works in an artist’s oeuvre: how later works are anticipated in earlier ones, and how retentions of earlier works may be found in later works.<sup>36</sup> In this way he transposes

the genealogical reading of Husserl's model, which Munn interprets in relation to transgenerational social rhythms, to the distinctive temporalities engendered by art or cultural objects across an artist's career. Gell takes Duchamp's oeuvre as his exemplar, arguing that it forms "a single distributed object, in that each of Duchamp's separate works is a preparation for, or a development of, other works of his, and all may be traced, by direct or circuitous pathways, to all the others" (AA 245). But he contends that the model can be applied to styles—and by implication to any collectively produced body of artifacts in which individual objects aggregate over time to form a higher-order constellation. To illustrate, he draws on Roger Neich's "historico-geographical" analysis of the matrix of stylistic relations between Maori meeting houses built between 1870 and 1930, proposing that this corpus represents a composite "object distributed in time and space."<sup>37</sup> An oeuvre or style, Gell suggests—or a genre, we might add—is a spatiotemporal object in which the relations between individual objects map out a perspectival web of retentions and protentions.

Gell's text has itself circulated influentially across a number of disciplines, yet there are significant limits to his approach.<sup>38</sup> While he hints at a relational ontology of persons and things, and at endowing artifacts and forms with independent life, his Durkheimian and cognitive proclivities, and his insistence on intentionality and "mind" as motors of art's creation, keep the subject-object dualism very much intact: on one side, creative subjects or art-producing social formations; on the other, the mute, indexical, enchanting, and "trap-like" things they create.<sup>39</sup> Thus, of Marquesan art: "Each piece, each motif, each line or groove, speaks to every other one. It is as if they bore kinship to one another, and could be positioned within a common genealogy, just as their makers could be. Above all, each fragment of Marquesan art resonates with every other, because each has passed, uniquely, through a Marquesan mind, and each was directed towards a Marquesan mind" (AA 221). Gell's theory is problematic also in disconnecting art from other temporalities produced by cultural production as well as historical processes beyond the Husserlian dynamics, whereas his own material demands a rapprochement with history—as in Duchamp's orientation by reference to Cubism—so as to elucidate the "semantics" of artistic agency in any culture or era.<sup>40</sup> It is in identifying the web of temporal interrelations set in motion by the cultural object through its retentions and protentions that Gell is most inventive.

Such a perspective is augmented by Barber's work, which focuses on textual production beyond individual works with reference primarily to the African popular verbal arts. Foregrounding genre and deciphering

their temporal dynamics, she shows vividly how texts emerge from and dissolve back into “fields of textuality.” “Texts and textual materials are circulated, recycled, assembled, expanded, or otherwise employed in the construction of new texts. They may be taken up and repeated, or overlooked and forgotten. . . . The text that is precipitated from the field may be marked out for eternal preservation, or it may be allowed to dissolve back into the field after a single performance.”<sup>41</sup> Such disappearances and reappearances in textual circulation can only be understood, Barber argues, by attending to how certain genres are institutionalized, how they “are embedded in and detached from the forms of social life, how they are shaped by—and shape—the disposition of communal power and social differentiation, how genre distinctions are maintained [and] canons formed” (*AT* 224). Like Franco Moretti, but with greater sociological acuity, Barber traces the waxing and waning of genres over time, achieving a nonteleological account of genre change, one that integrates “the local specificity of textual production [with] the larger historical forces . . . that profoundly affect without fully determining it” (*AT* 223).<sup>42</sup> In her account texts take on a life of their own as they coagulate to form congeries or populations and then reindividuate; the emergence, amplification, and dispersion of genres are at once textual, temporal, and social processes.

More than Barber and Gell, it is Pinney—an anthropologist of Indian visual cultures—who offers an analysis of the multiple temporalities of cultural production as they influence and are in turn affected by historical change. In his archaeology of Indian photography, Pinney charts the changing ecology of photographic portraiture in the everyday lives of Indian towns and villages since its arrival in the 1840s (*CI* 43). More than the previous writers, by combining ethnography with history, he brings out the temporalities of medium change: he traces how aesthetic genealogies relate to evolving photographic media, as well as examining what photography’s unstable materiality afforded in terms of aesthetic and semantic potentials. At the same time, Pinney details other long-term trajectories that participate in these dynamics in the early decades, among them the colonial state’s mobilization of photography for its taxonomic inventories of tribes and castes, and the parallel growth of an elite visual culture of portraiture in which ethnicity was “downplayed” and imitations of European aesthetic norms prevailed (*CI* 97). He charts how these trajectories fuel the differentiation of photographic genres, mapping for the later nineteenth century a bifurcation between a “salvage” paradigm, with its primitivist aesthetic, applied to what were perceived as “fragile tribal communities,” and a “detective” paradigm in which anthropological photography provided guides to the identification of

populations for the colonial state (*CI* 45). Pinney's work is exemplary too in tracing the interrelations between photography and other cultural and discursive regimes in this period. He elucidates the Hindi classical and vernacular narratives in circulation over the last century as they infuse the dense webs of "inter-ocular" reference between different genres of Indian popular visual culture (*CI* 189–95).

Given his profuse analysis of material, social, and discursive genealogies, it might be thought that Pinney saturates the cultural object with historical conditions, denuding it of autonomy. Yet he is among the most vehement critics of the reduction of the cultural object to "context." His aim is to oppose those interpretations—Herderian or Durkheimian—in which "objects and culture are sutured together in national time-space," or in which "specific times, [specific 'cultures'] and specific objects can be conjoined . . . and the one explained in terms of the other" (*TH* 261–62). Particularly persuasive is his contention, akin to Nagel's, that in studying visual cultures we should be alert to the "torque" of materiality, to "the disjunctures between images and their historical location. . . . Images are not simply, always, a reflection of something happening elsewhere. They are part of an aesthetic, figural domain that can constitute history, and they exist in a temporality that is not necessarily coterminous with more conventional political temporalities" (*TH* 265–66). Pinney's insistence on how art or cultural objects *act*—on how they embody particular temporalities and are themselves constitutive of history—disrupts any imperative to discover unities between epoch, the subjectivities of artists, critics, or audiences, and the art or cultural object. Instead Pinney alerts us, like Barber, to disjunct temporalities: how epoch, artist/composer, audience, and object may be *out of time* with one another.

## Music "Temporalizes" History: Four Musical Temporalities

The imaginative contributions to the conceptualization of time in cultural production made by Pinney, Barber, and Gell draw energies from the wider vectors of anthropological and other writing described. They also lay foundations for further experimental thought. How, then, should we pursue these matters in relation to music? Taking bearings from this lengthy prologue, the following outlines the bidirectional mediation of music and time: how music produces time through the contingent articulation of its several temporalities, while in turn the variant temporalities immanent in social, cultural, political, and technological change mediate the evolution of music and musical genres.

In Connolly's terms, it is the complex entanglement of these multiple motions—each exhibiting “pluri-potentiality,” particular rhythms, speeds, and curves of change—that produces the emergent effects that eventually sediment as history.

In what follows I identify four temporalities immanent in musical process—while acknowledging that there might be more. Of the four, the first three are temporalities engendered by the musical object or event as it acts to produce time. What is striking is how the second and third temporalities encompass larger temporal arcs than are usually addressed both in the literature on process and becoming and in many conceptions of time in music, which remain tied to the time-form of the singular musical object or event. By changing scale, other temporal dimensions become palpable.

The first temporality is well recognized: the qualities of temporal unfolding of musical sound as it enlivens musico-social experience and “entrains” musical attention—the equivalent of narrative or diegetic time in the other arts.<sup>43</sup> This kind of time is focal for the disciplines of music analysis, music theory, and music perception; at issue are the compositional, improvisational, and performance-based temporal orderings considered to be immanent in Western and non-Western musics—rhythm, meter, tempo, duration, phrasing, the architectonics of form, and so on.<sup>44</sup> It is of interest to this article that from the 1980s, criticisms grew of the visual and spatial biases of the score-based analyses of time on which these fields had been built. In reaction, Judith Lochhead, David Lewin, Christopher Hasty, Jonathan Kramer, and others developed phenomenological analyses of such qualities as the “passage of time, before/after relations, and the role of the future and past” in music.<sup>45</sup> Kramer went further, drawing on the anthropology of time to discern, particularly in twentieth-century music, five categories of intramusical time: directional linear time, nondirectional linear time, moment time, vertical time, and multiple time, by which he refers to a “reordered linearity.”<sup>46</sup> For Kramer, many twentieth-century compositions “do not consistently exhibit one species of musical time on every hierarchic level,” instead manifesting plural temporalities.<sup>47</sup> Even this first order of intramusical temporality, therefore, itself amounts to a multiplicity.

A second temporality is produced by the dynamics of retention and protention proffered by the musical object as its own past and future (or virtuality), where retention points to the making and remaking of genealogies by each object or event, and protention to how each anticipates new openings—potential musical futures.<sup>48</sup> Here I extend Munn's and Gell's interpretations of Husserl. Recall that Gell traces the web of retentions and protentions between artworks, conceiving of it

as artistic oeuvre or collective corpus, while Munn mixes Husserl with Schütz's notion of consociation, showing how social time is produced through transgenerational kinship rhythms of unfolding genealogies and envisaged futures.<sup>49</sup> Both emphasize the subject-centred spatiotemporal constitution of the world, the human engagement of "the past and future in the present." In contrast, what interests me is to pursue the radically object-centered, posthumanist perspective that any musical object or event itself animates a temporality through its retentions and protentions—through connections to prior and prospective objects or events—in this way acting in and on time. This is a temporality produced both by individual objects or events and by the relational movements between them as, through retentions and protentions, they virtualize constellations that may themselves coalesce, or fail to coalesce, as a genre.

From the perspective of the musical object, however, there is an asymmetry, for protentions are more speculative and uncertain than retentions. The protentions of a musical object, if they are not taken up, can fail to open up new directions; they can fail convincingly to become participants in a larger emergent constellation, a genre-in-formation. Indeed, if we define invention as a property of those musical objects that "open out new possibilities not only for the next event, but for the anticipation of the anticipation of . . . a series of further objects and events extended forward in time," then any object can fail to be inventive (OM 21–22). On the other hand, as Barber and Nagel demonstrate, the object's protentions may lie dormant, only to become actualized—via "cross-temporal surfacings" or "foldings of chronological time"—years, decades, or centuries later. As Connolly puts it, "the direction *not taken* may later function as an incipience that festers with pluri-potentiality" (WB 116). My aim is therefore to untether this perspective from the humanism of Gell and Munn and bring it to the analysis of the temporalities unleashed by musical (and cultural) objects—their fluxious creation of pasts and futures—as, through their difference, they protend the future of the genres that they may initiate, in which they participate, or the historicity or identity of which they may, paradoxically, baffle or defy.

A third temporality concerns the variable temporalities produced by particular genres as themselves objects distributed in time, in the guise of any genre's characteristic metarhythms of repetition and difference, inertia or change—the differential calculus of their transformational curves, metarhythms that surely inhere in the aesthetic experience they proffer.<sup>50</sup> This temporality is central to several studies. Will Straw identifies the distinctive generic temporalities evident in the evolution of two cosmopolitan popular music genres, alternative rock and dance musics, over the 1980s—temporalities that "are a function of the way in which

value is constructed within them relative to the passing of time," as this translates into particular curves of aesthetic transformation.<sup>51</sup> Alternative rock exhibits a temporality built on canonization, sedimentation, and timeless classicisms, even "projects of historical revival." Whereas dance musics, he suggests, embody temporalities of novelty, currency, rapidity of technological and stylistic change—qualities matched by the energetic "marking of distinction and drawing of boundaries" in club cultures, all of this fueling a restless stream of innovation through the continual genesis of branching subgenres, their rapid rise and supersession.<sup>52</sup> A contrasting case is Barber's account of the temporality of a genre of oral dynastic praise poetry, *igisigo*, from the court culture of Old Rwanda. This is a genre based on an "oblique" style without linear narrative or vivid imagery that is said to date back fourteen generations without significant change, designed to be "incomprehensible on first hearing." Barber argues that it has endured for so long because its aristocratic patrons sustained their status by "perpetuating a genre that cost a lot in terms of training, time and effort to master and to transmit." Hence, that the genre was "successfully transmitted for long periods was simultaneously a cause, a result and a sign of its immense prestige."<sup>53</sup>

If the three temporalities identified so far are produced by musical objects, by events, and by genres, the fourth returns to the human via temporal ontologies: encultured ways of living and conceiving time.<sup>54</sup> Such ontologies may be discursively elaborated, but they are irreducible to discourse. This is to highlight the reflexive constructions of music-historical time manifest in notions of "classicism," "tradition," "modernism," "postmodernism," "avant-garde," and so on. As Peter Osborne observes, drawing on Reinhart Koselleck, such terms are "categories of historical totalization in the medium of cultural experience"; each brings with it "a distinctive way of temporalizing 'history'—through which the three dimensions of phenomenological or lived time (past, present and future) are linked together within the dynamic and eccentric unity of a single historical view." He continues, "The historical study of cultural forms needs to be rethought within the framework of competing philosophies and politics of time."<sup>55</sup> In this way Osborne alerts us to how distinctive temporal ontologies, particular ways of "temporalizing history," enter into creative and critical practices: informing musicians' agency, supervising the creation of musical objects and the constitution of genres, becoming manifest in different ways and degrees in all three temporalities outlined in previous paragraphs.

Why is the analysis of these four orders of musical temporality productive? On the one hand, it highlights their singularity and agency in contributing to the multiple ways in which music produces time. On the

other hand, it suggests the need to examine their interrelations, including the potential for either parallels and synergies or disjunctures between them. This in turn makes it possible to resist teleological accounts of music history and musical change, in particular by holding temporal ontology (fourth) up against the temporality of genre (third).<sup>56</sup> Two instances drawn from digital musics can illustrate. The first comes from my study of the international computer music institute IRCAM (Institut de Recherche et Coordination Acoustique/Musique), the music department of the Centre Pompidou, in the late 1980s, in which, combining ethnography with a genealogy of musical modernism, I examined IRCAM's position in that long-term aesthetic formation.<sup>57</sup> By elucidating the third temporality—the prevalence of repetition over difference in the music made at IRCAM in relation to the prevailing aesthetics of modernism, evident in a kind of enduring modernist presentism—and comparing this with the fourth—IRCAM's modernist temporal ontology, centered on rupture, innovation, and progress—I pointed to the gap between ontology and the generic curve produced by IRCAM music. Coming to the present, a similar disjunction is manifest around the genre termed “noise.” A critical proponent, Ray Brassier, establishes its temporal ontology as neo-avant-garde. For him and others, noise signals the dissolution of genre: “It refers to anomalous zones of interference between genres: between post-punk and free jazz; . . . musique concrete and folk; . . . stochastic composition and art brut.”<sup>58</sup> His exemplars, the groups To Live and Shave in L.A. and Runzelstirn & Gurgelstock, he argues, evade the formulaic avant-garde negation of genre by an “ascesis of perpetual invention which [forges] . . . the noise of generic anomaly.”<sup>59</sup> On viewing/listening to these groups, however, the aesthetics on display have palpably generic qualities, remediating decades-old genres—postindustrial and anarchist musics (To Live and Shave), body art and body music (R & G)—in ways that exhibit developmental continuities rather than subversive departures from the normal curves produced by the respective genres. The point is therefore to open out these differences and their historical effects, avoiding their reduction to an unquestioned unity.

### Making Digital-Musical Times

In this last section, I apply the preceding framework to three examples of contemporary digital musics. The first indicates how such thinking can be brought into theoretical articulation with history. It concerns the temporalities at play in the invention of a spate of new digital popular

music genres in Nairobi, Kenya, in the early 2000s, among them *kapuka*, coined through releases on the Ogopa DeeJays label. Regarding the first temporality, the new genre emerged from several years of aesthetic “research” in which those developing the sound sought a new kind of intramusical time, a vernacular rhythmic feel, intended for the first time to attract youth from across the spectrum of Kenyan ethnicities. Eventually a new rhythm emerged, *kapuka*, derived from a mix of Jamaican dancehall and Congolese popular musics, from which the genre took its name. In terms of the second temporality, the novel hybrid that became *kapuka* was created both through retentions—of elements of the aesthetics and culture not only of dancehall and Congolese musics but hip hop and the Nairobi “River Road” sound—and protentions. For the *kapuka* rhythm and other innovative dimensions of the genre, especially the lyric use of vernacular languages, were intended to bring into being a mass Kenyan youth audience: the first time this musically engendered “affective alliance” had been envisaged.<sup>60</sup> *Kapuka*’s protentions were therefore both musical and social, and also mutually compounding: the *kapuka* rhythm’s agency in bringing the genre into being; the *kapuka* genre’s role in catalyzing not only the spate of Kenyan youth music genres that ensued but, via the anticipation of an audience that might be assembled by the sound, the very concept of Kenyan urban youth musics. And indeed the genre’s protentions proved to be effective as, through the synergy between the first and second musical temporalities, it acted to assemble, through music, a new audience and a new Kenyan social category: urban youth.<sup>61</sup>

But to leave it there would be to ignore a series of longer-term temporalities that synergistically fueled the genre’s appearance and its capacity to act historically; for an array of political, social, technological, and aesthetic transformations—“multiple, interacting, and partially open temporal systems” of different scale and speed, each “with its own degree of agency” (*WB*)—mediated *kapuka*’s emergence. Foremost among them are: 1) a policy rhythm: the media liberalization enacted by the Moi government in the late 1990s, triggering the rise of FM radio and ending the monopoly of the KBC, the state broadcaster, along with its decades-long censorship of ethnically based popular musics; 2) a radio programming rhythm: the evolution of FM radio programming after it took off, unleashing first a flood of American youth musics—hip hop, rock, and R&B—and then, responding to the hunger for new Kenyan styles, an explosion of new hybrid cosmopolitan genres, among them *kapuka*; 3) an infrastructural rhythm: the impact of digitization from the late 1990s on the music production scene through an influx of affordable digital music technologies like MIDI sequencers and digital

audio workstations, which fostered the growth of a Kenyan “born digital” music industry; but also digitization’s parallel influence in supporting the growth of a new telecommunications industry enabling, in turn, the advent from the mid 2000s of affordable mass mobile telephony and, thus, mobile-based digital music consumption; and 4) aesthetico-political rhythms: changing aesthetic conditions, notably a pent-up demand for vernacular musics banned by the KBC, desire for which had been met in the 1980s and 90s by the “pirate” music industry based in River Road. Jamaican reggae was also banned by the KBC in the authoritarian Moi era; nonetheless, frustrated young Kenyans gravitated toward reggae because of its anti-establishment and pan-Africanist associations. When a new, less political Jamaican genre, dancehall, established itself in the clubs in the 1990s, the KBC ban was lifted and Jamaican popular music was resurgent, its sounds ready to be remixed into new Kenyan musics—including *kapuka*. It is the synergies between these and other trajectories of change, each with distinctive temporalities and pluri-potentialities, that catalyzed the Nairobi music scene for genres like *kapuka* that protended, and effected, at once music-and-social-historical change.<sup>62</sup>

A second example comes from digital art musics, in particular an influential transnational genre called microsound which illustrates the dense interconnections between the first, second, and fourth temporalities that are made possible by digital sound synthesis.<sup>63</sup> Microsound’s neomodernist, materialist temporal ontology (fourth temporality) is intimately linked to its aesthetic orientation, grounded in the first temporality; indeed, the genre takes its name from a materialist analysis of the microtemporalities of musical sound originally articulated in the 1970s by the composer Iannis Xenakis. Xenakis proposed that “all sound is an integration of grains, of elementary sonic particles, of sonic quanta. Each . . . has a threefold nature: duration, frequency, and intensity. All sound, even all continuous sonic variation, is conceived as an assemblage of a large number of elementary grains adequately disposed in time.”<sup>64</sup> A spate of later contributions by Curtis Roads, Barry Truax, Kim Cascone, and Agostino di Scipio, along with the creation of powerful real-time computer synthesis tools during the 1990s, made possible the musical realization and further development of this approach through techniques known as granular synthesis and granular processing. Regarding the first temporality, intramusical time, microsound does not focus only on synthesis and manipulation of musical sound on infinitesimally small scales, for these “sonic grains” demand higher levels of organization. Among the formal paradigms that have emerged are a cybernetics-derived approach to “emergent self-organization,” and a practice of modelling “coherent *multiscale behaviour* extending all the way to the meso and

macro time scales.<sup>65</sup> These intramusical processes ground the aesthetics of microsound, consonant with its reigning temporal ontology; they also participate in generating the second temporality—the genre’s retentions and protentions.

The pasts animated by microsound are not settled but contested, for, depending on the perspective, the genre enacts retentions not only to Xenakis but to a number of other putative forebears—among them John Cage, Karlheinz Stockhausen, Herbert Eimert, Pierre Schaeffer, and the physicist Dennis Gabor. But the futures protended by microsound are equally labile as the genre’s identity swells and morphs in relation to several adjacent genres of different scale, among them glitch, ambient, lowercase, and electroacoustic music. Indeed, as Christopher Haworth observes, the configuration of microsound’s retentions and protentions is itself perspectival and in flux: “It is only in the present that [such] effects are produced. Xenakis and Cage are themselves transformed through their retroactive ‘summoning’ by Roads and Cascone. . . . [Hence] microsound, in ‘hearing’ the past in a certain way, *configures* its forebears, positioning them as antecedents to an aesthetic formation that is actively being assembled” in the present.<sup>66</sup> Indeed, the temporality of retention-protention is still more complex since, as Haworth shows, Xenakis’s own late computer music took microsound in a quite different direction to that of his supposed “successors,” Roads and Truax. If Xenakis protended the genre of microsound, then its actual historical path is no teleological unfolding of his founding act, but consists rather in the multiple furcating pathways that result from the shifting recreations of the genre-in-formation via retentions and protentions by subsequent actors. Such “temporalizing practices” are engaged in producing microsound’s pasts and futures, both generically and historically; yet these practices are always mediated, whether enabled or resisted, by the material and/or aesthetic “action” or “torque” exerted by nonhuman actors—by musical objects and sounds themselves.

A final example indicates the heightened, hyper-reflexive qualities of present-day engagements with time and history in digital musics—demonstrating the urgent need for theoretical frameworks equal to the sophistication of today’s creative practices. At stake are a “continuum” of musical practices and genres that foreground novel aesthetic treatments of the very historicity of sonic or musical media, as well as the sounds they afford. Critics have dubbed this continuum “retromania” or (with reference to Derrida) “hauntology.”<sup>67</sup> The genres at issue—hauntology, hypnagogic pop, chillwave, and others—knowingly recycle former musical, cultural, and mediatic materials, along with their associations, in order to remediate the past disturbingly, nostalgically, affectionately, or

ironically, invariably as an exercise in transtemporal invention.<sup>68</sup> An intriguing case analyzed by Patrick Valiquet, highlighting the temporalities of retention and protention enacted by the musical object, shows how medium becomes the locus for a reflexive play with time.<sup>69</sup> It concerns the afterlife of “Rouge,” a track by veteran Montreal computer music composer Jean Piché that was “rediscovered” thirty years after its appearance by Montreal’s noise scene in 2011 when the album on which it first appeared, Piché’s 1982 LP *Héliograms*, was uploaded to an MP3 blog for experimental music fans. “Rouge” was picked up by experimental musician Roger Tellier-Craig, former guitarist with the post-rock group Godspeed You! Black Emperor. Tellier-Craig was taken by Piché’s early work, inspired as it was by progressive rock and minimalism, and considered it prophetic; he gained Piché’s permission to cover “Rouge” and reworked the track, renaming it “Data Daze.” Piché welcomed the interest in his early work, but upon hearing it, he regarded Tellier-Craig’s choice of medium in the analogue-sounding recreation as misguided. Piché responded with his own reappropriation of his own early track. He extracted sections from the earlier LP, remastered them in high-definition digital format, and created a new high-definition video to accompany it. Piché preferred the high resolution he could achieve using digital means, and the new version of his work premiered at Montreal’s *Elektra* festival in May 2012.

Comparing Piché’s digital video for his rereleased “Rouge” with Sabrina Ratté’s video for Tellier-Craig’s “Data Daze” is telling, Valiquet argues: both feature pulsing minimalist patterns and shifting checker board images. But where “Piché’s new video is produced in intricately layered high-definition digital video, Tellier-Craig and Ratté’s reworking of ‘Rouge’ fetishizes the ‘vintage’ aspects of the 1982 *Héliograms*. In effect, ‘Data Daze’ reimagines ‘Rouge’ as a rarified historical object. Listening to the two,” Valiquet comments, “it’s as if the historical sequence linking the two tracks was reversed: ‘Data Daze’ sounds and looks like a distant precursor of ‘Rouge.’”<sup>70</sup> In remediating the 1982 track in 2012, Tellier-Craig and Piché therefore took it in opposite temporal directions: Piché gave it a futurist, high-definition bent, while Tellier-Craig endowed the original “Rouge” with protentions, prophetic qualities, on which he built a novel historicism. For in reworking “Rouge” as “Data Daze,” Tellier-Craig gave the new track an aura of even greater historical depth than the 1982 original—on the ironic premise that this nostalgic sound is more contemporary! If Piché’s version protends a linear modernist temporality, Tellier-Craig’s plays recursively with protentions and retentions, indeed with multiple temporal directions, through a reflexive aesthetics of the medium.<sup>71</sup>

In different ways, the three cases discussed elucidate the multiple temporalities produced by the musical object as they are informed by, and as they may drift from, the temporal ontologies of human actors, and as they interact with other heterogeneous trajectories of historical change. But a striking feature of all three cases is the significance that must be attributed to the temporality of the medium: a temporality that in each case interferes technically, conceptually, and aesthetically with the musical temporalities at issue. In Kenya, digitization undergirds the advent of a digital music industry and of mass mobile music consumption, fueling new aesthetic fusions, new genres, and new audiences, catalyzing the productive interferences between multiple orders of musical time. In microsound, digital synthesis becomes the medium for realizing, extending, and contesting the genre's philosophical and aesthetic retentions and protentions—its pasts and multiple possible futures. In the remediations of Piché's "Rouge," digital sound media become the pivot point for bifurcating temporal ontologies—bifurcating constructions, and aesthetics, of music's historicity. In all three cases, the temporalities animated by evolving media are implicated in the emergence of novel sounds, genres, practices, ontologies—and, in the Kenyan case, social formations. To acknowledge the significance of medium time, itself a multiplicity and an open system, is not to reify nor to fall into a crude medium determinism. It is, rather, to locate changing media, and material infrastructures, as but one among the multiple interacting systems in the nexus of temporalities both affecting and themselves enlivened by music—and by cultural production.<sup>72</sup> This is to add another nonhuman time, and conceptual marker, to the burgeoning lexicon advanced in this article for consideration not only by musicology but also by anthropology, sociology, and art and literary theory in response to the challenge of analyzing temporalities and history in cultural production.

## Postlude

This article took off from the observation that Bourdieu's work neglects to theorize time, change, and history: "How useful is a social theory which is concerned not primarily with . . . change but predominantly with stasis and social reproduction?" we might well ask.<sup>73</sup> In fact, in one essay Bourdieu does address time, primarily with reference—like Munn and Gell—to Husserl's account of retentions and, especially, protentions. Indeed, Bourdieu's essay echoes Munn in dwelling on "practice as 'temporalization,'" which he portrays as emanating from the habitus in relation to the "logic of the game": thus, "the experience of time is

engendered in the relationship between habitus and the social world."<sup>74</sup> Yet as Bourdieu proceeds, the sterile circularities and closures of his scheme become apparent: "So it is in and by practice . . . that social agents temporalize themselves. But they can 'make' time only insofar as they are endowed with habitus adjusted to the field, that is, to the sense of the game (or of investment), understood as a capacity to anticipate, in the practical mode, forth-comings [*des à venir*] that present themselves in the very structure of the game."<sup>75</sup>

This admittedly experimental article has set its course against such ahistorical sociological abstractions. For those researching cultural production, it has identified a series of moves apparent in current work across several disciplines that respond to the need to reconceptualize time. It points to the multiplicity of time in cultural production, evident in the several orders of temporality drawn out in relation to music, and in the contributions of nonhuman actors and processes—cultural object, aesthetic trajectory, genre, medium, infrastructure—to the production of time. Advancing beyond philosophical process theory, yet learning its antiteleological and posthumanist lessons, the article proposes a materialist framework for the analysis of those "multiple, interacting, and partially open temporal systems"—including the distinctive scales, speeds, rhythms, and shapes of change opened up and enacted by cultural objects and events—that through their complex interactions participate in the emergent processes we identify as history.<sup>76</sup> Through the stress on temporal ontologies and on the reflexive awareness of, and play with, multiple layers of time apparent in some contemporary aesthetic practices—beyond the intramusical, narrative, or diegetical—it deepens our attention to how time figures in human artistic agency. It is to be hoped that the conceptual moves proposed here are more widely developed, albeit in distinctive fashion, in art and literary studies—with the very real prospect of contributing back to social theory more adequate theorizations of time.

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#### NOTES

1 This is clear in Pierre Bourdieu, *The Field of Cultural Production: Essays on Art and Literature*, ed. Randal Johnson (Cambridge: Polity, 1993).

2 Drawn from Bourdieu, *In Other Words: Essays Towards a Reflexive Sociology* (Stanford, CA: Stanford Univ. Press, 1990). Tony Bennett traces these figures to Darwinian metaphors of struggle and survival prevalent in the late nineteenth-century literary and artistic fields from which Bourdieu derives his analysis. See Bennett, "The Historical Universal: The Role of Cultural Value in the Historical Sociology of Pierre Bourdieu," *British Journal of Sociology* 56, no. 1 (2005): 141–64. Ironically, Bourdieu himself criticizes structuralism's

“detemporalizing” effects (Bourdieu, *Outline of a Theory of Practice* [Cambridge: Cambridge Univ. Press, 1977], 9); yet his approach to time remains immanent in his theory of practice and is not developed beyond this—see the postlude.

3 Craig Calhoun, “Habitus, Field, and Capital: The Question of Historical Specificity,” in *Bourdieu: Critical Perspectives*, ed. Calhoun, Edward LiPuma, and Moishe Postone (Cambridge: Polity, 1993), 72.

4 James Bohman, “Practical Reason and Cultural Constraint: Agency in Bourdieu’s Theory of Practice,” in *Bourdieu: A Critical Reader*, ed. Richard Shusterman (Oxford: Blackwell, 1999), 142.

5 Richard Jenkins, *Pierre Bourdieu* (London: Routledge, 1992), 61. For an extensive critical discussion of the limits of Bourdieu’s sociology of art, see Georgina Born, “The Social and the Aesthetic: For a Post-Bourdieuian Theory of Cultural Production,” *Cultural Sociology* 4, no. 2 (2010): 1–38, esp. 6–12.

6 See *New Literary History* 42, no. 4 (2011). For an analogous discussion to *NLH*’s critique of periodization with reference to the concept of “style” in art history, see Andrea Pinotti, “Formalism and the History of Style,” in *Art History and Visual Studies in Europe: Transnational Discourses and National Frameworks*, ed. Matthew Rampley, Thierry Lenain, and Hubert Locher (Boston: Brill, 2012), 75–90.

7 Herbert F. Tucker, “Introduction,” *New Literary History* 42, no. 4 (2011): vii, x; see also Felski, “Context Stinks!” *New Literary History* 42, no. 4 (2011): 573–91.

8 Leo Treitler, “The Historiography of Music: Issues of Past and Present,” in *Rethinking Music*, ed. Nicholas Cook and Mark Everist (Oxford: Oxford Univ. Press, 1999), 356.

9 Kevin Korsyn, “Beyond Privileged Contexts: Intertextuality, Influence, and Dialogue,” in *Rethinking Music*, ed. Cook and Everist, 66.

10 From the website of the “Quirk Historicism” symposium, symptomatic of the felt need for new basic principles, convened by the Music Department, Univ. of California–Berkeley, in October 2014: “Quirkhistoricism: The UC Berkeley Symposium Website,” <https://quirkhistoricism.wordpress.com> (accessed April 25, 2015).

11 See, *inter alia*, Born, *Rationalizing Culture: IRCAM, Boulez, and the Institutionalization of the Musical Avant-Garde* (Berkeley and Los Angeles: Univ. of California Press, 1995); Born, “On Musical Mediation: Ontology, Technology and Creativity,” *Twentieth Century Music* 2, no. 1 (2005): 7–36 (hereafter cited as OM); Born, “On Tardean Relations: Temporality and Ethnography,” in *The Social After Gabriel Tarde: Debates and Assessments*, ed. Matei Candea (London: Routledge, 2010), 232–49 (hereafter cited as OTR); Born, “The Social and the Aesthetic,” Born, “Multitemporalities In/And Music—Beyond Becoming,” paper for the Barwick Colloquium, Music Department, Harvard Univ. (March 2014); Alfred Gell, *Art and Agency: An Anthropological Theory* (Oxford: Oxford Univ. Press, 1998) (hereafter cited as AA); Gell, “The Network of Standard Stoppages,” in *Distributed Objects: Meaning and Mattering After Alfred Gell*, ed. Liana Chua and Mark Elliott (1985; Oxford: Berghahn, 2013); Christopher Pinney, *Camera Indica: The Social Life of Indian Photographs* (Chicago: Univ. of Chicago Press, 1997) (hereafter cited as CI); Pinney, “Things Happen: Or, From Which Moment Does That Object Come?” in *Materiality*, ed. Daniel Miller (Durham, NC: Duke Univ. Press, 2005), 256–72 (hereafter cited as TH); Tim Ingold and Elizabeth Hallam, “Creativity and Cultural Improvisation: An Introduction,” in *Creativity and Cultural Improvisation*, ed. Hallam and Ingold (Oxford: Berg, 2007), 1–24 (hereafter cited as CC); and Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (London: Routledge, 2013).

12 I use Latour’s term advisedly: Latour has not (yet!) contributed significantly to theorizing time.

13 This work stems from the five-year research program “Music, Digitization, Mediation: Towards Interdisciplinary Music Studies” (MusDig), funded by the European Research

Council (Advanced Grant scheme, project number 249598). The program, directed by Born, involves ethnographic studies in the developed and developing worlds examining different facets of music's mediation by digitization and digital media: <http://musdig.music.ox.ac.uk>.

14 Nancy D. Munn, "The Cultural Anthropology of Time: A Critical Essay," *Annual Review of Anthropology* 21 (1992): 93–123, esp. 93, 99 (hereafter cited as *CAT*).

15 Munn refers here to Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time (1893–1917)* (Dordrecht: Springer Science & Business Media, 1991). See also generally Eric Hirsch and Charles Stewart, "Introduction: Ethnographies of Historicity," *History and Anthropology* 16, no. 3 (2005): 261–74.

16 For recent examples see Wendy James and David Mills, "Introduction: From Representation to Action in the Flow of Time," in *The Qualities of Time: Anthropological Approaches*, ed. James and Mills (Oxford: Berg, 2005), 7, and Matt Hodges, "Rethinking Time's Arrow: Bergson, Deleuze and the Anthropology of Time," *Anthropological Theory* 8, no. 4 (2008): 207.

17 Elizabeth A. Grosz, *Becomings: Explorations in Time, Memory, and Futures* (Ithaca, NY: Cornell Univ. Press, 1999), 3–4.

18 Vikki Bell, *Culture and Performance: The Challenge of Ethics, Politics and Feminist Theory* (Oxford: Berg, 2007), 106, 105, and 108, and Chapter 6 as a whole.

19 Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke Univ. Press, 2002), 6–8.

20 Hodges, "Rethinking Time's Arrow," 413; and Hodges, "Immanent Anthropology: A Comparative Study of 'Process' in Contemporary France," *Journal of the Royal Anthropological Institute* 20, no. S1 (2014): 33.

21 Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (London: Routledge, 2000), 345 and 347.

22 Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (Cambridge: Cambridge Univ. Press, 1929), 410.

23 For critiques of process theories see Born, OTR 242–44, and Karin Barber's rejoinder to Ingold and Hallam in, "Improvisation and the Art of Making Things Stick," in *Creativity and Cultural Improvisation*, ed. Hallam and Ingold (Oxford: Berg, 2007).

24 Gabriel Tarde, *Les Lois sociales: Esquisse d'une sociologie* (Paris: Les Empêcheurs de penser en rond, 1898); Tarde, *Psychologie Économique* (Paris: Félix Alcan, 1902); Andrew Barry and Nigel Thrift, ed., Special Issue on Gabriel Tarde, *Economy and Society* 36, no. 4 (2007); Barry and Thrift, "Gabriel Tarde: Imitation, Invention and Economy," *Economy and Society* 36, no. 4 (2007): 509–25; Candea, ed., *The Social After Gabriel Tarde: Debates and Assessments* (London: Routledge, 2010).

25 Michel Foucault, *Discipline and Punish: The Birth of the Prison* (London: Allen Lane, 1977), 138–42, esp. 138.

26 Foucault, *Discipline and Punish*, 138.

27 It is striking that commentary on Foucault has taken up the spatial aspects of his work more than his insights into the plurality of time.

28 Alexander Nagel, *Medieval Modern: Art Out of Time* (London: Thames and Hudson, 2012), (hereafter cited as *MM*); see also Nagel and Christopher Wood, *Anachronic Renaissance* (New York: Zone Books, 2010).

29 James and Mills, "Introduction: From Representation to Action," 9.

30 Laura Bear, "Doubt, Conflict, Mediation: The Anthropology of Modern Time," *Journal of the Royal Anthropological Institute* 20, no. S1 (2014): 18–20.

31 Sian Lazar, "Historical Narrative, Mundane Political Time and Revolutionary Moments: Coexisting Temporalities in the Lived Experience of Social Movements," *Journal of the Royal Anthropological Institute* 20, no. S1 (2014): 91–108.

32 William Connolly, *A World of Becoming* (Durham, NC: Duke Univ. Press, 2011), 8, 9, and 19 (hereafter cited as *WB*).

33 Connolly defines a “force-field” as “any energized pattern in slow or rapid motion periodically displaying a capacity to morph, such as a climate system, biological evolution, a political economy, or human thinking,” each displaying “differential capacities of agency” (*WB* 5).

34 Connolly’s concern with interactions between human and nonhuman agencies is timely, for they are central to the lively controversies around the idea of the Anthropocene (for example, Dipesh Chakrabarty, “The Climate of History: Four Theses,” *Critical Inquiry* 35, no. 2 [2009]: 197–222), which focus on contesting interpretations of interactions between long-term physical processes and human engagements with the earth.

35 Perhaps the clearest statement of Connolly’s ontology of time is this: “the idea of time as becoming involves at least three assumptions: first, the existence of multiple zones of becoming, each of which has . . . some degree of openness; second, periodic encounters, not always predictable, between processes set on one tier of chrono-time and those on others, creating mergers, collisions, or potential for new vectors of development; third, an uncertain degree of pluri-potentiality inhabiting several such temporal tiers, so that a new encounter between two or more could trigger a new capacity of *self-organisation* in one, propelling it in directions that exceed the external pressure, its previous mode of organization, and a simple combination of them” (*WB* 151–52).

36 See *AA*, 245 and ch. 9.

37 Roger Neich, *Painted Histories* (Auckland: Auckland Univ. Press, 1996), 255.

38 See, for example, the array of disciplines engaging with Gell’s *Art and Agency* in Chua and Elliott, ed., *Distributed Objects*.

39 Gell, “Vogel’s Net: Traps as Artworks and Artworks as Traps,” *Journal of Material Culture* 1, no. 1 (1996): 15–38.

40 It is striking that in an earlier essay rehearsing the later arguments in *Art and Agency*, Gell linked art to wider historical processes: see Gell, “The Network of Standard Stoppages.” But this historical dimension is excised from *Art and Agency*: for a fuller discussion see Born, “Music: Ontology, Agency, Creativity,” in Chua and Elliott, ed., *Distributed Objects*, esp. 134–37.

41 Barber, *The Anthropology of Texts, Persons, and Publics: Oral and Written Culture in Africa and Beyond* (Cambridge: Cambridge Univ. Press, 2007), 218 (hereafter cited as *AT*).

42 See Franco Moretti, *Graphs, Maps, Trees: Abstract Models for a Literary History* (London: Verso, 2005), 223.

43 On musical entertainment see Martin Clayton, Rebecca Sager, and Udo Will, “In Time with the Music: The Concept of Entrainment and its Significance for Ethnomusicology,” *ESEM Counterpoint* 1 (2004): 1–82.

44 For a seminal analysis of time in non-Western music, see Clayton, *Time in Indian Music: Rhythm, Metre, and Form in North Indian Rāg Performance* (Oxford: Oxford Univ. Press, 2008).

45 Judith Lochhead, “Temporal Structure in Recent Music,” *Journal of Musicological Research* 6, no. 1–2 (1986): 49–93, esp. 51. See also Lochhead, “Some Musical Applications of Phenomenology,” *Indiana Theory Review* 3, no. 3 (1980): 18–27; Lochhead, “The Temporal Structure of Recent Music: A Phenomenological Investigation” (doctoral dissertation, State Univ. of New York at Stony Brook, 1982); David Lewin, “Music Theory, Phenomenology, and Modes of Perception,” *Music Perception: An Interdisciplinary Journal* 3, no. 4 (1986): 327–92; Jonathan Kramer, *The Time of Music: New Meanings, New Temporalities, New Listening Strategies* (New York: Schirmer, 1988); and Christopher Hasty, *Meter As Rhythm* (New York: Oxford Univ. Press, 1997).

- 46 Kramer, "New Temporalities in Music," *Critical Inquiry* 7, no. 3 (1981): 552, 553, and 545.
- 47 Kramer, "New Temporalities," 553.
- 48 On the differences between concepts of possibility or potentiality and Deleuzian notions of the virtual and virtuality, see Hodges, "Rethinking Time's Arrow," 409–417.
- 49 Alfred Schütz, *Collected Papers I: The Problem of Social Reality* (The Hague: Martinus Nijhoff, 1962).
- 50 It is important to distinguish this temporality from Moretti's analysis using quantitative mapping of the historical rise and fall, cycles and oscillations of literary genres (Moretti, *Graphs, Maps, Trees*). If Moretti's method identifies the external historical arcs of genre change, it does not capture the internal temporalities of specific genres in their unfurling over time as a dimension of aesthetic experience that transcends individual texts or objects—the focus of this analysis.
- 51 Will Straw, "Systems of Articulation, Logics of Change: Communities and Scenes in Popular Music," *Cultural Studies* 5, no. 3 (1991): 374.
- 52 Straw, "Systems of Articulation," 379.
- 53 Barber, "Improvisation and the Art of Making Things Stick," 37.
- 54 I draw on Peter Osborne, *The Politics of Time: Modernity and Avant-Garde* (London: Verso, 1995), ix, and Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time* (Cambridge, MA: MIT Press, 1985) in identifying the need for an analysis of the temporal ontology of key historical actors: musicians, composers, artists, critics. There is of course another dimension of temporal ontology, that of the analyst, and these two dimensions should not be elided: see on this point Born, "On Tardean Relations," 232–33.
- 55 Osborne, *The Politics of Time*, ix.
- 56 For a similar argument in favor of such an antiteleological account of history, see David Nicholls, "'Each . . . is at the Center': Thoughts on a Cagean View of (Music) History," *Contemporary Music Review* 31, no. 1 (2012): 91–109.
- 57 Born, *Rationalizing Culture*, especially chapters 2, 10, and 11.
- 58 Ray Brassier, "Genre is Obsolete," in *Noise and Capitalism*, ed. Mattin Attiarch and Anthony Iles (Donostia, San Sebastian: Arteleku Audiolab, 2009), 62, 72.
- 59 Brassier, "Genre is Obsolete," 71.
- 60 On the "affective alliances" that may be brought into being by music, see Straw, "Systems of Articulation," 374, and Born, "Music and the Social," in *The Cultural Study of Music: A Critical Introduction*, ed. Martin Clayton, Trevor Herbert, and Richard Middleton (London: Routledge, 2012), 261–74.
- 61 On how, in the successful creation of a new genre, new audiences can be engendered through combined musical and social protentions, see Born, "Music and the Materialization of Identities," *Journal of Material Culture* 16, no. 4 (2011): 376–88, esp. 379–85.
- 62 For a fuller analysis of the Kenyan digital popular music industry, see Andrew J. Eisenberg, "Soundtracks in the Silicon Savannah: Digital Production, Aesthetic Entrepreneurship and the New Recording Industry in Nairobi, Kenya," in *Digital Musics: A Global Anthropology*, ed. Born (forthcoming). Eisenberg's study formed part of the MusDig research program (see note 13).
- 63 This account of microsound is drawn from Christopher Haworth, "Protentions and Retentions of Xenakis and Cage: Nonhuman Actors, Genre, and Time in Microsound," *Contemporary Music Review* (forthcoming), research that also forms part of the MusDig research program (see note 13).
- 64 Iannis Xenakis, *Formalized Music: Thought and Mathematics in Composition* (Stuyvesant, NY: Pendragon Press, 1992), 43–45.
- 65 Curtis Roads, "From Grains to Forms," in *Proceedings of the International Symposium Xenakis: La Musique Électroacoustique/Xenakis*, ed. Makis Solomos (Université Paris 8, 2012),

23: [http://www.cdmc.asso.fr/sites/default/files/texte/pdf/rencontres/intervention16\\_xenakis\\_electroacoustique.pdf](http://www.cdmc.asso.fr/sites/default/files/texte/pdf/rencontres/intervention16_xenakis_electroacoustique.pdf).

66 Haworth, "Protentions and Retentions of Xenakis and Cage."

67 Jacques Derrida, *Spectres de Marx* (Paris: Galilée, 1993). For an influential reading, and on the concept of a genre "continuum," see Simon Reynolds, *Retromania: Pop Culture's Addiction to its Own Past* (London: Faber & Faber, 2011).

68 For a detailed analysis of these genres, see Born and Haworth, "For a Digital Musicology: Mapping Musical Genres Online—from Microsound to Hauntology to Vaporwave," *Twentieth Century Music* (forthcoming).

69 See Patrick Valiquet, "'The Digital Is Everywhere': Negotiating the Aesthetics of Digital Mediation in Montreal's Electroacoustic and Sound Art Scenes" (doctoral dissertation, Univ. of Oxford, 2014). Valiquet's research was also carried out as part of the MusDig research program (see note 13).

70 Valiquet, "The Digital Is Everywhere," 198.

71 Both Reynolds, *Retromania*, and Mark Fisher, *Ghosts of My Life: Writings on Depression, Hauntology, and Lost Futures* (Winchester: Zero Books, 2014) bring Fredric Jameson's account of postmodern nostalgia to bear on "hauntological" music (Jameson, *Postmodernism, or The Cultural Logic of Late Capitalism* [London: Verso, 1991]). But it should be resoundingly clear from this analysis that Tellier-Craig's reflexive aesthetic concern with the historicity of a medium has a different orientation and quite distinctive aesthetic effects to the waning of historicity that, for Jameson, is constitutive of postmodernism.

72 To address medium time is to recall Bernard Stiegler on "technics and time" (Stiegler, *Technics and Time 1: The Fault of Epimetheus* [Stanford, CA: Stanford Univ. Press, 1998]). Yet Stiegler's stress, following Gilbert Simondon, on the autonomy of "the evolution of the technical system itself" (Simondon, *Du mode d'existence des objets techniques* [Paris: Aubier, 1958], 39) perhaps underplays the multiple trajectories of change in which such technical evolution is enmeshed and by which it is affected.

73 Lisa Adkins, "Practice as Temporalization: Bourdieu and Economic Crisis," in *The Legacy of Pierre Bourdieu: Critical Essays*, ed. Simon Susen and Bryan S. Turner (London: Anthem Press, 2011), 348.

74 Bourdieu, "Social Being, Time and the Sense of Existence," in *Pascalian Meditations*, trans. Richard Nice (1997; Cambridge: Polity, 2000), 206, 208.

75 Bourdieu, "Social Being," 213.

76 There are affinities between the approach advocated in this article and George Kubler's object-centered account of the "shape" of time (Kubler, *The Shape of Time: Remarks on the History of Things* [New Haven, CT: Yale Univ. Press, 1962])—itself indebted to the anthropologist/archaeologist A. L. Kroeber. For a compelling archaeological discussion, compatible with this article, of the agency of cultural objects in effecting historical continuity and change, including genealogies and "life cycles" of "agglomerations" of formally related objects, see Chris Gosden, "What Do Objects Want?" *Journal of Archaeological Method and Theory* 12, no. 3 (2005): 193–211.