

Book Review

Sync or Swarm: Improvising Music in a Complex Age

David Borgo
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Right away, author David Borgo strikes the tone that will carry through the entirety of his book, *Sync or Swarm: Improvising Music in a Complex Age*. In the opening acknowledgments, he rejects the idea of comparing the writing of the book to the process of musical composition, instead relating it to an extended improvisation. In particular, he emphasizes the collective nature of the experience. It is worth quoting the opening paragraph at length, as there are many similar passages of what I would consider unnecessary advocacy throughout the book:

As in musical improvisation, one draws on a lifetime of experience and training, but all in service of that elusive and often fleeting moment when an idea or connection is newly forged or a creative direction presents itself for further exploration. From one perspective, the dialogic process of scholarship happens at a far slower pace than that of improvised music, but both involve formative experiences with mentors, considerable time spent exploring and internalizing the work of others, and the lengthy and ongoing process of developing one's own approach or expertise. Like the excitement of a good improvised performance, some of the most fortuitous and mysterious moments during the research process can happen without warning or explanation . . . (xiii)

If we re-read this passage, substituting the word “composition” for “improvisation,” the revised text rings equally true, perhaps even more so. After all, composition implies the possibility of revision and correction, critical components of writing text. Herein lies one of the fundamental problems of this book: it reads too strongly as an apology for modern creative music improvisation. Borgo's arguments rely heavily on a rejection of music composition, valorizing improvisation at its expense. This binary is completely unnecessary, even damaging to his cause which, I believe, is to set improvised music in the context of modern scientific and social thought, demonstrating how improvisation can exemplify various facets of important new paradigms such as chaos theory, complexity, fractals, networks, system theory, self-organization, emergent behaviour, and more. This is an ambitious and important agenda, and Borgo is worthy of the attempt. However, *Sync or Swarm* is ultimately a deeply flawed effort.

Yes, John Cage, Iannis Xenakis, and other composers of their era had little understanding of jazz and little awareness of the progressive, pioneering work involving improvisation by Ornette Coleman, Cecil Taylor, Sun Ra, and others. A number of writers, notably George Lewis in his important essay, “Improvised Music after 1950: Afrological and Eurological Perspectives,” have addressed the Eurocentric, potentially racist, aspects of their stance (or willful ignorance). But we live in a different era, I believe, and the “us or them” attitude that seeps out in every chapter of this book does nothing to acknowledge a more contemporary, pluralistic reality. The real polarity, it seems to me, comes in the pitting of group improvisation against notated ensemble performance. In my experiences as both composer and improviser, the differences between the two approaches are often of degree, not kind. The values of group improvisation that Borgo celebrates can be found in ensemble performance of all kinds to varying extents. Despite his best efforts, Borgo does not provide a convincing argument for the uniqueness of creative improvisation.

Having said this, I would like to underscore the elegance of the author's writing at his best. In relating group improvisation to complexity theory, for example, he exclaims:

the dynamic complexity that informs, and can be generated by, an individual improviser is immense. Mind and body, moment and place, emotion and intellect, preparation, experience, and spontaneity all collide, collude, and (in the best of moments) cooperate to create a compelling performance. When the complexities of individual improvisation are combined and amplified in a group setting—particularly those settings without an overriding “composition” or a shared harmonic

or rhythmic framework—the sheer volume and variety of interactions, influences, intentions, and potential (mis)interpretations that come into play would seem to preclude the possibility for anything meaningful to emerge. Yet these freer settings for group improvisation challenge us to engage with the complexities of collective dynamics and decision-making and with the emergent qualities of ensemble performance. (62)

The text is organized in seven chapters. In the introduction, Borgo begins by linking critic Whitney Balliett's 1959 description of jazz as "the sound of surprise" to mathematician John L. Casti's 1994 characterization of emerging scientific fields such as chaos and complexity as "the science of surprise." These references are not actually provided, although the relevant publications are listed in the book's bibliography. There are numerous other problems with references and editing throughout the book, and they are, unfortunately, quite distracting. This conceptual or descriptive connection between music and science is one that the author makes throughout the book. Borgo also discusses, in detail, some of his own "musicking" experiences in the context of creative group improvisation, in particular with the UCLA-based Surrealestate collective (a selection of the music they created is included on the accompanying CD). In this opening chapter, Borgo explains the pun of the title, to which he later returns. He quotes George Lewis who, in discussing his approach to directing a class on improvisation, states that to begin a session he would "throw them in the deep end and work with what naturally happens" (9). The old dictum "sink or swim" becomes, in the parlance of the new scientific paradigms discussed here, "sync or swarm."

In chapter two, "Reverence for Uncertainty," we learn the Latin source of the word "improvisation": not foreseen. Improvisers, we are told, "not only welcome but they worship the sound of surprise" (14). Worship? This is one example of the evangelizing attitude the author presents throughout. I was glad to find a rare quote from a composer, David Cope, who states that "improvisation 'must inherently exist in all music in which exact notation of every detail is not possible: therefore in all music'" (14). This important conclusion is mostly overlooked by the author, although he must be credited for including it. Most of the chapter examines historical and cultural contexts for creative improvisation, distinguishing "Afrological" and "Eurological" trends. Borgo brings many interesting voices into the discussion, providing a comprehensive survey of contemporary improvisation.

The third chapter, "The Embodied Mind," focuses on Evan Parker as a solo improviser. Given the book's overriding emphasis on the complex dynamics of group improvisation, it is not entirely clear why such attention should be paid to a soloist. The author justifies his research on Parker by stating that he hopes "to confront—and propose a means through which to bypass—the Cartesian split between mind and body (or intellect and intuition) that so often plagues the analysis and discussion of jazz and improvised music" (36). In his cogent and wide-ranging discussion, Borgo focuses on Parker's instrumental style, using interview material to emphasize the saxophonist's apparent transcendence of both performance technique and rational control of the musical experience as it unfolds.

Chapter four, "Rivers of Consciousness," turns to a case study of Sam Rivers, primarily in the context of trio performances involving bassist Cecil McBee and drummer Barry Altschul. On the scientific side, Borgo, here, introduces a variety of concepts: nonlinear dynamics (adopting the concept of "phase space" as a tool for musical analysis), emergent properties, phenomenology (particularly as relating to "qualia" or the partitioning of temporal experience), and other related terms. The discussion of these complex concepts is decidedly superficial, but Borgo provides references for readers interested in deepening their awareness of these ideas. The main point seems to posit some new tools for analyzing group improvisation that would otherwise escape study.

We are ultimately presented with a "phenomenological analysis" of a recorded performance by the Sam Rivers Trio. This involves parsing the recording into sections, guided by a set of "transition types," including sudden/unexpected segue, pseudo-cadential segue, climactic segue, feature overlap, feature change, fragmentation, and internal cadence. As someone who has spent a fair amount of time analyzing and writing contemporary music, these are useful tools, but they don't strike me as being particularly innovative. Over forty years ago, music theorist Leonard Meyer developed a similarly phenomenological approach to music in *Music, the Arts, and Ideas*. Further, a great deal of work has been done in the past decade on the analysis of electroacoustic music, a domain that presents similar problems: music created with no score that is preserved on recording. There are many related publications, but Borgo appears to be unaware of them. This is an unfortunate oversight on his part. However, I do appreciate his caution that any such analytical tools "must be integrated into a systemic perspective that recognizes the nature of music as inextricable from its personal, social, and cultural particulars" (85). Unfortunately, he does not propose any approaches

that would take these issues into account. One might look to the domains of sociology or psychology, perhaps, for models of how to assess musician/listener involvement with, or understanding of, a particular performance.

In chapter five, "The Edge of Chaos," Borgo delves into the domain of chaos theory, turbulence, and the dynamic relationship between order and disorder. He quotes musicologist Judy Lochhead who rightly states that "scant work has been devoted in either music or cultural studies to the role that musicians played in disclosing the new cultural paradigm of 'chaotics'" (86). This chapter highlights the author's tendency to valorize improvisation at the expense of music composition. He acknowledges that composers have been making use of chaos theory as a compositional technique, but he gives no examples and provides one scanty reference. He attributes derogatory comments about improvisation-based composition practices to Elliott Carter and Iannis Xenakis, but does not quote the comments or provide any context. "Improvisation-based composition practice" does not necessarily mean that these composers looked down on improvisation as a separate category of activity. There is nuance in their criticism (if we seek out the references) that Borgo ought to have engaged with, but does not. Furthermore, the author includes an anecdote, "often-told [. . .] in the annals of free improvisation" about trombonist Paul Rutherford performing Luciano Berio's *Sequenza V* (a seminal solo work for trombone) in London where "critics and intelligentsia" did not discern that he had inserted a healthy dose of improvisation into his performance. Question: does Borgo know anything about this composition? That, for example, the music is highly theatrical and involves a considerable amount of performer contribution, so that every performer who presents it will contribute a great deal of "personality" beyond the notation? Is there an expectation that people attending this concert in 1974 would know the piece so well as to be able to recognize that some of the notes were not written? Was there any available recording? Had it been presented previously in London in the relatively short time since its composition (I would hazard a guess that there had been very few performances, if any)? And did Borgo (or Rutherford, for that matter) poll everyone at the concert to find out what they thought? This anecdote demonstrates an attitude of reverse-snobbism toward the world of contemporary composition and related performance practice. At the very least, Borgo should acknowledge some of the nuances and problematics involved in the telling (and retelling) of such an anecdote. In a similar way, Borgo ought to provide references for inflammatory statements such as: "Many pan-European composers disavowed improvisation simply because the post-WWII forms of jazz were becoming widely recognized as art forms that could compete for the mantle of high art music" (88). Perhaps, he does not support statements such as these because there is little evidence to support them.

The bulk of chapter five presents a method that Borgo adopts for measuring the "fractal" dimension of recorded music in order to study degrees of musical complexity in a more precise way.¹ He makes use of computer software developed by Rolf Bader and measures recorded sound according to three main "subsystems": the harmonic overtone components; the inharmonic frequencies; and any large amplitude modulations (93). Data derived from these components are used to produce a single measure of "complexity," displayed as a waveform on a graph (fractal dimension over time). This is interesting work, and the graphs provide easily-grasped snapshots of the evolution of a (recorded) performance. However, it puzzles me that the software, at least as explained in the book, does not measure changes in rhythm, either in terms of tempo or degree of regularity-irregularity. These elements are critical components of improvised music, particularly for ensembles that include rhythm section instruments (as almost all the sample recordings do). I may be missing something because of the book's abridged explanation of the methodology, but any measure of musical "complexity" that ignores rhythm and related parameters is inchoate at best. A detailed sonogram would provide more useful information, although there would be more work required to extract it.

Throughout the book, Borgo stresses the role that listeners play in shaping live improvised musical performance, but he does not support this claim in any substantive way. How, specifically, do listeners influence the emerging qualities of an improvisation? There has been work done on reception and connection in this context, but there is little reference to such research here. This is unfortunate, as any argument that seeks to privilege the social network of improvisation over the "top-down" hierarchy of notated composition (as Borgo would have it) must strongly take the participatory nature of active listening into account.

There is a disconnect between Borgo's emphasis on the role of the listener and his analytical focus on recorded improvisations. I am not persuaded that there is any difference between listening to a recording of an improvisation and listening to a recording of a notated composition. The social remove imposed by the recording medium is the same for both. Virtually all recorded music exhibits the same features that Borgo analyzes (and valorizes) in improvisation. Once recorded, the music is fixed and measurable, whether or not

it was originally intended as such. Borgo does not really address this critical issue. If he wants to distinguish between composed and improvised music, he needs to develop analytical tools that reflect that distinction.

A discussion of self-organizing systems leads to another problematic discussion I feel compelled to address in some detail. Borgo draws on a particular example in order to demonstrate that “there is no guarantee [. . .] that divergent components will find ways to self-organize effectively” (128). He describes a performance at the 2004 Guelph Jazz Festival that generated a great deal of controversy: a performance by Tuvan vocalist Sainkho Namtchylak together with African American musicians William Parker (bass) and Hamid Drake (drums). Borgo was not actually in attendance at this event, although he states that he was able to view a video of it made by an audience member (such a recording would have been illicit; I am, therefore, inclined to raise ethical questions concerning his use of the video to support his claims). He does not give any indication of being familiar with Namtchylak’s musical practice, nor with any aspects of her cultural background that may be important to an interpretation of her actions. What he seems to be interested in, with this example, is the audience reaction to the performance and to the controversial decision of the festival organizers to interrupt the show. This is fine, and it supports the author’s discussion of the “inefficiencies” of systems built from divergent components. However, having been in attendance for the entirety of the event in question, I find a few aspects of his discussion disturbing.

First of all, I must contest this statement: “She appeared visibly irritated, and it was clear that she only intended on performing as long as contractually required” (128). Visibly irritated? Perhaps, but I wasn’t prepared to draw such a definitive conclusion, as I am not familiar with the facial expressions of Tuvan people, nor with meanings that could be drawn from bodily movements or demeanor. The fact that she glanced at her watch a few times during the performance does not, in my view, entitle anyone to draw such conclusions, even those who were actually in attendance. I can only assume Borgo has forgotten his ethnomusicological training: where is the contract, and a recorded statement as to her intent? She did not stop the performance; moreover, she went on to perform for far longer than obliged by contract or even reasonable expectation.

The more interesting musical question, here, is about her interaction, or lack of it, with the other musicians. She gave little indication that she was engaging with Parker and Drake, but I, for one, am not prepared to assume that she was not, just because I didn’t quite “get it.” I found the performance disturbing, but at the same time fascinating. There were enough micro-variations in Namtchylak’s vocalizing—highly restricted though the musical content otherwise was—to keep my interest, and the roiling energy of the bass and drums provided an engaging foil to her repetitive phrasing. On a 1977 live recording titled *Nonaah*, AACM alum Roscoe Mitchell performs a solo in which he repeats a single phrase on his soprano saxophone for at least ten minutes. Although Mitchell is not known for being a particularly demonstrative performer in terms of stage demeanor or engagement with the audience (eye contact, facial expression, spoken introductions, etc.), I suspect Borgo wouldn’t jump to the same kinds of conclusions about motivation or contractual obligation in this case.

The interesting part of his discussion of the Namtchylak controversy focuses on the range of audience reaction, as evidenced in subsequent online discussion-list exchanges, reviews, and so forth. I find it highly suspect that on the basis of audience reaction, the author could conclude that “the success of a given collective improvisation ultimately rests on the degree of communication between the players, and in this light Ms. Namtchylak’s [sic] performance for the first half-hour would seem to have failed miserably” (129). In order to draw such a conclusion, I believe one would need to interview the musicians; I think it is equally plausible to conclude that these musicians were communicating to a high degree. To return to Roscoe Mitchell, I witnessed a performance at the 2006 Guelph Jazz Festival with the Art Ensemble of Chicago (the three surviving members plus two new recruits). The two remaining founders of the group, Joseph Jarman and Roscoe Mitchell, improvised for long stretches together without giving any indication at all that they were listening to each other or were even aware the other was performing. Were they communicating? Others present might have had difficulty concluding that they were (this was one reaction I heard, in fact), but I, myself, have no hesitation in assuming that they were so familiar with each other’s playing from over forty years experience performing together that they could exhibit highly divergent behaviour within the context of an otherwise often highly integrated ensemble performance.

Borgo goes on to portray the Namtchylak controversy in even more distorted terms: “a majority of listeners were willing to counteract the decision of the festival organizers and to allow a space for Ms. Namtchylak’s fierce and frustrated outpourings” (130). The organizers did, indeed, interrupt the performance, and this was a highly disturbing intervention. There were no explanations given, at least to the audience as a whole, and

the vocalist, in fact, remained onstage, giving spoken expression to some anger and dissatisfaction. The performance eventually started up again and continued for at least another hour. I, personally, did not find this continued performance an “outpouring” that was “fierce and frustrated.” I found it baffling and somewhat disappointing. To my ears, Namtchylak seemed to be running through her compendium of extended techniques. She did not appear to be any more engaged with the other musicians than she had been at the beginning, nor with the unfolding of a musical process, which could be another way of saying that she had been engaged with them all along. Her vocal artistry is intense, decidedly, but I preferred the challenge of the opening performance to the “bag of tricks” we were presented with when the performance continued. Admittedly, this is my own subjective interpretation, but I have tried to be careful to not draw conclusions about motivation or intent. Borgo should be similarly careful, especially in the context of a published book, rather than a casual internet discussion.

Chapter six, “Sync *and* Swarm,” presents interesting discussions of “sync” and “swarm intelligence.” In both cases, the notion of group behaviour is related to music performance. In quoting William Benzon, Borgo states, “music requires that our symbol-processing capacities, motor skills, and emotional and communicative skills all work in close coordination such that, under ideal circumstances, it can produce a type of group interactional synchrony [. . .] [T]he sonic flow of music correlates with the flow of neurophysiological substrates, supporting the possibility for tight coupling among individuals who share a common musical culture” (135). He goes on to suggest that “we need to reorient our analytical framework to take account of the dynamics that occur in ensembles as they musick together [. . .] And we need to acknowledge the ways in which influences in musical communities circulate through more than the sounds of performances and recordings [. . .] The networks involved include a host of social conventions and material artifacts that affect the ways in which music is made and heard” (135). I wholeheartedly concur, but I am disappointed that the author does not actually propose any such “re-orientation” of the analytical framework. Perhaps just stating the need, in the context of a discussion on the scientific framework of algorithms modeling naturally occurring sync and swarm phenomena, represents a beginning.

Finding ways to describe and study “emergent qualities” arising from creative group improvisation would be a valuable contribution, and Borgo at least identifies the possibility and seeks out a theoretical framework from other disciplines. However, when seeking out musical examples to illustrate, it seems a stretch to refer to Evan Parker improvising with recorded birdsong, just because birds can exhibit interesting “swarm” behaviour. There is, in fact, quite a body of work in the computer music domain that draws on feedback loops to manifest emergent behaviour (software based on neural networks, for example, or self-modifying genetic algorithms). While Borgo does mention Brian Eno’s fascination with Conway’s Game of Life computer program, he does not seem to have looked into other significant work in this domain. Borgo goes on to pack in references to a variety of related concepts (“swarm” leads to “network” and to “hubs,” for example) and some references to music. The connections are tenuous at times, but also thought-provoking, particularly when Borgo reminds us that social factors may also be important determinants in shaping the dynamic evolution of network hubs.

The final chapter, “Harnessing Complexity,” looks at pedagogical strategies for nurturing group creativity primarily in the domain of improvised music. He draws on the work of a number of people, including UCSD colleagues Bertram Turetsky and (former UCSD faculty member) George Lewis, along with Derek Bailey, Mark Dresser, and others. This is a valuable discussion and a rallying cry: “Improvising music is not simply an alternative approach to composition, but rather the ongoing process of internalizing alternative value systems through music. Multiplicity, therefore, must mean more than simple pluralism. At its heart, the still nascent shift to multiplicity must involve acknowledging uncertainty while foregrounding complex visions of agency, identity, embodiment, community, and culture” (192). At the heart of this concluding text is Borgo’s conviction that (improvised) music can embody a social network or community that is more robust and healthy than the predominant models that have existed previously, both within music and elsewhere in the social order. This is a worthy aim, and I can only hope that this text will, despite its many flaws, contribute to its realization, inspiring others to carry the work further.

Notes

¹ The term “fractal” refers to “fractional dimension,” as coined by Benoît Mandelbrot to refer to self-similarity in irregular forms.

Works Cited

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