

2 | The Aesthetics of Serialism

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Any study of the aesthetics of serialism should begin with definitions of ‘aesthetics’ and ‘serialism’, for the long and complex histories of these terms have given rise to conflicting usage. This chapter begins with definitions and then analyses examples of serial aesthetics found in writings about serial music. Following this, six central themes in the aesthetics of serialism are outlined and supported with further examples from a diversity of sources. The chapter concludes with thoughts about what relevance serial aesthetics might have for the study of music and the humanities today.

Serialism

As this Cambridge Companion so abundantly illustrates, serialism is not one thing. It is a variety of different practices by different people, in different locations, in different periods, and under different historical conditions. Why does this caveat matter? Because even if the same term ‘serialism’ is used, it may mean different things to different people, and that is why definitions form a necessary starting point. In the most basic sense, serial music is music that is based on a series of something. The series makes the music ‘serial’. Beyond this, however, it becomes complicated, for the question ‘a series of *what?*’ can be answered differently according to different understandings of the term ‘serialism’.

In English and French, ‘serial music’ or *musique sérielle* is used broadly to refer to any music that uses the serial principle, both when the series is applied only to the organisation of pitch (as in the music of Schoenberg and his students) and when it is applied to multiple aspects of music at the same time, such as pitch, duration, loudness, and timbre (as in the music of many post-war serial composers). This post-war practice is sometimes called ‘multiple serialism’ or ‘total serialism’ in English. The English and French terms for serial music follow the original meaning of *musique sérielle*, which was coined by the composer and author René Leibowitz in 1947 in

his writings about the twelve-tone method of Schoenberg and his students (Blumröder 1995). German usage differs. In German, there are two terms: *Zwölftonmusik* (twelve-tone music) and *serielle Musik* (serial music). *Zwölftonmusik* refers to music that uses the series *only* for the organisation of pitch. *Serielle Musik*, on the other hand, refers to what is sometimes called ‘multiple serialism’ in English, that is, to compositional techniques developed in the 1950s and 1960s that (to a greater or lesser extent) purposefully differentiated themselves from Schoenberg’s pitch-based serialism and applied the series simultaneously to other so-called parameters of music, including duration, loudness, and timbre. This chapter, like this book as a whole, understands serialism in the broadest sense and includes all meanings and practices; it encompasses music that uses a series to organise pitch only and music that uses a series to organise anything else.

Aesthetics

‘Aesthetics’ is also a term that has different traditions of usage. The philosopher Wolfgang Iser has argued that aesthetics, as defined narrowly in philosophical encyclopaedias and by philosophers in the discipline itself, would be more accurately named ‘artistics’: it is an ‘explication of art with particular attention to beauty’. As such, it does not respect the much more general ‘science of sensuous cognition’ that was established by Alexander Baumgarten in the eighteenth century and for which he invented the name ‘aesthetics’. Aesthetics in the narrow sense – what Iser calls ‘artistics’ – means only the philosophy of art, and Iser notes that this meaning was introduced by Immanuel Kant, developed by G. W. F. Hegel, and is still preferred by many philosophers today (Iser 1997).

My ‘aesthetics of serialism’ understands ‘aesthetics’ in the narrower sense. This chapter is concerned with ideas about art – more specifically, ideas about serialism, as they appear in writings on music and the philosophy of music. This includes ideas about what serialism is or what it should be, ideas about why it is or why it should be, ideas about where it came from or where it is going, ideas about its value or significance, and ideas about its connection to other realms of culture, including other art forms, the sciences, and politics. These facets of the aesthetics of serialism are not separate and distinct; rather, they blend together, are subtly interconnected, and are fused with ideas about compositional technique. In fact, this is one of the most challenging

aspects of the aesthetics of serialism: texts that are ostensibly about compositional technique often include aesthetic positions and touch upon other branches of philosophy such as ethics and metaphysics, and other realms of culture such as politics, science, and history. Two specific examples will help to illustrate this point. These examples, taken from the writings of the philosopher Theodor W. Adorno and the composer György Ligeti, will introduce some, but not all, of the central themes in serial aesthetics that are outlined later in this chapter.

Example 1 Adorno

In his book *Philosophy of New Music*, Adorno described Schoenberg's twelve-tone method as 'truly the fate of music':

The rules are not arbitrarily conceived. They are configurations of the historical obligation in material. . . . A system of the domination of nature results in music. It corresponds to a desire present since the beginnings of the bourgeois era: to grasp and order all sound, and to reduce the magic essence of music to human logic. . . . The subject dominates music through the rational system, only to fall victim to the rational system itself. (Adorno 1975: 65–8)

Before unpacking this passage, one should note that Adorno's study of Schoenberg in *Philosophy of New Music* is titled 'Schoenberg and Progress'. Progress is perhaps the most essential idea in the aesthetics of serialism, and it lies behind many of the central themes examined later in this chapter; it was present from the inception of the technique in the 1920s and through its widespread and varied practices in the 1950s and 1960s and continues to be germane for those composers who are still today influenced by serial techniques.

Adorno's understanding of progress, however, was not the usual one. Throughout his writings, he argued that, although we have little choice but to follow the dictates of historical progress, such progress may not always result in a better world – or better music. One must therefore, he believed, constantly assert subjective individuality against the collective historical process. This dialectic is the key to understanding the passage on Schoenberg's twelve-tone method just quoted, as well as much of Adorno's other writing about music. But understanding the dialectic itself is not straightforward, for it brings together the philosophy of Hegel, the social theory of Max Weber, and the theory of a 'dialectic of enlightenment' that Adorno had developed with Max Horkheimer. The complexities of these ideas obviously deserve an explication that goes beyond the confines

of this short chapter, but it is possible to summarise Adorno's dialectic and then explain its import in a bit more detail.

The briefest possible summary for the cognoscenti would be as follows. The history of intersubjective consciousness in Western culture (a kind of Hegelian *Geist*) advances according to the efforts of humans to free themselves from the forces of nature, which they accomplish through the control and mastery of nature. This process can be seen in the progressive demystification of the world (as in Weber's idea of *Entzauberung*, to which I turn presently) and the increasing rationalisation of all aspects of social life. But in its drive to master nature, human subjectivity has given rise to instrumental rationality, the absolute domination of which turns against the liberated subject and becomes a new form of control over the subject. The twelve-tone method, according to Adorno, reflects this process in the very material of music.

Now, that may be fine as far as summaries go, but what does it really mean? One must return to Adorno's text as quoted and examine it line by line to better understand. The reason that Schoenberg's twelve-tone method is said to be 'truly the fate of music' is the same reason that its 'rules are not arbitrarily conceived': Schoenberg did not so much choose to compose in this way but was thought to be *required* to do so. Adorno believed that serial music resulted from a historical process in which musical expression developed through the breakdown of formal conventions, increasing chromaticism, and increasing dissonance to atonality, as well as (though not mentioned in the quotation in question) through the use of the variation principle in the music of Beethoven, Wagner, and Brahms. These developments were said to be consolidated in Schoenberg's twelve-tone method and subjected to rational control.

Adorno's belief that a supposedly 'objective' historical process directed the course of compositional technique depends upon a philosophy of history that can and should be critiqued. In other words, the question of whether there really was an obligation for Schoenberg to compose twelve-tone music, as Adorno claimed, should be asked; the alternative is that Schoenberg merely *chose* to compose twelve-tone music. Notably, Adorno's historical narrative favours practices from a certain period of Austro-German music while ignoring other periods and other cultures – and ignoring, by the way, Schoenberg's own reasons for inventing the twelve-tone method.

Adorno's philosophy of history is evident in the next sentence of the quoted passage: the rules of the twelve-tone method, he claimed, are 'configurations of the historical obligation in material'. This 'historical

obligation' can be understood as a version of Hegel's idea of an objective *Geist*, or 'spirit', that directs world history. Adorno saw no problem in using Hegel's idea, and he later admitted that it was a central theme in his *Philosophy of New Music* and even 'taken for granted' in his own experience of the world (Adorno 1950). But Adorno's 'objective spirit' was not strictly Hegelian. It depended also on Weber's social theory of increasing rationalisation in Western culture, and the connection to Weber helps make sense of the next part of the quotation.

'A system of the domination of nature results in music', the next sentence states. 'It corresponds to a desire present since the beginnings of the bourgeois era: to grasp and order all sound, and to reduce the magic essence of music to human logic.' These sentences read like a textbook example of Weber's idea of *Entzauberung*, the literal translation of which is 'the process of taking the magic out of something', or 'demystification'. Weber, a tremendously influential sociologist, wrote of the increasing rationalisation of social practices in the Western world from the period of the Renaissance onwards and described this as entailing a belief that 'whenever one desired, one could find that there are fundamentally no mysterious, incalculable forces involved [in things], but rather, that all things – in principle – can be controlled by means of calculation. But this means: the demystification [*Entzauberung*] of the world' (Weber 1995: 19). Weber argued that this tendency went hand in hand with the progressive domination of nature, and Adorno described the twelve-tone method explicitly as a system by which music dominates nature. For Adorno, the nature being dominated was both the sound material manipulated by the composer and also the expressive impulse of the composer himself – both were controlled by the rationality of the twelve-tone method, which reduced the 'magic essence of music' by subjecting it to the order of 'human logic'.

If at this point Adorno's aesthetics begins to look like a critique of serialism, the final sentence in the quoted excerpt leaves no doubt: 'the subject dominates music through the rational system, only to fall victim to the rational system itself'. In other words, the effect of Schoenberg's twelve-tone method of composition was that it enchained the composer and robbed him of his subjective freedom. But Schoenberg was not the only victim, according to Adorno. His compositional method mirrored a larger social process in which humans are robbed of their freedom and enslaved by the forces of rationalisation. This larger social theory was presented by Adorno and Horkheimer in their book *Dialectic of Enlightenment*, in which they critically examined the development of Western culture up to the

period of the Hitler regime and tried to understand ‘why mankind, instead of entering into a truly human condition, is sinking into a new kind of barbarism’, the ‘barbarism’ in this case referring not only to the rise of totalitarianism but also the manipulative forces of capitalism and the culture industry (Horkheimer and Adorno 1972: xi). They argued that a particular idea lies at the root of Western culture and can be ‘traced back to the first chapters of Genesis’, that is, that humans have tried to advance their own interests by means of the domination and control of nature (Jay 1996: 258). Such efforts, however, which were intended to liberate humans from the forces of nature, have developed into a new force that impedes the realisation of liberation. In other words, the use of instrumental rationality to control nature now controls the *user* and precludes their freedom; that is the dialectic of enlightenment.

The ideas presented in *Dialectic of Enlightenment* were essential for the Schoenberg critique in Adorno’s *Philosophy of New Music*, and *Philosophy of New Music* was seen by Adorno as ‘definitive for everything that [he] wrote about music thereafter’ (Adorno 1977: 719). Understanding these texts will help one understand Adorno’s music aesthetics. Subsequently, as serial practices spread beyond the Schoenberg school in the 1950s and were developed by a younger generation of composers, Adorno believed his critique of pre-war serialism to be even more applicable to post-war serialism. As composers applied serial ordering to not only pitch but also duration, loudness, and timbre, Adorno critiqued the further expansion of rational control and greater loss of subjective freedom. Post-war composers, on the other hand, saw their expansion of serial technique as progress, and they did not concern themselves with the dialectics or discontents of that progress.

Example 2 Ligeti

One example of the narrative of progress many post-war serial composers shared can be seen in a passage from an essay by the composer György Ligeti:

After Schoenberg had found a rule-based method for ordering free atonality, the serial principle, which was first applied only to the dimension of pitch, strove for expansion to the totality of form. This led to the discrete quantification of all parameters, through which such music became the result of overlapping prefabricated arrangements . . . But only shortly after durations, intensities and timbres had been serially organised, the expansion of this method sought to cover more global categories, such as relationships between [different] registers and densities, and distributions of types of movement and structure, as well as the proportioning of the entire course of form. (Ligeti 1960b: 5)

What Ligeti described here is the post-war development of serialism in Western Europe, from a method that applied serial order only to pitch to a method that applied serial order to many other aspects of music. The reason his description is of interest is because it implies that the serial method did not result from the preferences and decisions of composers; rather, it was the result of some larger historical process. Although Ligeti did not explicitly invoke an 'objective spirit' as Adorno did, that spirit is at work behind the scenes. This becomes apparent in the way in which Ligeti's writing endows technique with agency: the serial principle, he claimed, 'strove for expansion to the totality of form'; the expansion of the method then 'sought to cover more global categories'. In Ligeti's telling, it was not the subjective decisions and aesthetic preferences of composers at work; rather, it was the technique, and history itself, that directed composers' actions.

Many other serial composers believed in this historical narrative and thereby ignored their own personal preferences in choosing compositional techniques. Pierre Boulez wrote in 1952 that serialism was a 'logical consequence of history' (Boulez 1991f: 214), and he wrote this in an essay titled 'Schoenberg Is Dead', apparently oblivious to the fact that Schoenberg himself, in the essay 'Composition with Twelve Tones', described the twelve-tone method as a necessary historical development that was dictated by the laws of nature (Schoenberg 1975a). Schoenberg, it seems, was not dead: he lived on in some of Boulez's own ideas about music. Boulez learned the twelve-tone method from the student of Anton Webern, friend of Schoenberg, and creator of the term *musique sérielle* René Leibowitz, who argued in lectures and writings that serialism was a logical and necessary development resulting from the history of polyphony (Kapp 1988: 5–6). By the late 1950s and early 1960s (the time in which Ligeti's essay appeared), a diversity of composers refused to let this myth die. Luigi Nono, for example, claimed in 1958 that an 'absolute historical and logical continuity of development prevails between the beginnings of twelve-tone music and its current state', and he cited as evidence the same historical stages given by Ligeti in the quotation discussed here (Nono 1958: 25). In 1964, Dieter Schnebel also cited these historical stages and then proposed additional steps to continue their further progress (Schnebel 1972).

Schnebel has been seen by some as a critic of serialism, but he did, in fact, preserve the historical narrative so essential to its aesthetics. Ligeti also was seen as a critic of serialism, and the essay from which the quotation is taken was interpreted by some readers as 'the epitome of an *anti*-serialist

manifesto' (Borio 1993: 33). But the fact that this historical narrative was maintained by these supposed critics of serialism, and remained relatively long in circulation, shows the extent to which serial aesthetics also influenced developments away from early serial composition. Similar ideas about history were shared by otherwise dissimilar composers, and these ideas bind the post-serial music of the 1960s and beyond to the aesthetics of serialism and testify to its influence. The appeals to historical necessity and progress were not only voiced explicitly, as in the statements discussed here, they also underlie most of the themes that are examined in what follows.

Themes in the Aesthetics of Serialism

It is difficult to reduce serial aesthetics to essential themes – both because of the amount and diversity of writing on the topic and because these themes are not necessarily presented distinctly as such in this writing. But there are shared ideas that helped give serial music and aesthetics their features and that contributed to the prestige they once had. It should be noted that many of these ideas arose in the post-war period. This is understandable given that the technique became widespread after the Second World War, and there was a corresponding increase in writing about the topic then. The reasons why serialism became widespread are considered in an ensuing subsection on the influence of serial aesthetics ('The Influence of Serial Aesthetics').

History, Necessity, and Progress

The excerpts from Adorno and Ligeti quoted in Examples 1 and 2 express a belief that composers are not free to choose the materials with which they work; rather, composers are said to be required to act in accordance with the demands of some higher power, and doing so contributes to historical progress. This general idea, with differing details, is frequently encountered in writings on the aesthetics of serialism. It can be seen in Schoenberg's assertion that the twelve-tone method was dictated by the 'laws of nature'; it is clearly a part of Adorno's belief in an 'objective spirit'; and it informs the understanding of history outlined by later serial and post-serial composers including Boulez, Nono, Ligeti, and Schnebel. The idea of progress is also relevant to most of the themes outlined below: it is relevant to the relation between serialism and the political realities of the post-war period,

to the connection of serialism to science and technology, to the idea of composition as experimentation, to the serial ideals of unity and organicism, and to the new culture of listening and musical perception implicit (and sometimes explicit) in serial music. The idea of progress has, accordingly, been given pride of place in this chapter. It is an idea that depends upon the assumption that progress is desirable or, at least, necessary, and this assumption tells us much about the period in which serialism became widespread. It tells us perhaps even more about the immediately preceding period, for progress can seem desirable or necessary when the past (or present) becomes unbearable.

Politics: Anti-fascist Resistance, Anti-communist Resistance, and Freedom

It is a paradox of serial aesthetics that, while many composers believed twelve-tone and post-war serial practices were historically determined, they also embraced the technique as a new beginning. In the post-war period, one of the central concerns of serial composers was to find a new approach to composition, something very different from tonal music. Their motivation for doing so was substantially influenced by extra-musical factors. In 1933, for example, the inventor of the twelve-tone method was stripped of his professorship in Berlin, and his scores were publicly burned in front of the national opera house. Schoenberg's Jewish background and his role as a leading modernist artist made him doubly offensive to the Nazi regime and earned him a place in their infamous 'degenerate art' exhibition (Hinton 1993: 101 and 106). This made his twelve-tone method very appealing to post-war composers, for it seemed 'untainted by any whiff of collaboration' and was thought to represent 'intransigence and resistance' (Kapp 1988: 13). Leibowitz associated it with the freedom of the human spirit and worked secretly with it during the war years. He published five books and fifteen articles about it immediately after, and these publications were a significant part of the post-war reception of twelve-tone music (Shreffler 2000: 33–5).

Nazi cultural policies seemed to be repeated in communist countries of the Eastern bloc only a few years after the end of the war, and this gave additional impetus to the appeal of serialism. When the Soviet's Division of Propaganda officially denounced 'formalism' in 1948, which included twelve-tone music, and promoted socialist realism, many artists and 'supporters of the avant-garde saw a clear analogy between the repressions of the Third Reich and those of Stalin' (Kovács 1997a: 117). More recently,

scholars have shown that serial music was in fact practised in many parts of the Eastern bloc and even supported by some socialist governments. But Western observers at the time saw direct parallels between communism and National Socialism regarding the condemnation and prohibition of particular techniques and figures in modernist music.

Western governments responded to this by increasing their support for modernist art. The Darmstadt New Music Courses, for example, which were founded in 1946 to help promote music banned by the Nazi regime, became a centre for the promotion of music prohibited in the East and a beacon for compositional approaches such as serialism, which was thought to represent the values of Western democracies (Kovács 1997b). Those values are apparent in the central themes of serial aesthetics outlined here: progress, freedom, rationality, and, as we will see, superior science and technology. Serialism represented freedom not only in a political sense, but also in a technical sense, and this is another paradox of serial aesthetics. To understand how such a highly rationalised and strictly controlled approach to composition could represent freedom in this way, one must consider the role that science and technology had in reinventing music from what were thought to be the most basic elements of sound.

Science and Technology

Although not terribly relevant for the aesthetics of Schoenberg and his students, science and technology were absolutely essential for post-war serial composers. Looking again at Example 2 from Ligeti, in which he described the historical development of serialism in Western Europe, one will find a specific term to which the serial idea was applied: the ‘parameters’ of pitch, duration, intensity, and timbre. The term ‘parameter’ was taken directly from contemporaneous research being done in electro-acoustic music studios, and it represented the nucleus of post-war serial composition. It was first applied to serial music by the composer and theorist Karlheinz Stockhausen, who used it in 1953 to describe the pitches, durations, intensities, and timbres of his composition *Kontra-Punkte* (Blumröder 1995; cf. Stockhausen 1963a: 37). Stockhausen acquired the term from Werner Meyer-Eppeler, a leading researcher in electronic music, whom he met in 1952 and with whom he studied (Blumröder 1995: 335). But Stockhausen acquired much more than terminology from electronic music studios; he also acquired his very conception of music there, a conception of music dependent upon the kind of analysis and synthesis of sound enabled by studio work. In early electronic music studios, sounds

were understood to consist of four component elements: frequency (or pitch), duration (which generated rhythm), intensity (or dynamics), and waveform (or timbre); these became the parameters to which composers then applied serial techniques in their effort to advance history beyond the pitch-only serialism of Schoenberg.

These individual components of sound were also the focus of work being done by composers in the United States, such as Milton Babbitt. Babbitt had a background in mathematics, did pioneering work in early electronic-sound studios, made extensive contributions to music theory, and had a tremendous influence on the development of music composition and theory as academic disciplines. In a widely read essay from 1958, he compared the serial music of the time to physics and mathematics and argued that, like these disciplines, music needed the support of universities to ensure its further progress (Babbitt 1958). Electronic music studios on both sides of the Atlantic, and elsewhere, enabled composers to create any sound or structure imaginable, or at least they promised to do so. This, in turn, supported the desire to create a new music unrelated to the past, and it imparted a sense of freedom limited only by the capacity for invention. Post-war serialism was an expression of this creative freedom.

The Idea of the Experiment

As post-war composers reinvented music without the traditional syntax and forms of tonality, they often conceived of individual pieces as experiments that furthered their research. The concept of composition as experimentation was, according to the musicologist Carl Dahlhaus, 'nothing less than the fundamental aesthetic paradigm of serial and post-serial music' in the 1950s and 1960s (Dahlhaus 1983b: 84). Dahlhaus was uniquely placed to make this assessment: he was one of the most prolific and influential music scholars of the twentieth century; he knew post-war music at first hand and wrote extensively about it; and his knowledge of the history of aesthetics was unparalleled among musicologists. His idea of an aesthetic paradigm of experimentation consisted of three complementary elements that he believed characterised serial and post-serial music in Western Europe after the war: first, a philosophy of history dependent upon ideas from Adorno's writings; second, the idea of a 'problem-history' of composition that unfolded in a way analogous to the history of science; and finally, the idea of a 'work-in-progress' that replaced the nineteenth-century work-concept of a closed, perfected whole (Dahlhaus 1983b: 82–85).

Adorno's philosophy of history should now be familiar: a quoted passage from his *Philosophy of New Music* and my detailed explication of it appear above (pp. 22–5). Adorno had a significant influence on post-war serial composers, even if they did not understand his philosophy with the nuance and erudition it deserved (see Zagorski 2005 for a reception history). What they took from his writing was the idea that not all musical materials are available to composers at any given time; rather, a composer is 'required' to work with only those materials history dictates to be appropriate. Dahlhaus was critical of this idea, and he thereby criticised historical metanarratives long before so-called 'new musicologists' did. But he recognised how this particular narrative did much to shape music history.

Adorno's philosophy of history led post-war composers to believe that serialism was a 'logical consequence of history', and I have shown already that Ligeti, Boulez, Nono, and Schnebel, among others, held this view. These composers saw it as their task to find the next 'logical consequence of history', and Dahlhaus argued that this caused them to view music history as a 'problem-history' of composition. In such a 'problem-history', each new approach to composition was thought to be a solution to problems found in the preceding approach, and each new approach created new problems that required further solutions and generated new techniques. Dahlhaus drew parallels between this problem-history and the history of science, specifically, the theory of 'normal science' presented in Thomas Kuhn's influential book *The Structure of Scientific Revolutions* (Kuhn 1996; for the Dahlhaus comparison, see Dahlhaus 1983b: 83). But there are even clearer links to Stockhausen's writings. In the essay 'Erfindung und Entdeckung: Ein Beitrag zur Form-Genese', for example, Stockhausen interpreted his own compositions from the 1950s as a series of problems begetting solutions, and he illustrated this idea with nearly twenty pages of examples from his scores (Stockhausen 1963b). Because Stockhausen was an exact contemporary of Dahlhaus and perhaps the most influential serial composer and theorist in West Germany in the 1950s and 1960s, it seems likely that Dahlhaus was influenced, at least in part, by his writings.

Dahlhaus argued that the second element in his theory of the experiment, the 'problem-history' of composition, led to the third element of his theory, the idea of a musical work as a 'work-in-progress'. The 'work-in-progress', he claimed, had great relevance to the history of music aesthetics, for it represented a counter-concept to the nineteenth-century ideal of a closed musical work: when new compositions were conceived primarily as solutions to problems posed by earlier compositions, no individual piece formed

a closed whole but was only an incomplete part of a larger series of works. This idea of a 'work-in-progress' also can be linked to the writings of post-war serial composers. In this case, it is again Stockhausen who wrote in the early 1950s of the need to overturn the older ideal of a closed, perfected work in favour of something that would stand as a small part of a larger process (see Stockhausen 1963a; Stockhausen 1963i). Later in that decade, Ligeti made similar statements: in his well-known analysis of Boulez's *Structure Ia*, he described composing as a kind of research and experimentation that surrendered the claim to produce great works, and he argued that all composers must think this way if they hope to effect progress (Ligeti 1958: 62–3). Dahlhaus read the writings of serial composers and interpreted them in the context of the larger history of music aesthetics. His erudition and insights about the relation between compositional theory and intellectual history make his work uniquely valuable.

Unity and Organicism

Essays about compositional theory were the primary vehicle for serial aesthetics, and extracting aesthetic content from these essays requires one to see links between descriptions of compositional techniques and the aesthetic ideals that motivated them. There was an explosion of compositional theory in the post-war period, which followed from the desire of composers to reinvent music from the ground up. And as with the twelve-tone method itself, the precedent for prolific prose-writing was Schoenberg. In his essay 'Composition with Twelve Tones', Schoenberg explained not only how he used the technique, but also why. 'Form in the arts, and especially in music', he wrote, 'aims primarily at comprehensibility. . . . Composition with twelve tones has no other aim than comprehensibility' (Schoenberg 1975a: 215). For Schoenberg, the twelve-tone method supported the comprehensibility of his musical ideas by providing a consistency of intervallic relations and unified pitch structure that corresponded with phrasing and formal ideas. The method was therefore essentially connected to his decisions about form, and the basic set created a unifying force that reflected an organicist ideal of composition.

Post-war composers shared this organicist ideal, but, strangely, they criticised Schoenberg for not going far enough with it. Boulez led the charge, claiming that Schoenberg 'took no trouble to find specifically serial structures' in his music and 'never concerned himself with the logical connection between serial forms as such and derived structure' (Boulez 1991f: 213). Boulez overlooked Schoenberg's insistence that 'the

possibilities of evolving the formal elements of music . . . out of a basic set are unlimited' and ploughed ahead with his own programme (Schoenberg 1975a: 222). That programme was, he wrote, to generate 'structure from material' by 'generaliz[ing] the serial principle to the four constituents of sound: pitch, duration, dynamics/attack, and timbre' (Boulez 1991f: 214). The results of Boulez's organicist ideal took shape in his *Structure Ia*.

Stockhausen also wrote, with an insistence that bordered on fanaticism, of the need to compose according to a unifying principle, and he repeatedly demanded 'consistency' between individual elements and the totality. In sentence after sentence of a technical essay on early serialism, 'Situation des Handwerks (Kriterien der punktuellen Musik)', he called for the 'subordination of tones under a unifying principle', for 'consistency between the ordering of the individual elements and the whole', for a 'unified conception of music, which only a unified material ordering can create', for 'the constant presence of the unifying idea', and for 'the necessity of total order' (Stockhausen 1963e). The language here is striking given that Hitler had just inflicted a period of 'total order' on Europe. It is a language echoed in Boulez's statement that his intention with *Structure Ia* was to create a synthesis of elements that 'would not be marred from the start by foreign bodies' (Boulez, quoted in Toop 1974: 144). The 'foreign bodies' were the remnants of the tonal tradition he detected in Schoenberg's work, and like many others, he believed a more robust organicism would allow composers to move forward. This belief extended far beyond Boulez and Stockhausen and was one of the primary concerns of serialism.

Perception and Listening

As Boulez and other post-war composers expunged the 'foreign bodies' of tonality from their music, they also abandoned a syntax that was familiar to listeners. Schoenberg and his students claimed that traditional syntax was not so much abandoned as made 'more efficient'. But in both cases, and seemingly with all serial music, new demands are made upon the listener. In Schoenberg's music, traditional syntax struggles to compensate for the novelty of the new pitch structure. In the music of Boulez and other post-war composers, conventions of both syntax and pitch are effectively abolished and replaced by a new idea of what music and listening can be. Comparing one of Schoenberg's early twelve-tone pieces, such as the Intermezzo from his Suite for Piano op. 25, with Boulez's early serial piece, *Structure Ia*, provides a good example of this: immediately apparent is a difference in the textural conception of the pieces. Whereas in

Schoenberg the hierarchy of parts common to tonal music since the classical era persists, in Boulez there is no such hierarchy, no distinction between primary and subsidiary voices or melody and accompaniment. The texture is characterised instead by a scattering of 'points' across sound-space, which helps make sense of why such music was described as 'pointillistic' at the time. Additionally, the sound environment of *Structure Ia* is static rather than dynamic or goal-oriented; this is an intended result caused by the obliteration of metre, lack of registral focus, and unchanging loudness and articulation – to say nothing of pitch.

The new demands serialism placed upon listeners were noted repeatedly by Babbitt in the essay by him cited above. He argued that because serial composers could determine musical events with greater precision, listeners needed to listen with greater precision in order to correctly perceive the music (cf. Babbitt 1958). This may be true in the case of Babbitt's music, but there are many other ways of listening to serial music, just as there are many other serial composers. What is appropriate for one is not necessarily appropriate for all.

Stockhausen can serve as a useful counterexample to Babbitt, for he also wrote specifically about how to listen to new music but took a very different position. Stockhausen argued that listeners could approach music with a spirit of 'invention' and a spirit of 'discovery'. To apply 'invention' to listening is to actively devise form for music, to respond creatively to what is heard and give it structure. The essential point is that there need not be one form that is identified by all listeners; rather, the same music can generate different formal ideas in different listeners. This approach suggests a departure from the conventional practice of listening, in which known formal parts are identified similarly by different listeners. What is more important for Stockhausen is that each listener perceive the music personally and creatively. 'Discovery' in listening, on the other hand, does not allow for this creative engagement with form but urges listeners to accept forms that are unusual and unfamiliar. For Stockhausen, new musical 'discoveries' require listeners to accept and devote attention to that which is unconventional. He was critical of listeners who were intolerant of unfamiliar structures, and he deemed them poor discoverers (see Stockhausen 1963b: 226–7; cf. Zagorski 2018).

If one considers the hostility with which serial and post-serial music has been received at times (not infrequently by musicians and music scholars themselves), one can better understand this entreaty for tolerance. But the fact remains that listening to serial music has been considered difficult by the majority of those who have heard serial music. One must therefore

wonder how serialism could become one of the most influential compositional techniques of the twentieth century.

The Influence of Serial Aesthetics

The influence of serialism was due in large part to the ideas behind the technique – in other words, to its aesthetics. It was, of course, music to be listened to, even when it required new kinds of listening. But more so than perhaps any other music, it was the *ideas* associated with serialism that contributed to its widespread practice. The themes in the aesthetics of serialism outlined in this chapter reflect the features of its influence, and behind them lie different conceptions of progress. For Schoenberg and his students, progress lay in a new method for ordering pitch that fulfilled their need for formal cohesion and seemed the culmination of hundreds of years of prior practices. For post-war composers, serialism represented the new beginning that was wanted after the period of fascism, elevated a technique the fascists condemned, and also seemed the logical consequence of earlier musical progress. During the Cold War, in both East and West, the modernism and abstraction of serial music were considered to be the polar opposite of Socialist Realism, and they lent serialism the prestige of (mostly) forbidden culture on one side of the Iron Curtain while representing the ideals of freedom and democracy on both sides. Finally, serial music's development in the 1950s and 1960s was made possible by the science and technology that defined the era and promised unlimited creative freedom through the electronic generation of sound.

The influence of serial aesthetics can be seen also in critical reactions against it. Given the great influence of serialism, its geographical scope, variety of practices, and staying power, it has attracted countless critiques. Those critiques particularly worth mentioning are two compositional trends that fashioned themselves as antipodes to serialism, and which became two of the most influential compositional approaches since 1970: spectral music and minimalism. The ideas that motivated these approaches can be usefully contrasted with ideas that motivated serial composers.

Closing Thoughts

Despite the abundance of critiques, and because of them, serialism has been an important part of the music and aesthetics of the past hundred years. It can also contribute to a better understanding of modernism and the many

cultures that participated in its ideals. Those many cultures, the long history of serialism, and the richness of its aesthetics suggest myriad ways to approach the topic. One can, for example, examine local contexts that focus on particular times, places, institutions, composers, theorists, or political conditions. Or one can combine this with broader historical interpretations linking artistic practices to the beliefs and motives that underpin human behaviour and elucidate the metanarratives we construct. These metanarratives may be out of fashion today, but they are still worth studying; the same can be said of serialism. I hope this chapter has shown that the aesthetics of serialism is an extremely rich and intellectually stimulating topic. It is also a historical fact that, whatever we may think of the music and its aesthetics, it had a tremendous influence on the twentieth century and continues to be influential in the twenty-first century. Its legacy lives on not only in its critics, but also in generations of composers who, long after the heyday of serialism in the post-war period, continue to be guided by its ideas.