



Life Without Chords? Atonal Music Professor Marina Frolova-Walker

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20th-century Western art music was often presented by the music historians of last century as a story about **the dissolution of tonality, the emergence of atonality and the invention of other means for organising pitch**. Composers like Rachmaninov, who continued to write tonal music were generally neglected or even derided in such narratives of music history. Beginning in the 1960s, though, there was a new strand of music that owed little to the past and could claim to be a kind of modernism, but which made use of chords again – quite unabashedly. Such music had established itself so firmly in the concert halls by the end of the 1970s that the music histories were wrong footed, and the story eventually had to change. There was much debate about whether the new tonal music was a betrayal of modernism, or whether atonality was a betrayal of music altogether. But the consensus shifted among the concert-hall managers, radio-station controllers and critics who had previously promoted the atonal high modernism of the post-War period as something that was good for the public, whether the public wanted it or not. It is now the music of high modernism that is a rarity in the concert halls and on the airwaves.

Stepping back to the period of the dissolution of tonality, we find:

1. that in the late 19th century, **chord functions became attenuated** once the secure sense of a given background key was lost; in turn, this weakened the harmonic patterns of tension and release. There were still discernible chords, but they had become more complicated, and their use was diversified until it was not clear whether there was a single expected resolution, or even any expected resolution.
2. Then in the post-Romantic music of Mahler and others, the dense textures were built up **in a more linear manner** – a combination of many simultaneous melodic strands, making it hard to discern the chords, or making chords an irrelevance at times, as in much music prior to the late 1500s. This process raced ahead during the early modernism of the 1920s and 30s, when the rules restricting the use of dissonance were often abandoned, and the individual melodies might each suggest different keys, so that no overall key emerged.
3. Lastly, several composers began to devise **alternative tuning systems** that forced a departure from tonality, sometimes because the standard chords were not even available. Let us take a more detailed look at these developments.

Tearing Up The Rulebook

In our course, we have mentioned several moments where the sense of key was suspended, and that this very often resulted from the use of diminished or augmented chords. Among the Romantics, Liszt used these chords most inventively, and his experimentation continued through to the end of his life, in his late piano pieces (unpublished until two decades after his death). One of these, *Nuages gris* (Grey Clouds), plays with augmented triads and chromatic lines, but of greatest interest for our present purposes is the fact that it **ends on a dissonant chord**, and indeed one that seems remote from the piece's main key of G minor. *Nuages gris* only came to the attention of musicians in 1927, when it was published in a volume from the first edition of Liszt's complete works. It then became known as a landmark of proto-modernism. Mauricio Kagel dissolved the piece into its constituent chords and motifs and then reassembled them into a piece entitled *Unguis incarnatus est*.

The conductor and high-modernist composer Pierre Boulez claimed that “modern music was awakened” by Debussy’s *L’après-midi d’un faune* (1894). This is a kind of sultry dream piece, its atmosphere depicted through a succession of mildly dissonant chords that long defeated analysis. Debussy was consciously trying to move away from tonality at this time. In a letter (to Pierre Louys) of 1895, he said that “tonic and dominant had become empty shadows of use only to stupid children”. Referring to the Prelude, he boasted that it “shows a disdain for the so-called constructional knowhow that places a burden on our finer intellects” and that the piece “has no respect for tonality”. A few years later, we find him challenging the received wisdom about dissonance: “Nothing is more mysterious than a consonant chord! Despite all theories, both old and new, we are still not sure, first, why it is consonant, and second, why the other chords have to bear the stigma of being dissonant” (1903). And when talking about the centuries-old rule prohibiting parallel fifths, he made an even more sweeping statement: “There is no theory. You have merely to listen. Pleasure is the law”. Debussy was a musician of vast experience and had absorbed what he wanted from other composers so thoroughly that he had built up impeccable intuitions that allowed him to write freely without conscious efforts to construct. From this lofty position, that few ever attain, Debussy was able to strike an anti-theoretical pose. Even so, he was innovating so boldly that his contemporaries were quite ready to believe that his music really was whatever took his fancy, with no logic or coherence. His earlier work shows a mastery of tonality, but also contains the seeds of his progressive abandonment of tonality, which was only total on rare occasions.

One of Debussy’s stylistic features is precisely the use of those **formerly forbidden parallel 5ths and octaves**. His piano Preludes, written in the first decade of the 20th century, were a kind of workshop for his new ideas. In one of these, “La Cathédrale engloutie” (The Submerged Cathedral), the main theme is written entirely in parallel 5ths and octaves for both hands. It would seem that there are three musical elements associated with the Church, all mixed together. Gregorian chant, in earlier times, could be sung with doublings at the 5th and octave. Organ stops are mainly for the purpose of creating octave doublings above or below each note actually played on the keyboard; some organ stops create doubling at the octave-plus-5th; none of these doublings is supposed to be heard as a separate line of music, but only as a modification of the timbre. Lastly, we can only try to imagine the vague clanging of the bells transmitted through the water to those above. One of the reasons the prohibition against parallel 5th was retained long after its original contrapuntal justification had elapsed was that harmony was simply too bland and too easy to write if parallel 5ths were allowed. But Debussy is **not even trying to write chord progressions** in these passages: he is writing a melody and then pulling out all the organ stops (so to speak). So even if Debussy liked to think of himself as transgressing music theory, his treatment of the melody makes sense as an extension of what is entirely normal for the organ and matches the image of the title well. In the middle of the piece, thirds enter into the doublings to create full triads and some cadence-like patterns emerge, as if a diver has descended through the water, and can see the cathedral in better focus. This means that the chords begin to take on some semblance of their function in normal harmony. Towards the end of the piece, this harmonic focus is lost again, although we do not return to the opening sonorities, since the thirds are retained, and 7ths are now added.

Too Much To Take

In 1907, Mahler was present at the performance of Schoenberg’s First Quartet. Although he supported Schoenberg publicly, he was perplexed by the piece and expressed this to Schoenberg in private: “I have conducted Wagner’s most difficult scores; I have written complex music myself, in scores of thirty staves and more; yet here is a score with no more than four staves, and I am unable to read them”. Years later, Schoenberg explained that it was his complicated contrapuntal style that was to blame: “the most embarrassing circumstance was that the harmonies produced by those independently moving parts changed so fast and were so advanced that the ear could not follow their meaning”. The notes of a chord might all be present, but they appeared at different times, lost amidst all the decorative, non-chord notes. Schoenberg saw himself as living out the implications of history even if others were too timid to do so, and he saw it as his duty to bring about a music where, “as in the earlier epochs, **harmonies will be a product of the voice leading**: justified solely by the melodic lines!” (we have discussed how that happened, pre-1600, in Lecture 1).

Schoenberg in the years around 1900, was a leading master of complex tonal music, where keys and progressions are in place, but the listener is often challenged to the utmost to follow the thread.

The Second Quartet (1908) starts out as another piece in this vein. Strikingly, the string players are joined by a soprano in the third movement, but the fourth and final movement provides the stage for Schoenberg's decisive break with tonality. The text is the poem "Entrückung" (Rapture) by Stefan George, and it begins with the words "I sense air from another planet". Schoenberg effectively repurposes the poem to describe his new atonal music: we hear of an ecstatic moment of transcendence, where earthly things are abandoned in a total surrender to the divine (in pantheistic terms). Schoenberg was surrendering to what he saw as historical necessity, to abandon the tonality that he had mastered, overcoming his own artistic crisis (and also a crisis in his private life), not with sullen regret, but in music of an intoxicating beauty. The poem continues: "I dissolve into notes, circling, weaving, in groundless thanks and nameless praise, Surrendering without a wish to the mighty breathing". Schoenberg later gave a more prosaic but illuminating account of the moment: **"The overwhelming multitude of dissonances could not be counterbalanced any more by occasional returns to such tonic triads as represent a key"**.

As Schoenberg worked on a set of three piano pieces (op. 11) in 1909, he relinquished still more "symbols of cohesion and logic": gone now, are familiar formal features, development and the use of motives. He says now that his **music is not built, but "expressed"** – presumably a nod towards the artistic trend of expressionism that was all around him in the Vienna of the time. Expressionist art sought to explore the inner world of the mind, delving into the "subconscious", where monsters may lurk. Outside of the arts themselves, Freud's psychoanalysis was a crucial influence. In literature, "stream of consciousness" writing was favoured over the construction of narratives. In the visual arts, figurative painting progressively gave way to abstraction. Vassily Kandinsky heard the Second Quartet and the op. 11 pieces in Munich in 1911, and the music inspired him to enter into correspondence with the composer, as a kindred spirit in another art.

Kandinsky's reaction was unusual. We have already heard the misgivings quietly expressed by the highly sympathetic Mahler. The critics and the public were happy to make their hostility known to all. The Munich critic Arthur Hahn was generally an advocate for the latest in music, and wrote admiring commentaries on Mahler and Richard Strauss, but he certainly did not see Schoenberg as the logical next step:

"The almost hair-raising cacophonies seemed rather too much even for those who had so far kept a straight face as they followed Schoenberg's Weltschmerz and its musical revelations. One can only shake one's head in astonishment at his effrontery in trying to pass off this kind of thing as music (in the sense that term has always been understood). These "sound effects" gave rise to accidental convergences of notes entirely at random. By mere chance, we might expect occasional combinations of notes that sound harmonious to our ears. Schoenberg however – and this is the only thread of consistency in his compositions – deliberately selects only sounds at the opposite end of the spectrum from whatever could sound "right" to our ears."

Such critiques were soon to become common as modernism conquered all the arts: the artist was either self-deluded or a conman, and either way, there was no point listening.

I'll Supersize That

In Lecture 5, we have already encountered music that makes pervasive use of chords with more than the traditional three or four notes. We encountered, for example, Scriabin's "mystic chord" of six notes. In jazz theory, this can be analysed without difficulty as a dominant seventh, but such harmony arrived half a century after Scriabin, and more to the point, Scriabin removes it from any context in which it could sound as if is a dominant in need of resolving to a tonic. He presents it as a chord representing the cosmos at the beginning of *Prometheus*, before the character Prometheus interferes with the eternal patterns. The ultimate expanded chord would contain **all twelve notes of the chromatic scale**, and Scriabin had indeed planned to use such a chord in his next work, which was to be the "Preparatory Act" for his "Mysterium" (the piece that he expected to bring about the end of the world). He referred to his twelve-note chord as the chord of the "pleroma", or plenitude, again, symbolizing the cosmos.

Several commentators have pointed out that the desire to breach the borders of tonality was often connected to a desire for the uncanny or for transcendence. In the light of this, let us see a few examples of these twelve-note chords. In the third song of Alban Berg's *Altenberg Lieder*, we hear the sonority at the beginning, and the text is about transcendence:

“Beyond the borders of all we know, you ponder thoughtfully,

You'd never worry about hearth and home.

Yet Life, and the dream of life – it can suddenly vanish.

Beyond the borders of all we know, you ponder thoughtfully.”

Alfredo Casella's *Notte di Maggio* (May Night) is another orchestral song. The scene is a moonlit landscape, but this time, the twelve-note chord is heard later, where the poet sees the landscape being populated with the souls of all the dead buried there. In Charles Ives' "The Housatonic at Stockbridge" from his *Three Places in New England* (1911), the scene is a country walk that inspires a moment of ecstasy, the shock of the sublime rather than the contemplation of the beautiful. Ives uses multiple contrasting layers to represent the complexity of the landscape around him through multiple contrasting textural layers. They create a glorious cacophony through to the climactic chord, which seems to expand into all the available space.

Wrong Notes and Wrong Chords

There was another kind of musical modernism that looked to the clutter and chaos of the world about us and did not take itself so seriously. To enter into this world, let us first look back to Mozart writing some grotesquely wrong chords at the end of his "Village Musicians' Sextet", which he subtitled "A Musical Joke" in case anyone was slow to understand that he was satirising incompetent performers (blatantly) and incompetent composers (more subtly). In the 1910s, however, it was common to find new music featuring **distorted versions of familiar harmony**. Even if there was an element of humour in many cases, the composers were not attributing the music to some band of rustic amateurs or other incompetents. Early modernist artists of this type often hoped to win hostility from a large part of their audience (while simultaneously developing an enthusiastic claque of supporters). In music, this may have begun with Stravinsky's *Petrushka* (1911), where at one point, in the heat of a festive folk dance, the bass separates from the rest of the harmony, and the dominants begin to collide with the tonics. This was still recognisable tonality "gone wrong", but two years later, in *The Rite of Spring*, Stravinsky **continually superimposed chords from different keys in such a way that that no tonal thread could be discerned**.

The *Rite* caused just as much outrage as Schoenberg's early atonal works, but there were important differences: Schoenberg's music was dissonant largely because he was writing polyphonically while no longer observing the old rule that restricted the use of dissonance. Stravinsky, on the other hand, created textures that were harmonic, but the harmony was distorted, and unable to imply any key. Schoenberg thought of public outrage as a temporary stage before general acceptance of his music and its "necessity". Stravinsky on the other hand, was happy to outrage a large part of his public to create a *succès de scandale*. We might even draw parallels with modernism of the time in the visual arts. Schoenberg abandoned tonality, much as Kandinsky abandoned representationalism. Stravinsky kept the bits and pieces of tonality, but put them together in a distorted way, much as Picasso kept the bits and pieces of the world we see, but rearranged them, putting parts of a face on different planes, together with a collage-like use of ready-made objects like newspaper cuttings. The critic and musicologist Vyacheslav Karatygin was already discussing Stravinsky in similar terms in 1914:

*“You have all seen futurist paintings... you have read futurist verses... And you have of course noticed that **displacement** is the characteristic feature of futurist art. Either the two eyes in a portrait have skittered to different corners of the painting, or else the letters in a word have been rearranged, mixed up...*

What Stravinsky is doing in the Rite is founded mainly on displacement. Tonalties are displaced...they ...have begun to pile up on top of one another.... and intervals are displaced. Octaves have suddenly slipped down into sevenths.... And rhythms are displaced. Everything has been shifted and shuffled..."

Humour or desire to deliberately offend the year were at the origin of these experiments – before the exceptions started becoming the rule.

Schoenberg also continued along his lonely path to musical “truth” to the end of his career, whereas Stravinsky gradually retreated from the *Rite* over the following decade, and retrieved large parts of musical tradition, and even the distortions became gentler and more urbane, looking for success rather than “truth”. He turned his skills in irony to 18th-century courtly music, or to more recent popular genres, as in his Piano-Rag Music, or his Polka. The latter began as a trifle written for Diaghilev, but in retrospect it was the moment when neoclassicism was born as the new movement in musical modernism. The cubist-style displacement and reassembly continues, but the material is easily identifiable from its source, more in the manner of a theft than an influence. An important strand in Stravinsky’s thinking was the repudiation of the Romantic aesthetic of originality. The result, in Picasso’s terms, lay somewhere between the pasting in of tickets and newspaper items and the many paintings he based on Velazquez’s “Las Meninas”. One problem with this approach is that it cannot retain its original meaning. The outrage provoked by the *Rite*, or the snickering provoked by the irreverent treatment of “classics” eventually ceases as the approach becomes routine, generates tens and then hundreds of pieces, and is taken up by nearly all the composers in Paris, Berlin and Madrid (if not in Schoenberg’s Vienna). A wittily distorted cadence eventually becomes just a cadence that happens to be in Stravinsky’s style, not a Dadaist found object, but a harmonic device that serves to articulate the harmonic structure of the music, as it always had been before modernism.

Stacking Up Keys

After *The Rite of Spring*, young modernist composers looked towards systematic means for **using tonality against itself**, and arrived at **bitonality, or indeed polytonality**, where simultaneous instrumental lines were in different keys – if examined individually, that is, since it was hard to hear any key in the combinations. Sometimes this looked like outright insolence, as in the third piece of Prokofiev’s *Sarcasms* for piano (1913), where Prokofiev gives a key signature of three sharps to the right hand, and five flats to the left hand. The music is violent in any case, but the two keys produce a special sourness that had not been heard until then.

A few years after the young Prokofiev’s provocations, Darius Milhaud made bitonality his trademark. Sometimes the effect is quite amusing and pleasant, as in his Copacabana from *Saudades de Brasil* (1918). The sultriness of the dance seems to be even increased by the out-of-tuneness the bitonality suggests here. The English composer Harry Farjeon, writing in 1933, was not convinced: “This is music on two planes, but surely of the most facile, the most banal description. Just naughty; perverse”. He added, however: “This, music, or anti-music, is, in spite of the incongruity of its parts, definitely harmonic”. And indeed, both tonality and even functional harmony are still present here in some form. Milhaud, however, went further in other works, and devised more complex polytonal combinations. One passage from his Chamber Symphony No. 3, has five different keys spread over six instrumental lines. He keeps the melodies simple and folk-like to help the listener follow them, seeing a virtue in what Farjeon took to be a vice. Over time, polytonality was absorbed by many composers as one device among many, to be used or not used as seemed appropriate, without any intention to scandalise the audience. It has also become a common feature of modern jazz improvisation, where it is known as “playing out”, i.e. constructing a melody that does not comply with the chords provided by the accompanying players.

Beyond The Twelve Notes

While Schoenberg and his followers manipulated the twelve notes of the chromatic scale in the most elaborate ways, some composers asked the question “Why only twelve?” The question was easy to put, but there was little point in writing pieces which could not be performed on existing instruments. An initial expedient was to write pieces for two pianos, one of which was tuned a quarter-tone lower than normal; the second piano would supply the notes that were unavailable on the first, allowing the performance of pieces requiring **twenty-four notes in each octave**. One of the earliest examples of this approach was the *Prelude for the Quartertone Piano[s]* of 1912, by Arthur Lourié, who associated at the time with the Futurist movement in the visual arts. His model was clearly Scriabin, and this creates a difficulty, because the familiarity of the idiom has a gravitational pull on our minds, leaving the Prelude sounding like Scriabin on an out-of-tune piano. Alois Hába managed to avoid this problem by avoiding any clear reference to tonality or to identifiable chords. He created a harmonium on which each normal semitone was divided into three notes, producing a **thirty-six-note division of the octave**. He composed the first piece for the new instrument in 1928, with melodies that move microtonally, within an approach that is polyphonic rather than harmonic.

The motivation for these new experiments in tuning systems was diverse. The systematic pursuit of

ethnomusicology had recently begun, and it was soon noticed that singers and players in various traditional musical cultures (including some in Europe) were following scales that lacked even a passable approximation on the piano, and transcribers of this music had to include this information. Another motivation was technological progress: the creation of new instruments that could realise the new microtonal music, whether acoustic or electronic. A third motivation was historical: ancient Greek culture had taken a great interest in the mathematical properties of different scales, inspiring Harry Partch to invent and build a whole ensemble of instruments according to his tuning theories. There had also been many developments in keyboard tunings from about 1400 until the late 1800s, taking advantage of the new mathematics that had started to emerge in the high mediaeval period. In the Netherlands, Adriaan Fokker and Henk Badings used instruments and electronics that explored, for example, a 31-fold division of the octave chosen for its proximity to the “¼-comma meantone” tuning that had been devised in the 1400s. In general, though, new music employing other tuning systems remained outside the mainstream, apart from the use of notation for string and wind players to indicate that they should play some notes roughly a quarter-tone flat or sharp. It is in the field of traditional and historic performance that most listeners today hear other tuning systems at work, whether in the gamelan percussion ensembles of Bali and Java, or in performances of Baroque music using appropriate keyboard tunings of the period. Very recently, at the coronation ceremony of King Charles III, the greatest musical sensation was the singing of a Greek Orthodox choir presenting historic Byzantine chant, with a scale that no-one could mistake for anything playable on a piano.

Ending The Chaos

Stravinsky developed a “neoclassical” style that gave the tonality of the past the equivalent of a cubist treatment, as mentioned earlier. This neoclassicism became the modernist mainstream, and it was not possible for Schoenberg and his followers to compete for public attention, and remained largely on the margins of concert life, gathering a small but enthusiastic specialist audience. Casella, Stravinsky’s leading representative in Italy, published an essay in 1924 comparing neoclassical “polytonality” (as he called it), with Schoenbergian “atonality”. The comparison worked wholly in favour of his own approach, of course: “Atonality is the negation of the diatonic scale and the common chord. A more abstract definition of atonality might be, ‘the fourth dimension in music’. And a third (light-hearted) definition might be, ‘the exception made the rule, or the death of the scale’”. After the Second World War, two generations of musicologists reversed this priority, promoting Schoenberg’s school as the only legitimate musical current between the wars, while relegating neoclassicism to the status of a rowdy and infantile sideshow.

Schoenberg was fortunate in acquiring two enormously talented disciples in Berg and Webern. Speaking in 1933, Webern remembered the decade following Schoenberg’s momentous decision as a time filled with “**an agonising sense of chaos**, a blind groping after new principles: the old dispensation had passed, but as yet, the law of the new had not been found”. (as reported by an English commentator). When this “new law” was eventually found, the music of “expression” gave way to a music of “construction”. Webern said **the new principles of construction** were not derived from the era of harmony and tonality but had already been worked out in the polyphonic music of the preceding centuries, realising in full Schoenberg’s prophecy that the next era of music would once again be polyphonic. Now it could be argued against Webern that the dissonance treatment of the late mediaeval and renaissance polyphonists constituted a difference on the fundamental level that Webern chose to overlook, but for present purposes, we are only interested in how Webern and his colleagues saw their own music.

Webern gave lectures on the new music, and to help those who lacked the knowledge of professional composers, he used the so-called “Sator Square” as a readily comprehensible analogy. The Square was a palindromic arrangement of five Latin words as seen here:



The same sentence can be read normally from left to right moving down the rows; but also from right to left and upwards; from top to bottom and rightwards; and finally from bottom to top and leftwards. The meaning

of the sentence is a little obscure, but one possible rendition is “Arepo, the sower of seeds, takes hold of the wheels with care”. Let us look at Webern’s Symphony to see how he took a similar approach. The only source of pitches for the whole piece is one permutation of all the notes of the chromatic scale – this came to be called a “**12-note row**” or “**series**”. There were symmetrical groupings within the row itself but let us focus on the symmetries of the operations Webern applied to the row in the process of composition (in common with Schoenberg and Berg). A “retrograde” row was obtained by taking the notes of the original in reverse order; an “inversion” by reflecting the intervals around the starting note, so that every upwards interval maps to a downward interval of the same size, and vice versa; the retrograde inversion reads the inversion backwards. The original row and these three transformations of the row could all additionally be transposed so that the starting note could be any of the twelve notes of the chromatic scale. These operations had been applied by composers as early as the 1300s, and some of the best-known examples are to be found in Bach’s *Musical Offering*. Webern, of course, was not observing the strict rules for the use of dissonances that earlier composers had followed, and this makes his task many times easier (this is the difference he preferred to overlook). From this starting point of potentially forty-eight versions of the row, Webern made his own choices of which forms he would use at any moment, which octaves the notes would appear in, the orchestration and so on. Some of these choices could be determined according to further systematisation. In the Symphony, and in most music that uses twelve-note rows, the infrequency of stepwise movement in each musical line makes it difficult for listeners to discern (let alone remember) any melody, and when several such lines are combined, the listener finds it very difficult to distinguish the notes of one line from the others. Keeping track of all the row forms in listening is all but humanly impossible (they can, of course, be discovered through painstaking analysis of the score). Webern was aware, at least to some extent, of this problem, and he tried to present his musical material in a manner that would be engaging to (sympathetic) listeners without any knowledge of the rows and their manipulation.

The row for A. Webern, Op. 21

I-0 I-9
 ↓ ↓
 P-0 → A F# G Ab E F B Bb D C# C Eb ← R-0
 P-3 → C A Bb B G Ab D C# F E Eb F# ← R-3
 B Ab A Bb F# G C# C E Eb D F
 Bb G Ab A F F# C B Eb D C# E
 D B C C# A Bb E Eb G F# F Ab
 C# Bb B C Ab A Eb D F# F E G
 G E F F# D Eb A Ab C B Bb C#
 Ab F F# G Eb E Bb A C# C B D
 E C# D Eb B C F# F A Ab G Bb
 F D Eb E C C# G F# Bb A Ab B
 F# Eb E F C# D Ab G B Bb A C
 Eb C C# D Bb B F E Ab G F# A
 ↑
 RI-0
 ↑
 RI-9

The name “series” as an alternative to “row” is usually taken up to label all music composed in this way: it is thus termed “serialist” (sometimes misheard as “surrealist”, but there is no connection). Webern’s Symphony is actually a more extreme example of serialist music, and many other serialist pieces of the inter-war period share much more of the rhetoric and textures of music by composers of the preceding generation.

The invention of the serialist approach to composition is now generally ascribed to Schoenberg alone. His Viennese contemporary, Josef Hauer, devised a similar system a little earlier than Schoenberg himself. The two composers knew each other, and there were even plans to write a book jointly, but Schoenberg tired of his less talented and less ambitious partner and decided that there was no reason to share the prestige (or blame, as many of his contemporaries might have thought). Apart from various music-theoretical distinctions between the two systems, Hauer saw his proto-serialist music as a reflection of the divine, while Schoenberg treated his music in this-worldly terms as the creation of his own mind, which in turn was situated within a certain immediate culture and also a certain historical position. If we listen to one of his most ambitious serialist works, the orchestral Variations, op. 31, we can still hear music that has different shades of emotional expression, with highly contrasting textures and tempos, and it is clear where one variation ends and the next begins, even if the commonalities between the variations takes many listenings to discern. Webern, by contrast, seems to uproot his music from his historical location, to create a music that strikes the listener as

highly abstract (although he personally heard changing emotions from one phrase to the next in his music, as was posthumously revealed in his performance notes for the pianist Eduard Steuermann).

Berg's Defence of "Atonal Music"

In 1930, Berg was interviewed on the subject of **"atonal music"**, which became a common and often **derogatory label** that did not distinguish between the different modernist approaches we have considered above. Berg evidently disliked the term, protesting that it had "come to stand collectively for music of which it was assumed not only that it had no harmonic centre... but that it was also devoid of all other musical attributes such as melos, rhythm, form in part and whole, so that today the designation as good as signifies a music that is no music at all, and the term is used to imply the polar opposite of whatever was previously considered to be music". He repudiates this notion, point by point, claiming that in this new music, **melody still remains fundamental**; and that we should not think of such melodies as "distorted" because we can find similar melodic lines in Wagner and even in Schubert (albeit supported by chords there); that while metrical periodicity, or symmetrical phrase construction may be rare in the new music, we would do better to think of the **freer use of metre** and other devices in modern poetry. The rhythmic organisation may seem less orderly than in Classical or Romantic pieces, but the new approach to rhythm is not so very different from Bach's, since it emerges from **the independent rhythms in several individual lines**. Like Schoenberg, he invites us to think of music gradually but ineluctably moving out of the harmonic age and into a new polyphonic age. Finally, he insists that no matter how complicated such music may sound to the layman, listeners can be assured that every single bar has been **"subjected to the sharpest control of the outer and inner ear"**, and that he and his friends and colleagues take full artistic responsibility for the meaning of each bar and its place in the whole.

Giving Up Control

After the Second World War had ended, it was the music of Schoenberg's successors that was given the main share of funding and promotion, making this strand of modernism the mainstream for music histories from the 50s to the 70s, as mentioned at the beginning of this lecture. While Berg had assured his listeners that every bar of atonal music had been subjected to the sharpest control of the ear, this was soon swept away by post-War developments. Schoenberg's follower, Webern, had produced the serialist scores that seemed most divorced from any musical tradition, and his **regimentation of pitch was soon extended to other aspects of music, such as rhythm, dynamics and attack**. When serial method had only been applied to pitch, the method could not compose the pieces, and the composer was still as active as ever, even in the case of Webern's music, which still sounded like the product of a human deliberations. But when every aspect was subjected to serialisation, every detail of the piece was merely **an outcome of the mechanism** the composer set up at the beginning. For the listener, this method of total control sounded entirely random. This reached its apex in Boulez's piece for two pianos, *Structures I* (1952). An alternative was to embrace the randomness of the musical surface, and use chance procedures to produce music, as John Cage did, most notably in his *Music of Changes* (1951). His chance compositional method was based on the ancient Chinese divination manual, the I Ching. He, of course, could choose at the outset what kind of music he wanted to result from the process, and unsurprisingly, this was not far in sound from Boulez, even if the methods *seemed* to be at opposite end of the spectrum.

Boulez and Cage entered into correspondence and developed their ideas in close contact with each other, although they never advertised this mutual influence. They were equally determined to leave behind every possible element of tradition in composition.

"Cage: "By making moves on the [I Ching] charts, I freed myself from what I thought to be freedom, and which actually was only the accretion of habits and tastes".

Boulez: "I wanted to eradicate from my vocabulary absolutely every trace of the conventional, whether it concerned figures and phrases, or development and form".

But after the initial convergence of total control and total chance, they drifted apart again. Cage used radio sounds (Imaginary Landscape No. 4) or silence (4'33"), in an attempt to remove the composer even from the pre-"compositional" stage (where he had still been present when he was using the I Ching). His contemporary, Milton Babbitt began to present music as kind of science or technology, and that composition

should be taught in this manner at universities. From 1960, he worked with the latest sound-synthesis equipment at the Columbia-Princeton Electronic Music Centre. Like science or engineering, such music was bound to lie outside the comprehension of the layman. A journal editor even gave one of Babbitt's articles the title "Who cares if you listen?" – Babbitt was offended, but the editor was surely not far off the mark.

Atonal Music In The Mainstream

Not long after Schoenberg's death in 1951, it began to seem as if his prediction would actually come true: atonal music left the outer fringes of popular consciousness and made enormous strides in cinema and television in the US, in thrillers, science fiction, horror and even in children's programmes. The first step was made in 1955, when Schoenberg pupil Leonard Rosenman was commissioned to write the score for *The Cobweb*, a film drama set in a psychiatric clinic. Rosenman dared to write an atonal score based partly on serial methods. The score was not only accepted but went on to inspire countless film and television scores over the next two decades.

Jazz musicians also began to turn towards atonality around the same time even though improvisation on clear harmonic patterns was the mainstay of the jazz improviser's art. 1953 saw the appearance of saxophonist Jimmy Guiffre's *Fugue*, which was not merely polyphonic, but also atonal. By the early 60s, thoroughgoing atonality had become established, with improvisers/composers such as the pianist Cecil Taylor and the saxophonist Ornette Coleman; if Taylor's atonality was expressionist, Coleman's was Dadaist. As in the classical-music world of the 1910s, there was a mixture of outraged rejection and enthusiastic bands of followers. Other jazz composers, such as Joe Henderson and Wayne Shorter preferred to retain identifiable chords, but to arrange them in non-tonal ways, in a kind of Debussyan compromise.

In the teaching of composition within universities and conservatoires, serial methods became a standard part of the training, and even in the 1960s, serialism had crossed the "Iron Curtain". Stravinsky, who for four decades had led the opposing modernist camp, and enjoyed celebrity and earnings that Schoenberg could never imagine, finally decided in the 50s that serialism was not just the future but the present. Schoenberg was already dead, so without the risk of embarrassing invective from that quarter, he defected to the serialism camp for the rest of his career.

Return of The Chords

Just when the final triumph of atonality seemed assured, a new current in art music emerged, born of the "counter-culture" fascination with mind-altering drugs and Eastern religions. This new music invited a **meditative or trance-like reception from the listener**, and it came to be known as **minimalism**, although it had much more in common with, say, Op-Art than with the identically named movement in the visual arts. Where Boulez and his colleagues had threatened to overwhelm the listener with an ever-changing complexity, the minimalists would focus on a single chord sonority, changing very slowly (if ever), with repetitions of small patterns extending over several minutes, as if designed to be the opposite of the maximalist atonality of the post-War serialists. Terry Riley's piece *In C* put this new trend on the musical map; the piece was written in 1964, but the release of a recording on vinyl in 1968 brought the composer instant fame. There is a repeated note C on a piano, together with repeated fragments of music on related scales (the seventh degree sometimes flattened, the fourth degree sometimes sharpened). The players gradually work their way through the fragments at their own pace, so that several are superimposed at any moment. Riley's associate Steve Reich rose to greater prominence in the 1970s, with pieces such as *Music for Eighteen Musicians* containing elaborate interlocking repeated patterns drawing on West African drumming and funk keyboard. Philip Glass took minimalism into the theatre and onto the cinema screen in operas starting with *Einstein on the Beach* (1976) and *Satyagraha* (1980), followed by the film *Koyannisqatsi* (1982), famous for both its time-lapse photography and the perfect fit with the style of Glass's music. Glass, unlike his two contemporaries already mentioned, prefers to employ moderate to fast chord changes: after several chords, the progression loops round again many times, often with no clear sense of an overall key centre. Beginning in the 80s, Michael Nyman further extended the public awareness of minimalist music through his film scores for Peter Greenaway's films, often using 17th- and 18th-century music in a Stravinskian manner. John Adams plays explicitly with the dominant-tonic relationship in his "On the Dominant Divide" from *Grand Pianola Music* (1981). Even so, **none of these minimalists return to tonality as it used to be: it may be kept at one remove, or move too slowly, or without implying a tonic**. Stravinsky's *Petrushka*, in a sense, was the father of this partial return to tonality.

Another qualified return to tonality in the 1960s and 70s arose from a **polystylistic** approach with quotations and pastiches of earlier music. In the works of Alfred Schnittke (Concerto grosso No. 1) and Arvo Pärt (Credo), for example, there are **stark contrasts between tonal harmony and atonal chaos**, and these are sometimes enlisted as representations of good and evil. Silvestrov, who found his voice in the 1970s in vague, out-of-focus quotations from past styles, may be more consistently tonal, but even there, the sense of tonality is always fragmentary and incomplete – a nostalgic recollection rather than the real thing. As for the most-frequently downloaded composer of today, Ludovico Einaudi, his quasi-tonal style is often built from **three or four chords forming a repeated pattern**. These chords never quite form a tonal progression and to the expert musician might even seem inept, as with the music of Satie a century earlier. Nevertheless, the public never seems to tire of these harmonic meanderings, which points back to Berg's astute observation that it is not really tonality itself that listeners miss, but simply the sound of familiar chords, in whatever arrangement:

"I tell you, this whole hue and cry for tonality comes not so much from a yearning for a keynote relationship as from a yearning for familiar concords — let us say it frankly, for the common triads."

Einaudi's static chord patterns do indeed consist of triads and 7th chords. But these chords, to take up Berg's hint, are the diametric opposite of the dynamism to be found in the music of the 18th and 19th century – the heyday of tonality. There, composers inculcated a keen sense of a main key, the tension of departure from this key, and the satisfaction of return, allowing them to create large-scale structures that had a clear beginning, middle and end. This built upon the small-scale tension and release patterns of dissonance and consonance dating back to around 1300. **The new "tonality" lacks the resources for any large-scale construction or musical narrative**; if the music lasts a long time, it is only through a large number of repetitions.

Conclusion

With the heyday of atonal music is now over half a century behind us, it seems fair to ask whether there is something inherently wrong with it, something that is not viable, that fails to latch on to the workings of the human brain. Early in the modernist period (1925), the philosopher Ortega y Gasset wrote a highly prescient essay ***The Dehumanisation of Art***. It does not tackle atonal music directly but argues that modernist art necessarily is and will be art for connoisseurs – it can never gain a mass appeal. The reason for this, as Ortega argues, is the removal of human content, that is, the removal of traditional components of art, like narrative or the depiction of emotions, which provide the majority with something firm that they can grasp, something they recognise from their own lives. In Ortega's view, non-figurative art that privileges the "how" over the "what" - removes that ready connection and replaces it with more cerebral pleasures. Schoenberg, although not mentioned by Ortega, offers us a paradigmatic example of this new art that cannot reach the masses. Perhaps I should add, for clarity, that Ortega actually regards this "dehumanised" art favourably. He supported modernist developments, but asks for a franker assessment of the limited future prospects for such art.

The Frankfurt School philosopher, Theodor Adorno, put a Marxist twist on arguments similar to Ortega's. He argues that during the Romantic period music became more a matter of expression than construction, and thus adopted more language-like habits. Modernist composers turned against those language-like elements, even placing a kind of taboo on them:

*"But with the proscription of everything that is even remotely similar to language, and thus of every musical sense, **the absolutely objective product becomes truly senseless: objectively absolutely irrelevant**. The dream of a wholly spiritualized music removed from the sully influences of the animalistic nature of human beings arises from rough, prehuman material and deadly monotony."*

Although atonality placed its main emphasis on the "how", it is not true to say that it paid no attention to the "what". As we saw earlier, transcendence and the cosmos was one possibility, while an internal voyage into the depths of the unconscious was another. Sci-fi films were to some extent a popularisation of the former. *The Cobweb*, mentioned earlier, dealt with the clinically insane. Atonality also lent itself to thrillers and horror in film and television. Shostakovich was no serialist composer, but amidst younger Soviet composers of the 60s turning to serialism, he tried it out for himself in his Fourteenth Symphony – to represent death. What we

find here is that atonality fits a wide range of situations and emotions on the negative side. Where this is not the case, it is used to represent the strange and other-worldly. What composers never use atonality to represent is positive situations and emotions with a this-worldly cast. Messiaen's religiously inspired music may seem to constitute a major exception, but even this needs qualification: the joy and ecstasy in his music are indeed directed outside of this world, and in such passages, he most often uses his symmetrical modes in a way that brings them close to tonal music, with recognisable chords (even related to the jazz harmony of the time).

Those critics who are generally hostile to atonality concede that it can instil in the listener a sense of anxiety and disorientation that can be put to good use in the cinema, but the longer such music continues, the more it creates a mere feeling of boredom. Even leaving aside Ortega's rejoinder, this argument is not as strong as it might seem: many listeners today unfamiliar with classical music in general might experience some excitement on hearing the famous opening of Beethoven's Fifth Symphony, but boredom will not be far behind, since these listeners will fail to notice features such as the transformations of the four-note motif or the large-scale handling of tonality. Much has also been made of the fact that the series of serialist pieces are extremely difficult to hear: recently, a dedicated scholar and performer of this music, Mahan Esfahani, said that it took him twelve years of painstaking effort before he could perceive the versions of the series in Schoenberg. But we should likewise ask how long it takes listeners (both musicians and non-musicians) to appreciate extended tonal and narrative structures such as those of Wagner operas or Brahms symphonies. Twelve years would not seem like an excessive figure. If we fail to notice this, it is firstly because the process has hazy beginnings in childhood, and secondly because the same listening skills will serve us well for a Richard Strauss opera or a Sibelius symphony or any number of demanding pieces from the classical mainstream. By contrast, learning to hear the different forms of a series is a consciously planned-out project, and the results will serve for a much narrower range of music. Although it is almost beside the point, Schoenberg insisted in any case that the serial structure was a matter for the composer only, while he gave the listener material that was easier to grasp.

Let me offer a more optimistic conclusion. **We have a tendency to think that our tastes and preferences in music arise from whatever is (supposedly) natural, which allows us to dismiss whatever we dislike as unnatural.** Now there are certain limits placed by acoustics, the physiology of the inner ear and the auditory processing of the brain (our understanding of the last is much less developed). **But when we move from what is ruled out by nature to what is ruled in, there is very little to speak of.** The major triad undoubtedly conforms to part of the harmonic series in acoustics, but before the recent spread of harmonic music across the globe, it was not found elsewhere – the notes could often be picked out from scales, but they were not sounded together as a triadic harmony. The sound of chords, and especially triads, is ubiquitous today. Those who do not sing or play an instrument or attend performances hear these sounds all around them in shops, cafés and even on the London Underground. Returning again to Berg's point, the chords in pop tunes of the last quarter century often leave the key undefined – through habituation, **we like the chords, but are not particularly worried about tonality.** Next year or even tomorrow, there might be an atonal score in a film that is viewed by hundreds of millions, and this might spark off another resurgence of atonality, as in the 50s-70s. In the meantime, I would like to encourage you to listen more closely – chords still very much live among us, and I hope you that you will experience the joy of recognition and understanding when you encounter at least some of the chords we have explored over the past months.

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