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### Beyond Tonality

Kursell, J.

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# Beyond Tonality

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*Rede*

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door

Julia Kursell

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*Mevrouw de Rector Magnificus,  
Mijnheer de Decaan,  
Geachte collega's,  
Geachte studenten,  
Ladies and Gentlemen,*

Music is ephemeral. Hearing, in contrast, largely depends on habits, and habits tend to persist. At the beginning of the 20th century, when composers challenged tonality, they also challenged these habits. Atonal music, in turn, emerged against the background of developments that have deeply affected music history. Sound technologies and, relatedly, the beginning of systematic investigation into auditory perception and cognition, have profoundly changed the way we hear and listen. While sound technology provided new means to access the ephemeral sounds of music, research into hearing began investigating the habits of listening.

Music is ephemeral. But so is every experience of music, whether mediated or immediate. It may be possible to record the sounds, but it will never be possible to register all the circumstances one experiences while listening. Habits, in turn, have played a crucial role in reconstructing the historical situations of experiencing music. When the material sources alone do not convey how music was practiced and listened to in the past, the reconstructing historians turn to the habits. We assume a continuum between habits and experience. To find out what the experience of music could have been at some moment in history, habits are the place to look.

There is a blind spot, however. It is the habits of others that musicologists look at, not our own. When musicologists venture to inhabit the past, we try to adapt to habits of other times. In fact the capacity to do so has become part of the hermeneutic method in musicology. Habits and methodologies, however, belong to different categories: While the methodologies of academic disciplines are explicated to allow critical reflection and revision, habits are not. Most often, we are not even consciously aware of them. Musicologists are no exception. We cannot escape our own habits of hearing.

It is hidden in that blind spot, where the professionals' awareness of what they do is invisible to them, that habits and methodologies overlap and form a

zone of tacit knowledge. Methodologies that are taken for granted and habits that are misunderstood as necessary requirements for engaging with music dwell within this zone. But it is also in this unexplored zone that we find new means to approach the experience of music, both in the present and the past. Explicating methods and habits – whether clearly stated or as yet unacknowledged – opens up to musicology new perspectives on the radical historicity of music and thereby the possibility of integrating the experience of music into the scope of a musicology that addresses the past. Starting from an arbitrarily chosen moment in my own biography, I will, in the following, try to historicize my own musicologist's approach.

## A Mediated Encounter

In 2009 I happened to hear the voice of Arnold Schoenberg in a radio broadcast. Deutschlandradio Kultur, a German public radio station, conducted an extended interview with Walter Levin, *Spiritus rector* and first violin of the LaSalle String Quartet, to mark his 85th birthday. There, Levin told the story of his first encounter with the music of the so-called Second Viennese School, when he heard a recording of Schoenberg's string quartets made in 1937 with the Kolisch Quartet. In between the pieces of this recording, Schoenberg addressed his future audiences in English:

“These are private records, as private, as my music is still today. I personally like privacy, but I want to include in it my friends, the friends of my thoughts, of my music. Nevertheless, I am astonished that other people too like my privacy, liked it for so long a time and like it still. I enjoy very much this opportunity given me through the generosity of Mr Alfred Newman and his excellent co-operators of the United Artists Studio. Many thanks for enabling me to send so a message to my friends of today and of the future.”<sup>1</sup>

Levin's encounter with these records took place in Palestine, where his family had settled after escaping from Nazi Germany at the last moment in late 1938. There Peter Gradenwitz, a German refugee and musicologist,<sup>2</sup> regularly played newly received records, including the works of Schoenberg, on the rooftop of his house in Tel Aviv.<sup>3</sup> Levin, together with the LaSalle quartet, would later go on to record the complete music for string quartet of the Second Viennese School, that is to say Arnold Schoenberg, Alban Berg and Anton Webern, and these were the first records I ever bought.

The story of hearing Schoenberg on a Tel Aviv rooftop certainly created an acute awareness of a historical moment. The sound of the recordings added to this, covered as it was with the acoustic patina of the 1930s recording technology. Both Schoenberg's music and his voice were characterized by a certain degree of imperfection that we have learned to take as indicating an unrepeatable moment.<sup>4</sup> Schoenberg struggled with his English, and the Kolisch quartet struggled to intone the music of the string quartet opus 37, which Schoenberg had finished shortly before the piece's premiere – the occasion of this very recording.

While I was quite familiar with this music thanks to the LaSalle's beautiful recording, the immediate juxtaposition of music and voice in the broadcast created an unexpected de-familiarizing effect. Schoenberg's prosody and the Kolisch quartet's rendition of his twelve-tone music seemed to share the same tone. Strong emphases, melodic raises and sudden closures in places where the English language does not require them characterized Schoenberg's peculiar pronunciation. The Kolisch quartet, in turn, emphasized an energetic, articulate phrasing – more so than one would expect them to do while playing so unfamiliar a piece. The resemblance of speech and music was striking. I had not noticed a resemblance to spoken language in this music previously, although it was, as I now realized, no less present in the LaSalle's recording that I had listened to so often. In order to let go of my own habits of listening, my hearing obviously needed some stimulus, something to show me the object in a new light.

## The Voice in Schoenberg's Music

Schoenberg's interest in the spoken voice is well documented and has often been discussed. He created a new genre of vocal articulation. This so-called *Sprechgesang* first appears in his chamber piece *Pierrot Lunaire* op 21 from 1912, where he had a singer recite in a voice between speaking and singing. What resulted from this was a melodious line of vocal sounds that brought new colorings into the sound of the music.<sup>5</sup> Schoenberg also included the speaking voice in many of his compositions. The most striking example is his unfinished opera *Moses und Aron*, where the difference between singing and speaking is part of the plot: while Aron sings to reach his audience, Moses refuses to sing as he feels himself incapable of doing so in the face of his god.<sup>6</sup>

The string quartets Schoenberg composed in 1927 and 1936, however, are purely instrumental music. They have also become famous – although perhaps not popular – as they are considered exemplars of Schoenberg's alleged

return to classical form in atonal music.<sup>7</sup> These quartets certainly interrupt a move towards the voice that was connected both to Schoenberg's compositions for string quartet and to atonality. The very moment at which Western composition abandoned the tonal system that had persisted for so long is usually pinned down to Schoenberg's second quartet op. 10 that he finished in 1908. A foreshadowing of the breakdown of tonality occurs in the second movement, when a popular Austrian folk tune is quoted. Although the tune itself is tonal, its lyrics 'Oh du lieber Augustin, alles ist hin' have often been interpreted as referring to tonal harmony: 'Everything is gone!' For the remaining movements, a soprano joins the string players. She sings two poems by symbolist poet Stefan George. The verse that opens the last movement of the string quartet hints at something new to come: 'Ich fühle luft von anderem planeten – I feel air from a different planet'.<sup>8</sup>

This verse is set to a melodic line that cannot be fully explained through tonal harmony of that time, and it is accompanied by what must be called sounds rather than tones. This singing voice seems to reverse what had long been understood as the breakthrough of subjectivity in Ludwig van Beethoven's 9th symphony. There, a choir joins the orchestra in the last movement to intone Friedrich Schiller's *Ode to Joy*. In Schoenberg's quartet, in contrast, a single voice announces that what used to be understood as musical notes will have to be heard from now on as having its own materiality that cannot be fully understood through the symbolic code of music.<sup>9</sup> After the withdrawal of symbolic code, so it seemed, listeners were left with sounds they could not understand.

## Shaping Listening Habits

Theodor W. Adorno is credited with having introduced the term 'expert listener' after World War II, when he published a ranking of types of listeners. The expert listener held the highest rank and was one who experienced music best independent of the haphazardness of actual sound, namely as a theater of inner representations.<sup>10</sup> If this phrasing is easily misunderstood, this can be related to habits of hearing that have a longer history than Adorno's terminology.

At the very moment when the system of tonality began to crackle, music theorist and historian Hugo Riemann addressed the question of what music experts should listen for. His treatise *On the Representations of Tone (Lehre von den Tonvorstellungen)* was a summary of his theoretical reflections on the musical harmony of the 18th and 19th century.<sup>11</sup> It also presented a full-



fledged training method for learning how to listen to this music. Riemann advised his reader to develop tone representations, and he meant these representations to accompany both music listening and score reading. To achieve this, the aspiring experts had to incorporate the rules of tonality through co-imagining with every note all of its possible harmonic contexts and connections. Here is what the aspiring listener had to do: play a note and think of it as existing in various harmonious contexts, for instance as the lowest, middle or highest note in a triad, in major and minor mode.

Once his disciples were able to hold all these possible contexts in mind when hearing a note or thinking of one, they could progress to more complex harmonic constellations. Eventually they would be able to imagine all these combinations along with the notes they read or heard. At that point, they would be on par with the composer and could reply at any moment to the question of which notes the composer had chosen among.

Riemann's *Representations of Tone* gives us important hints as to what listening meant in early 20th century. His method promised to replace a training that, during the 19th century, had been coupled with musical practice with one that explicitly addressed the listener. The tone representations were to be understood as turning a passive engagement with music into a cognitive activity. They were conceived of as mental representations accompanying reading and listening, not as accompanying the making of music.

Meanwhile, new technologies were beginning to change the way people became acquainted with music. It was no longer necessary to make music in order to hear it. Reproducing technologies, such as the player piano and the gramophone, were beginning to take over. And by separating listening to music from playing music, they defined new preconditions for developing habits of listening and hearing.

Riemann was already faced with the fact that the value placed on the ability to immediately recognize tonal relationships was about to recede. Tonal music, which was singled out in his mental training, was already losing its dominant role at the time the method was proposed. New musical styles and genres, and even completely different ideas of what constituted musical beauty, were spreading at this time. First impressions of jazz – the fashionable cakewalk for instance – had reached Europe long before Riemann published his treatise in 1914. So-called exotic musicians toured Europe, acquainting the listeners with, for instance, Gamelan orchestras. Musical instruments from all over the world were collected in Europe, and the first collections of recordings had come into existence.<sup>12</sup> When Riemann proposed his training method, it was already addressing the musical past.

## Musicologists as Expert Listeners

Although Riemann is rarely credited for it, his concept of listening was nevertheless immensely successful. The main field of application for tonal representation proved to be historical musicology. Like many other historical and philological disciplines, musicology came into being in the second half of 19th century. The main activity of musicologists after the discipline was officially founded in 1885 was to provide viable scientific objects for the study of music. These were the scores of the critical editions. Scores allowed for repeated access, synopsis and comparison and, thus, for the elementary operations of scientific and academic work.

Although the critical editions were accepted as representing music, a second instance of representation was still desired, namely one that brought them to life. Riemann's theory of tonal representation offered itself as a part of the solution to the musicologist's need to handle the score. It relocated the paper representation of music into the mind's ear and eye. By firmly coupling visual and mental representation, the mental activity of co-imagining the rules of harmony with heard and read notes traveled into the tacit knowledge of the discipline of musicology. Its touchstone was the musicologists' ability to notate whatever they heard, since only notation made it possible to carry out basic operations of synopsis and comparison through repeated access. The musicology I grew up with still assumed that, on hearing music, we had to see the written score with the mind's eye.

The actual sounds of a performance are absent from such a mental picture. For the expert listener, the ultimate reference of both reading and listening would always be the imagination. Yet this mental representation can be un-specific with regard to certain musical qualities. It does not require being aware of the actual sound of the music. The idealistic mental representation is robust with regard to spatial conditions, matters of intonation, or choice of colors, and therefore, the mental representation is always better than any real performance.

## Listening to Twentieth-Century Music

Twentieth-century composers discovered those properties of music that expert listening trained the ear to ignore. Instead of seeking new tonal relations, they favored the properties of music that were not encoded in musical notation: microtonality, effects of space, colorings, and noise. The early avant-garde of the 1910s proudly announced that their music could no longer be

written in traditional notation. Such music would be literally a-tonal, which is to say that it would not use tones as the basic elements of music. And it would require new ways of listening.<sup>13</sup>

But even the music that continued to use traditional notation sometimes required new ways of listening: the mere absence of rules forced the listener to be attentive to what was present rather than to the absent alternative choices. That seemed to change when Schoenberg introduced new rules in 1921. With one stroke, twelve-tone music or dodecaphonism provided a means to safely avoid tonality, while at the same time offering renewed access to self-contained musical form.<sup>14</sup>

As a side effect the new rules also provided a new agenda for musicological listening. The rules reinvigorated the idea that the listeners should view the score with the mind's eye while listening. With twelve-tone music, however, a conflict arises with the claim that listening on a par with the composer means co-imagining the composer's possible choices.

To understand this, we need to take a look at this compositional technique. According to a standard definition, twelve-tone technique evenly distributes the totality of notes – as represented in a chromatic scale of twelve steps – by means of permutation rules. Starting from the principle that the twelve keys on a piano keyboard represent this totality, twelve-tone composition, in a first step, asks that the twelve notes be arranged into an arbitrary sequence. Every note of such a sequence – or row – must be used once in the actual composition, before any one of the others can be repeated.

To keep the row from becoming some arbitrary perceptual gestalt within the music, twelve-tone composition required, in a second step, that the row be modified according to some additional rules of permutation, which were inspired by traditional counterpoint. Every row could be read forward and backward, upward and downward and every row could be transposed by any of the twelve intervals. Teaching manuals of twelve-tone music, which began to mushroom soon after Schoenberg made his invention public, happily pointed to the fact that there were 479.001.600 (i.e. twelve factorial) possible unique combinations of the twelve steps for the basic row. In their view, twelve-tone music came close to being inexhaustible for actual composition.

Schoenberg himself emphasized that his 'method of composing with twelve tones which are related only with one another'<sup>15</sup> provided a means to avoid the music gravitating towards tonality, which he felt to be a persistent habit both in composers and listeners. Through this technique every note would be connected with every other note, while at the same time tonal gravity was prevented by the sheer statistical presence of too many notes at a time.

From early on, musicologists were fascinated with the complexity of this enterprise. They believed that twelve-tone music re-installed symbolic relations in atonal music. But at the same time, the twelve-tone technique posed a serious problem to the kinds of mental representation that were in line with Riemann's teaching. One could hardly cope with the task of co-imagining every note the composer had *not* chosen when listening to a twelve-tone piece. Though not all of the four hundred million possible combinations would have to be co-imagined, the claim was nevertheless that every note was structurally connected with every other note. The assiduous listener was filled with awe in the face of so complex a task, rather than drawing the conclusion that the co-imagination of everything might be a futile occupation.

## The End of Representation

Significantly, the Kolisch quartet premiered Schoenberg's op. 37 not for a concert audience, but in a recording studio. They played the piece in the studio on January 7, 1937, and the concert premiere one day after, on January 8. Thus the first instance of the piece being played was an instance intended for future repetitions.

Like scores, recording allows for repeated access. And while a recording, just like the score, does not render the moment of live performance, it does provide repeated access to features in the music that are not encoded in musical notation. Schoenberg dealt very consciously with the fact that media untether sound from place and time. He carefully prepared his speeches and interviews for radio broadcast and recording, sometimes even indicating a specific pronunciation in the written text. Although the research on 20th-century music has only begun to reckon with the impact of recording, we can assume that Schoenberg was well aware of the effect of mediation for his music. This is all the more pressing, since twelve-tone composition explicitly addresses repetition – in that it asks that it be consciously avoided.<sup>16</sup>

Within musicology, some welcomed the repeated access to the sounds of music that recording provided, while others did not. Those who wished to study music from other places in the world immediately embraced recording. The comparative, ethnographical, and anthropological disciplines of musicology were first to develop methods for working with recorded music and sound. Next to embrace recording was the early avant-garde. Music that defied notation could nevertheless be recorded. First and foremost, both musicologists and musicians using recording were guided by the insight that repeated access allowed them to focus on different aspects when listening to the

same recording twice. In this, recording provided an escape from habits, which were felt to be a hindrance both in dealing with unfamiliar music and in composing it.

By actively changing one's attitude towards what is recorded, one leaves the realm of habits and enters that of experimentation. Experimental acoustics had in fact reacted to sound recording right after the invention was announced in 1877.<sup>17</sup> The scientists, however, who tried to re-build a phonograph after its invention was publicized, mainly thought of this machine as enabling them to manipulate recorded sound waves. They did not even think of recording in terms of habits of listening. It took a while before recording reached the necessary level of quality and availability to be a major factor in building listening habits. This development reached its peak around 1980 when the CD was introduced on the market and cultural theorists compared our memories to vinyl grooves.<sup>18</sup>

For historical musicologists, recording was a threat. Listening expertise had endowed them with the last word on what music is really about. The justification for their hermeneutic empowerment was lodged in their tacit knowledge, out of reach for anyone who could not say what the mental representation between the musical intervals referred to. Those who did not know which notes were absent along with musical notes were not admitted among the experts.

Yet, individuals with no clue of such mental representations had already been welcomed in the laboratories of psychology back in the 19th century. German professor of philosophy Carl Stumpf, one of the first experimental psychologists, was also the first to look among his colleagues and acquaintances for those who could not identify tonal relationships. He wondered what they heard instead and subjected them to tests which he then compared with results from individuals with strong music skills.<sup>19</sup> He thereby laid the foundation for methods that are still in use today and that continue to provide rich insights into musical perception and cognition more generally.

Stumpf also engaged with music from other parts of the world. When confronted with music from a Vancouver First Nations population – then called 'Bellacoola Indians' – he was unable to appreciate their singing. Only after working with one of their singers for a few days did Stumpf feel capable of following their music. He even noted that some of the performers sang out of tune, and he concluded: "There seem to be non-musical individuals even among the savage!"<sup>20</sup>

## Times of Gestalt

Stumpf's research had shown to him that listening depends on habits. What made Stumpf even more famous than his impact on music psychology was his work with the major proponents of the Gestalt theory during the first two decades of the 20th century at the Institute of Psychology of Berlin University.

Music plays a major role in the history of Gestalt theory. Christian von Ehrenfels introduced the term Gestalt for the effects of *Übersummativität* – that is to say those effects that make the whole more than the sum of its parts – and he used melody as his main example.<sup>21</sup> While Ehrenfels shared the interest of 19th-century psychologists in music, the scientific personnel at Stumpf's Institute of Psychology in Berlin, including Kurt Koffka, Wolfgang Köhler, and Max Wertheimer, expanded the objects of research beyond music. Koffka tested whether the findings on auditory rhythm also held for temporal perception in vision. Köhler, having defended his thesis on vowel perception, went to Tenerife to study cognition in primates. Wertheimer, whose first publication when working as Stumpf's assistant concerned recorded music from Sri Lanka, eventually published the first overview of Gestalt phenomena in a 1923 Festschrift for Stumpf that appeared as a volume of the journal *Psychologische Forschung*.<sup>22</sup>

This volume described a switch between temporal and local features in visual and auditory perception. While the Gestalt theorists represented in this volume worked on temporal features in vision and perception more generally, the musicologists emphasized spatial features in hearing. Erich Moritz von Hornbostel, one of the founders of comparative musicology, pen friend of Amsterdam's major proponent of ethnomusicology, Jaap Kunst, and director of the Berlin phonogram archive, wrote on spatial perception in hearing. Otto Abraham, who was a music psychologist and Hornbostel's co-author in many texts on phonographically recorded music, published his long-standing research on melodic movement.<sup>23</sup>

Abraham's research essentially depended on recording. He measured the singing of various individuals with respect to the exactness with which they intoned a popular tune. Even in the individuals with absolute pitch – Hornbostel himself and one of Max Planck's children – the deviations from anything exact were amazing. The difference between felt and measured intonation was obviously huge. If there is a moment of breakdown in tonal listening that corresponds to the abolishment of tonality, it was manifest in this study.<sup>24</sup>

Even in the utterances of one experimental subject who lacked any trace of musical talent, however, Abraham found that the melodic contour, and thus

the essence of a musical gestalt, was graspable. This subject could recognize a repertoire of musical compositions and tunes, while being unable to reproduce anything more than the mere direction of the melodic movements. Abraham noted: he never ends up on the same note twice.<sup>25</sup>

## Schoenberg's op. 30

In his textbook on harmony, Schoenberg once complained: 'If I had only had an inkling that a scholar with the reputation of Stumpf represents the same view as I! I am ignorant of all these sources and have to depend on a single source: on thinking. Then one progresses more slowly! But one can get along, nevertheless.'<sup>26</sup> This is not the whole truth. Schoenberg also relied on composition. With my remaining time, I will relate Schoenberg's twelve-tone music to one of the Gestalt theorists' findings: the gestalt switch.

It is part of the fascination of the gestalt switch that, while both figures cannot be perceived at the same time, new gestalt-switch figures can somehow nevertheless be constructed. To some extent, this also holds for the melodic contour and the intervals that compose it. Although the perception of melodic contours requires that we not focus our hearing on the individual intervals, a melodic line of course comprises both aspects. But herein resides the blind spot of expert listening. The experts take it for granted that they will always be better than Abraham's non-musical singer who only perceived the contour, because the experts will identify all the intervals. Assuming that the melody arises from the intervals anyhow, they may not be aware of the melodic contour as such, however, at least not without the help of a trigger.

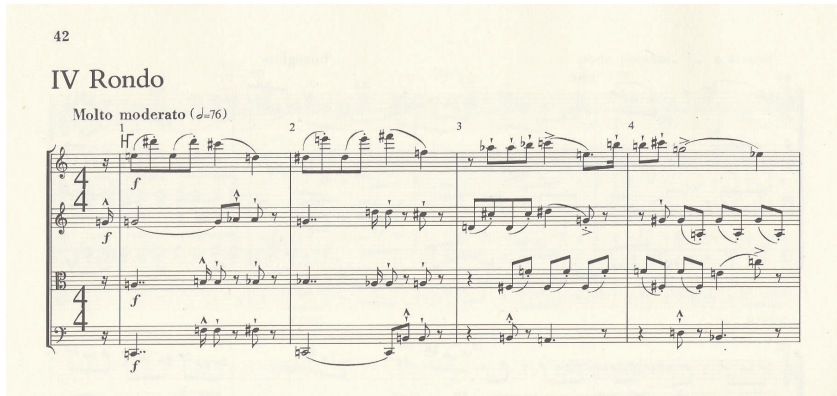
In the last movement of Schoenberg's string quartet op. 30,<sup>27</sup> we find an example that illustrates how the hearing of intervals and the hearing of melodic contours diverge. A characteristic motif opens this movement. The motif consists of a repeated melodic leap and two more notes on which the violin melody lands. In the notes of the next bar, we might be meant to see something that looks like the immediate repetition of this motif. But the second time, the motif is slightly different. One notices immediately that while the two slower notes are reached by a downward step in the first appearance, this step goes upwards the second time. The change in direction creates a certain emphasis, which is then absorbed in the two following bars.

If one listens to the contours of this music, one can follow the description I just gave. If one listens to the tonal relationships, however, one notices that there is something wrong with the characteristic leap: it is actually not repeated, but in the second instance, the two notes that built the first leap have

exchanged places (see Fig. 1). This is due to a mirroring of the row used in these two bars. Reading the notes, we might content ourselves with identifying the modification of the twelve-tone rows that are used in these two bars. We run into a danger here, however, that Pierre Boulez has provocatively phrased, asking for whom the music is written – ‘for the eyes of the deaf?’<sup>28</sup>

In the two bars in question, the row seems to force the composer not to repeat the motif – repetition is forbidden, remember – and instead to compose a melody that invites us to think of some incompetent musician who is unable to hit the same pitch twice. If this is what musicologists have to think, I prefer to listen to it as Abraham’s experimental subject probably would – and to have, in Abraham’s words, the ‘pleasure of listening to music without (historical) sensation for the quality of tones and intervals’.<sup>29</sup>

Figure 1 Arnold Schoenberg, String quartet op 30, 4th movement, bars 1-4<sup>30</sup>



## Tone and Notes

In his *Critique of Judgment*, Immanuel Kant makes a comparison between music and language. He differentiates between tone in the singular and tones in the plural, stating that if the tone in the singular is what music and speech share, tones in the plural are what separates them. The tone in the singular accompanies both music and speech without being accountable to any single one of their respective elements. The challenge for music that strives toward the shared property of the tone in music and language thus resides in the question of whether and how hearing can focus both on tonal relations and on melodic contours.



Kant writes, ‘every expression of language has, in context, a tone that is appropriate to its sense’, while the expression of music ‘rests on the relation of the number of vibrations of the air in the same time’.<sup>31</sup> Language organizes within the meaning of what is said, while music organizes auditory units, that is to say pitch, to create an overall sense. As a consequence, a switch between the tone and the notes therefore would have to be carried out not only between two meaningful objects in one perceptual mode, but between two different modes or foci of perception: speech and music. Such a switch between the tone and the notes is a potential task for listening to the same recording twice.

## Conclusion

Schoenberg’s music is not an experiment in Gestalt psychology. Nevertheless his string quartets confront us with the choice between listening to the melodic contours or the intervals. An individual who is thoroughly trained to detect the intervals will be less receptive to the contours, while an individual who lacks this training will stick to the contours rather than analyze the intervals. This music is made for the expert and the dilettante, or to phrase it more strongly, the musicological analyst and the non-musical listener. It stands in a tradition of addressing the *Kenner* and the *Liebhaber*, the knowledgeable and those who seek pleasure in the music.

Up until around 1900, tonal music – in the Western world – provided a framework for both making and experiencing music. After 1900, the expertise relating to both underwent a change. The academic and scientific study of music has, since then, engaged in developing specialized tools for assessing music. At the same time, this study has opened up, seeing any experience of music as something worthy of study. Music ethnographers and experimental psychologists were slightly ahead of historical musicologists in assessing the fact that music has more than one facet for listeners and that more than one medium can help experience and experimentation. But from a viewpoint of a historical musicology that reflects on its own history and epistemic conditions, they all provide rich materials for new approaches to music.

What makes musicology eventually so fascinating is that the two sides of our engagement with music – specialized expertise and openness for experience – are closely intertwined and even interdependent. For the future of musicology this means that both expertise and openness must be reflected upon. Tonality will remain an excellent example for studying a way of listening that

is strongly involved with habits, as we can learn not in the least from music that went beyond tonality.

## Words of Thank

I began this talk with a quote on gratitude I encountered at an arbitrary moment in my life. Now we have reached a moment that is, instead, very specifically marked by one of the nicest habits: to say thank you. While I would like to keep it short, I wish to name some of those whom I thank explicitly.<sup>32</sup> I would like to thank the Executive Board of the University of Amsterdam and the Dean of the Faculty of Humanities for their support for my appointment as Professor of Musicology. I have chosen my topic for today because it allowed me to plead for open-mindedness on the basis of expertise. My way to Amsterdam was full of unforeseen turns that I could only take with the support of many open-minded experts. First to thank for this is my supervisor in musicology, Rudolf Bockholdt, who always took his students seriously, whatever we were engaged in. Then there was the overwhelming tolerance and support of Aage Hansen-Löve, who encouraged me to go my own way, even when it led away from our common field, Slavic literature. This brought me to the Max Planck Institute for the History of Science, where I learned that expertise in fields so diverse as biology, psychology or musicology did not prevent us from sharing a common discourse. Hans-Jörg Rheinberger has been the inspiration and guidance for us there. I am deeply grateful to all of them for letting me, in all these diverse surroundings, continue to think and work on music. My arrival in Amsterdam was a return to the discipline of musicology. Many people have helped to make this arrival smooth. Kati Rötger, Viktoria Tkaczyk, Hotze Mulder, Karl Kügle and Dörte Fischer are among them. And many colleagues, in the meantime, have welcomed me into the intellectual life here in Amsterdam, and among them I would particularly like to mention my colleagues at ASCA and Julia Noordegraaf and the Amsterdam Center for Heritage and Identity Studies, and those with whom I share the interest in the history of humanities and sciences – Rens Bod, Jaap Maat, Thijs Weststeijn and Jeroen van Dongen. My heartfelt thanks go to my colleagues of the musicology group for their enthusiasm and to our students: they make all the efforts worthwhile and enjoyable. To my two colleagues Henkjan Honing and Barbara Titus I owe special thanks – for their solidarity and their hard work, and most of all for never forgetting that we do all this for what we like most: music. While music is ephemeral, the joy of it

sometimes endures. I wish to thank, most of all, Armin Schäfer for having shared it for twenty years now with me.

Thank you all for listening!

Ik heb gezegd.

## Notes

1. This recording had received a number of re-edits by that time. See *Arnold Schönberg. Stile herrschen, Gedanken siegen. Ausgewählte Schriften*, ed. Anna Maria Morazzoni, Mainz: Schott, 2007; *In Honor of Rudolf Kolisch (1896-1978)* 6 CD's, Music & Arts 2003. The comment is available online at the Arnold Schoenberg Center's webpage, see <http://www.schoenberg.at/index.php/de/archiv/schoenberg-spricht> as track 'VRO4 *Streichquartette*, 29./30. Dezember 1936' (last accessed Feb. 19, 2015).
2. See, for instance, his book *Arnold Schönberg und seine Meisterschüler. Berlin 1925-1933*, Vienna: Zsolnay, 1998.
3. See Robert Spruytenburg, *Das LaSalle-Quartett. Gespräche mit Walter Levin*, München: Edition Text + Kritik, 2011, p. 42-43.
4. See, for instance, *Hearing History. A Reader*, ed. Mark Smith, Athens: University of Georgia Press, 2004; *Sound in the Age of Mechanical Reproduction*, eds. David Suisman and Susan Strasser, Philadelphia: University of Pennsylvania Press, 2010.
5. See, for instance, *Schönberg und der Sprechgesang*, ed. Heinz-Klaus Metzger and Rainer Riehn (= Musik-Konzepte 112/113), Munich: Edition Text + Kritik, 2001; Alfred W. Cramer: 'Schoenberg's Klangfarbenmelodie. A Harmonic Principle of Early Atonality', *Music Theory Spectrum* 24 (2002), 1-34; Eliezer Rapoport: 'Schoenberg-Hartleben's Pierrot Lunaire: Speech – Poem – Melody – Vocal Performance', *Journal of New Music Research* 33 (2004), 71-111.
6. See, e.g. Elliott Gyger, 'Speech, Song, and Silence: Modes of Utterance in *Moses und Aron*', *The Opera Quarterly* 23 (2008), 418-440; Alexander Rehding, 'Moses's Beginning', *The Opera Quarterly* 23 (2008), 395-417.
7. Theodor W. Adorno has provided the canonic version of this claim in his *Philosophie der neuen Musik* [1949], Frankfurt/M.: Suhrkamp, 1978.
8. On this quartet see Christian Martin Schmidt, 'II. Streichquartett Op. 10', in: *Arnold Schönberg. Interpretationen seiner Werke*, ed. Gerold W. Gruber, Laaber: Laaber, 2002, vol. 1, pp. 124-143.
9. On Schoenberg's early atonal music more generally see Ethan Haimo, *Schoenberg's Transformation of Musical Language*, Cambridge: Cambridge University Press, 2006; for an interpretation of the aspects in this music that escape symbolic notation see also Julia Kursell and Armin Schäfer, 'Spaces Beyond Tonality / Ruimtes voorbij de tonaliteit', *OASE. Tijdschrift voor architectuur / Architectural Journal* 78 (2009), pp. 82-103.
10. Theodor W. Adorno, *Einleitung in die Musiksoziologie* [1968], Frankfurt/M.: Suhrkamp, 1975; on the theatre of inner representations cf. idem, *Dissonanzen. Musik in der verwalteten Welt*, Göttingen: Vandenhoeck & Ruprecht 1958, p. 103.
11. Robert W. Wason and Elizabeth West Marvin, 'Hugo Riemann's *Ideen zu einer Lehre von den Tonvorstellungen*': An Annotated Translation', *Journal of Music Theory* 36 (1992), pp. 69-79. On Riemann see Alexander Rehding, *Hugo Riemann and the Birth of Modern Musical Thought*, Cambridge: Cambridge University Press, 2003.

12. Hermann Danuser, *Neues Handbuch der Musikgeschichte*, vol. 7: *Die Musik des 20. Jahrhunderts*, Laaber: Laaber, 1984; *The Cambridge History of 20th-Century Music*, eds. Nicholas Cook and Anthony Pople, Cambridge: Cambridge University Press, 2004.
13. See Julia Kursell, *Schallkunst. Eine Literaturgeschichte der Musik in der frühen russischen Avantgarde*, Munich, Vienna: Sagner, 2003; Karin Bijsterveld, *Mechanical Sound. Technology, Culture, and Public Problems of Noise in the Twentieth Century*, Cambridge, Mass.: MIT Press, 2008, pp. 137-158; David Nicholls, 'Brave New Worlds. Experimentalism between the Wars', in: Cook and Pople 2004, pp. 210-227.
14. See, for instance, Joseph Auner, 'Proclaiming a Main Stream: Schoenberg, Berg, and Webern', in: Cook and Pople 2004, pp. 228-259.
15. Arnold Schoenberg, *Style and Idea: Selected Writings*, translated by Leo Black, Berkeley: California University Press, 1984, p. 218.
16. Since Christopher Hailey, 'Rethinking Sound. Music and Radio in Weimar Germany', in: *Music and Performance During the Weimar Republic*, ed. Bryan R. Gilliam, Cambridge: Cambridge University Press, 1994, pp. 13-36.
17. See Julia Kursell, 'A Gray Box. The Phonograph in Laboratory Experiments and Field Work, 1900-1920', in: *The Oxford Handbook of Sound Studies*, eds. Karin Bijsterveld and Trevor Pinch, New York: Oxford University Press, 2012, pp. 176-197.
18. E.g. in Klaus Theweleit, *Buch der Könige*, vol. 1, *Orpheus und Eurydike*, Basel: Stroemfeld / Roter Stern, 1988, 377-379.
19. See Julia Kursell, 'Carl Stumpf's Experiments with the Nonmusical', *Trajekte* 29 (2014), pp. 43-47.
20. Carl Stumpf, 'Lieder der Bellakula-Indianer', *Vierteljahresschrift für Musikwissenschaft* 2 (1886), pp. 405-426, quote on p. 408 (my translation, JK).
21. Christian von Ehrenfels, 'Über Gestaltqualitäten', *Vierteljahresschrift für wissenschaftliche Philosophie* 14 (1890), pp. 249-292.
22. *Psychologische Forschung. Zeitschrift für Psychologie und ihre Grenzwissenschaften* 4 (1923).
23. On the work of Hornbostel and Abraham in the framework of the Berliner Phonogramm-Archiv see *Vom tönenden Wirbel menschlichen Tuns. Erich M. von Hornbostel als Gestaltpsychologe, Archivar und Musikwissenschaftler. Studien und Dokumente*, ed. Sebastian Klotz, Berlin, Milow: Schibri, 1998; *Die Wachszyylinder des Berliner Phonogramm-Archivs*, ed. Susanne Ziegler, Berlin: Ethnologisches Museum, Staatliche Museen zu Berlin, 2006.
24. Cf. Otto Abraham, 'Tonometrische Untersuchungen an einem deutschen Volkslied', *Psychologische Forschung. Zeitschrift für Psychologie und ihre Grenzwissenschaften* 4 (1923), pp. 1-22.
25. Cf. *ibid.*, p. 22.
26. Arnold Schoenberg, *Theory of Harmony*, Berkeley, Los Angeles: University of California Press, 1983, p. 431.
27. For an analysis of this piece see Joachim Noller, 'III. Streichquartett Op. 30', in: Gruber 2002, pp. 447-459.

28. Pierre Boulez: 'The Musician Writes: For the Eyes of the Deaf?', in: *The Pleasure of Modernist Music. Listening, Meaning, Intention, Ideology*, ed. Arved Ashby, Rochester: University of Rochester Press, 2004, pp. 197-222.
29. Abraham 1923, p. 22.
30. Arnold Schönberg, *Sämtliche Werke*, ed. Josef Rufer, Abt. VI: *Kammermusik*, Reihe A, Band 21: *Streichquartette II; Streichtrio*, ed. Christian Martin Schmidt, Mainz, Vienna: Schott / Universal Edition, 1982, p. 42.
31. Immanuel Kant, *Critique of the Power of Judgement*, translated by Paul Guyer and Eric Matthews, ed. Paul Guyer, Cambridge: Cambridge University Press, 2000, p. 206.
32. Thanks also to Kelaine Ravdin for helping me with the English language in an earlier version of this text.