

# Listening to Noise and Listening to Oneself: An Analysis of Peter Ablinger's *Orgel und Rauschen*

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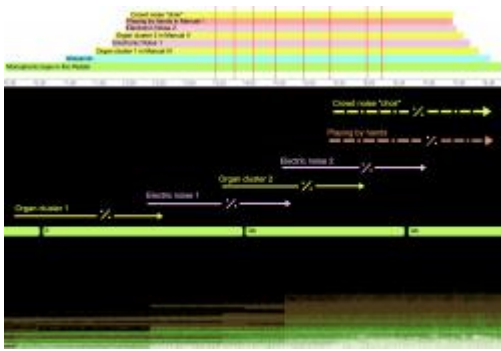
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## Abstract

Peter Ablinger's innovative use of noise has provided a unique contribution to new music. In his composition, static noise (Rauschen) is not explored for the sake of expanding the sound palette but for its provocative potential as a "screen" onto which listeners project their imaginations. In order to show how the composer manifests this idea in his compositional practice, this article examines his methods of production and manipulation of noise (or analogous sounds with extreme densities and complexities) whilst exploring one possible reception of the resulting music. The aesthetic discussion on noise and listening is followed by an aural-based analysis of the multilayered static sounds in *Orgel und Rauschen (Diaphanie 3)* (1998–2000). The analysis shows that the composer attentively manipulates components in order to create a distinct perceptive condition for listeners, whilst always allowing room for spontaneous and "subjective" investigations by them.

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# Introduction

[1] The evolution of music in the twentieth century is distinguished from that of the preceding centuries by a radical reform of compositional principles as well as sound materials. When Arnold Schoenberg declared “the emancipation of dissonance,”<sup>[1]</sup> the traditional tonal system had already reached its saturation point, and Western art music stood on the threshold of a new era. The release from tonality opened up the possibility of new forms of musical organization, from one based upon serial techniques to a more architectural approach in which the texture and density of massed entities play an important role (e.g. works by György Ligeti, Iannis Xenakis, Krzysztof Penderecki, or Witold Lutosławski). In parallel to innovations at the structural level, the expansion of the sound palette was accelerated by the increasing interest in new timbres and by technological developments, particularly in relation to *musique concrète* and electronic music. The constantly redrawn “line between sound and musical sound”<sup>[2]</sup> in the history of Western music finally reached the point where such a boundary did not exist. Music came to embrace any sound, including ones which had long been thought of as non-musical or even as noise.

Outside the realm of pitch-based music, we cannot experience a piece by what Michel Chion describes as “perceptual gradations” of pitch and register,<sup>[3]</sup> a deeply embedded aspect of our listening habits. New music often requires different modes of listening, in which one has to focus more intently on the acoustic property of sound itself. This is precisely the context in which Pierre Schaeffer developed his theory and even “solfège” of *objets sonores*<sup>[4]</sup> (sound objects) and Helmut Lachenmann proposed his *Klangtypologie*<sup>[5]</sup> (typology of sounds) in the mid-twentieth century, both of which can, in fact, be said to be a theory of listening to new sound materials. Once our ears are adapted to a new auditory network, no matter how unconventional or noisy the individual sonority is, music can often be experienced as an organized structure.

Prolonged static noise, as frequently deployed in Peter Ablinger’s oeuvre, does not so readily conform to this aspect of music. It poses a challenge for listeners because it resists any traditional approach in which we experience a structure or, at least, some kind of transformation in time. In a piece dominated by static noise there is no such thing as a distinction between composed material and composed structure. We have no established mode of listening and are therefore constantly required to ask ourselves how to listen and *what* to listen for. Ablinger, one of the most innovative, influential composers over the past few decades, has been exploring this indefinite field of noise, deriving musical inspiration from it in a manner more radical than any composer hitherto. Through the extensive use of static noise, Ablinger’s works often provide a unique—and sometimes confusing—auditory experience in which listeners have to reflect on their own act of perception. What purpose, then, does static noise serve, and how does the composer explore its creative potential in his musical practice, especially in combination with other (instrumental or vocal) sounds? In order to answer these questions, this article explores Ablinger’s fundamental aesthetics on music, noise, and listening on the basis of his writings, followed by an analysis of *Orgel und Rauschen (Diaphanie 3)* (1998–2000). The particular focus in this analysis is the various auditory effects that result from the composer’s multilayered concept of noise.

# Sounds versus Noise (Rauschen)

Born in 1959 in Schwanenstadt (Austria), Ablinger has been a crossover artist with roots in art (especially painting), free jazz, and subsequently Western classical music. Noise, for Ablinger, means static white noise. His manipulation of it does not aim to transcend the boundary between noise and musical sound—unlike Lachenmann, he is not interested in “sounds as expansions to the musical material.”<sup>[6]</sup> Instead of promoting a democracy of all existing sounds in music, Ablinger rather makes a clear distinction between noise (static noise; Rauschen) and all other sounds, including instrumental sounds or everyday sounds, that is, noises (Geräusch). The idea of *Rauschen* is regarded as something “almost opposite” and clearly “different to other sounds.”<sup>[7]</sup>

Noise is different from other sounds as it contains “the idea of totality and the sum of all sounds—which, by definition, is white noise.”<sup>[8]</sup> White noise represents a totality of all sounds, all frequencies, and all individual tones and noises. This idea of *Rauschen* starkly contrasts with the traditional concept of musical material, which is, in other words, *Klang*. Ablinger says, “Klang is more related to objects (or instruments), to stories, to temporal aspects, to knowledge—while the static nature of Rauschen withdraws in parts our application of knowledge, our establishing of relationship and intention.”<sup>[9]</sup> In this sense, “Rauschen is less predetermined which makes it a wonderful experience for the observation of perception.”<sup>[10]</sup> There is no obvious object to listen to in noise, and it does not transmit any meaningful information, as traditional musical materials would. How, then, do we perceive static noise? Ablinger explains, “such experiences [of noise] are as far as possible devoid of meaningful information yet they act like a mirror, they throw something back upon ourselves insofar as we read something into them, turn them into something which is anchored only in ourselves.”<sup>[11]</sup> Thus, “in such situations we experience ourselves.”<sup>[12]</sup>

[2] Static noise is a paradox; it is “maximum density, maximum information,” but it is also “no information, maximum redundancy” and therefore “less than nothing, less than silence.”<sup>[13]</sup> Silence is, as John Cage discovered, full of sounds and not at all silent if we actually listen to it. Noise is devoid of meaningful information, and therefore “we cannot connect to it by just listening.”<sup>[14]</sup> This implies that listening to noise is fundamentally different from normal listening (“just listening”), in which we constantly perceive a series of events. “The only thing that is left to do [with noise],” the composer says, is “to produce illusions, i.e., to hear something ‘in’ the noise that is not there, that can be perceived only individually—to project our own imagination onto that white ‘screen.’”<sup>[15]</sup> In front of a waterfall, for example, as the composer says, we may start to hear a sort of melody in its noise because our brain cannot perceive nothing—“faced with nothing (or simply too little information), it always creates something.”<sup>[16]</sup> He continues, “all metaphors (transferences) are themselves metaphors for the interpretive bustle of the mind, for the permanent creation of a reality that keeps us functional.”<sup>[17]</sup> The assumption of so-called “pure listening”<sup>[18]</sup> is thus proved to be a fiction, and instead a more spontaneous, imaginative, and productive manner of listening becomes a key element in Ablinger’s music. The composition of a piece is therefore a process of creating a particular listening situation in which the audience may encounter their imaginations through the production of their own illusions. As a crossover artist, Ablinger engages in activities encompassing the composition of orchestral, vocal, and electroacoustic pieces, operas, and multi-media installations.<sup>[19]</sup> Regardless of the genre, the composer’s interest initially lies in pursuing different aspects of perception as self-reflection.

# Production and Manipulation of Noise

Whilst noise, Ablinger says, is, through our contact with nature in the form of seas, waterfalls, or forests, one of the oldest sounds for humans, it can also be said to be a new sound as a result of the technological evolution of recording techniques, audio modulations, or sound synthesis. In the field of musical creation, static noise is associated, at any rate, with electronic sound devices. In a number of pieces, including the *Weiss/Weisslich* series (1980–99), *Quadraturen* (1995–), the *IEAOV* series (1995–2001), and other electroacoustic pieces and gallery installations, Ablinger has explored various productions, manipulations, and uses of electronic noise. Yet the composer's strong interest in static noise originally arose from his experience of writing music for instruments and voices, from solos to large orchestral pieces. Despite the absence of electronic systems, those repertoires often exhibit some kinds of static qualities. These may not yet appear, as Scheib contends, as a seamless surface but rather as a stagnant sense of time deriving from the persistent repetition of the same or similar elements, as typically shown in *Anfangen (:Aufhören)* (1991).<sup>[20]</sup> With his increasing interest in maximum density, in 1994 Ablinger composed an orchestral piece entitled *Der Regen, das Glas, das Lachen* for 25 instrumentalists, which marks, according to the composer, “the juncture of a one tone piece and white noise.”<sup>[21]</sup> Over its twenty-two-minute span, neither an obvious melody nor successive acoustic events can be heard. Instead, the process is one of continuous transformation in texture and sonoristic color. Scheib argues that *Der Regen, das Glas, das Lachen* can be thought of, in fact, as the earliest outcome of Ablinger's exploration of static noise, and that after this static noise became a central theme of his music.<sup>[22]</sup>

[3] In 1995, after the composition of *Der Regen*, Ablinger started to work extensively on electroacoustic pieces, which opened the door to the electronic production of static noise. The first example of this was the *IEAOV* series (1995–2001), “Instrumente und Elektro-Akustisch Ortsbezogene Verdichtung” (Instruments and Electro-Acoustic Site-specific Verticalization), more explicitly defined as “pieces for instruments and a form of live-electronics by which a succession of sounds as input become timbre as output.”<sup>[23]</sup> For this series, Ablinger and his technicians developed a new audio processing tool based upon a delay network in order to achieve their ambition to convert a temporal experience of music into a formless, spatial experience of density and color. Each *IEAOV* piece starts with a section called “Palette,” in which instrumental events and movements are recorded as materials for the subsequent process of “condensation.”<sup>[24]</sup> Every sonoristic detail in the samplings (e.g. pitches, attack/decay, either incidental or intentional noises that involve performing actions and recording practices such as microphone position) serves as a defining factor in the resulting color of the static noise used in the proceeding section, “Principal.” Successive entities vs spectral color, in other words, linearity associated with “thinking” vs simultaneity associated with “listening”—the contrasting relationship between the two presents an important dualism in Ablinger's philosophy. Aiming to transcend this theoretical division through the technique of condensation, the composer transformed the traditional concept of linear musical time into the spectral experience of static noise. The electronic audio technology thus provided him with a powerful device for creating static noise from any material.

Whilst the manner in which the composer employs noise can differ depending on the concept of the piece, the majority of his works take one of two basic forms: (1) The piece consists of static noise that alone dominates the musical space. Listeners are thus simply expected to perceive its transformation in texture and spectral color. (2) The piece includes static noise as one component which coincides with other instrumental or vocal sounds. Here the main focus of

listening is on the complex interactions between different sonorities. The first type is most frequently applied to tape music or gallery installations. Noise can certainly be made of purely instrumental sounds, as observed in *Der Regen, das Glas, das Lachen*, but it more often derives from the samplings of non-musical natural/environmental sounds, such as waterfalls, the wind in the trees, city noise, or crowd sounds. Ablinger has also created a number of pieces categorized as “listening pieces” (Hörstücke),<sup>[25]</sup> some of which ask listeners simply to sit on a chair at a train station or by the sea, whilst others ask them to wear headphones with built-in microphones and to experience the sound “framed” by the composer, as observed, for instance, in *Weiss/Weisslich 14: Sitzen und hören* (1996), *Weiss/Weisslich 29: 6 Stühle auf winterlichem Feld* (1996), *Weiss/Weisslich 36: Kopfhörer/Headphones* (1999), or *Warteschlange* (2006–2019). The mode of listening for installation pieces is not necessarily the same as for concert pieces, however. When static noise coincides with other elements, such as instruments or voices, our attention will more likely focus on interactive sonic relationships than on the fixed sonority of the static noise. Where static noise is constant, it produces divergent acoustic effects in relation to other individual sounds, provoking various auditory illusions. In the *IEAOV* series, for example, instrumental sounds are covered with static noise, itself formed by condensing the instrumental sounds. This relationship often makes it difficult to distinguish between the two elements. Ablinger also manipulates the sound in a particular manner so that “it is not entirely clear whether sounds are actually really in space or just inside our heads.”<sup>[26]</sup> The sounds that we think we discern may, therefore, be the real instruments, an element of the condensation noise, or even something deriving from our own imagination. The effect of the static noise is thus to blur the line between reality and illusion.

## Listening

No matter how static noise is used within a piece, it is always meticulously prepared by the composer. When he is not creating noise from scratch, finding the correct sounds and manipulating collected samples are a crucial part of Ablinger’s composition process. In order to obtain a perfect recording, the composer may wander in nature or a city for extended periods “like a hunter.”<sup>[27]</sup> Where a piece does not involve recorded material, he writes detailed instructions in the score so that the musicians can produce the exact static noise required. Whilst the composer controls almost everything that we may perceive, however, it is entirely open to each of us how we listen to the given sound and what exactly we perceive in it. “The field of (individual) projection, interpretation, and acoustic illusion” that is triggered by noise thus becomes, in Ablinger’s thought, “well suited for examining the area of listening and the constructive role of our brain in that process.”<sup>[28]</sup> In essence, the composer provides us with distinct situations for listening—leaving us to decide what we actually take from them.

[4] The acoustic result of the piece is fully controlled by the composer, but in its reception, the active engagement of listeners is of the essence. As Ablinger contends, “we will never be able to just hear what ‘is’” but always “what we desire.”<sup>[29]</sup> This can be said to be more or less a general principle of artworks and their perception, in turn provoking an essential question about music analysis. If the manner of listening to Ablinger’s (or any other) music is entirely a matter of individual listeners, does that mean that aural analysis of musical pieces is not rational but subjective? The composer certainly expects us to experience his music through individual exploration of auditory “illusions.” As such, how each person interprets what they hear will not

always be the same. The analysis in this article is based upon what “I”—the present author—discern. Some readers might therefore disagree with what is said to be audible when, in particular, sonoristic details are referred to. Those potential disagreements are related not only to personal and sociocultural factors but also to the physical and potentially psychological condition of listening—whether we use good quality headphones or how intensely we concentrate on a particular day, for instance. It should also be noted that the auditory experience of Ablinger’s pieces in live performance would undeniably be different from the acousmatic experience of an audio file, especially considering that visual performing gestures often affect auditory perception. On the other hand, aural analysis without the visual element, as will be conducted in this article, could nevertheless be said to increase the degree to which one is able to concentrate on the sound itself. This might provide us with more fruitful analysis.

The analysis presented in this article is one possible reception. It is evident that there exists no such thing as a universal manner of listening to Ablinger’s or any other music. But this does not imply that the analytical argument is always a matter of personal observation. The concept of the piece is often clearly explained in the composer’s writings and instructions found in his scores. Detailed information about the sound production, performance instructions, and background philosophy of the piece tell us a great deal about how Ablinger tries to create a particular condition for listening. In this sense, as Gratzner argues, Ablinger’s works—including his installation pieces—fulfill “the requirements of adequate interpretation”<sup>[30]</sup> in that he constructively plans for the piece, if not by means of a traditional score, by nevertheless providing some kind of guideline analogous to it.

The composer’s strategy creates a distinct condition for listeners’ perceptions whilst leaving room for “subjective” investigations by them. These “subjective” investigations are an inevitable part of the following analysis of *Orgel und Rauschen* (1998–2000).<sup>[31]</sup> In this piece, as is often the case in Ablinger’s instrumental repertoire, static noise not only triggers illusions but also exhibits a “concealing function,”<sup>[32]</sup> in other words, a masking effect in combination with instrumental sounds. Whilst concealing some sonorities, static noise also has the potential to highlight the emergence of sounds that we would not otherwise notice. What, then, is concealed by noise, what remains audible, and what, if anything, becomes “uncovered”? Ablinger’s unique, subtle manipulations of sounds will guide us to a profound aural experience in which we face the limit of our perception and start exploring limitless imagination.

## Analysis of *Orgel und Rauschen* “*Diaphanie 3*” (1998–2000)

### Structure of the Multilayered Sound

*Orgel und Rauschen* differs from other pieces of the *Instrumente und Rauschen* series in that its static noise derives not only from an electronic audio source but also from the instrumental sound itself.<sup>[33]</sup> Unlike the majority of acoustic instruments, the organ is built upon a mechanical system that allows it to sustain notes almost indefinitely. Using this property in the form of seamless organ clusters, the composer combines it with electronic static noise recorded onto CDs. The resulting high degrees of density formed by these static layers then contrast with more discrete sonorities deriving from virtuosic playing of the organ and concrete sounds recorded in the city. The combination of the two contrasting elements thus produces various transformations



in color and texture.

The composer describes the multilayered construction of *Orgel und Rauschen* as “the sound within the sound within the sound.”<sup>[34]</sup> This concept is initially associated with free jazz, where the defining characteristic is “the suspended, almost static slowness that unfolds in its high density and extreme speed.”<sup>[35]</sup> Ablinger also mentions, on the other hand, another source of inspiration for the piece outside the realm of music. According to the composer, the word “diaphanie” in the subtitle is explained as a particular architectonic concept which represents “the space within the space.”<sup>[36]</sup> It is also related to the concept of transparency; “diaphanie,” originating from French, is defined in the *Oxford English Dictionary* as “the name given to a process for the imitation of painted or stained glass.”<sup>[37]</sup> Ablinger found a representation of this art of spatial transparency in the Benedictine monastery church designed by Balthasar Neumann (1687[?]-1753) during his visit to Neresheim, Germany. This encounter gave him a clear idea for his new composition that was, coincidentally, commissioned by the same church three weeks after his visit.<sup>[38]</sup>

[5] The composer explains how he concretized the idea of “diaphanie” as follows: “I take all tones—and because I like them all, I don’t remove any of them. A tone removed from somewhere would simultaneously emerge somewhere else. This is all I do: redistribute *everything* in space.”<sup>[39]</sup> Whilst everything might remain, however, we are not able to perceive everything when it is aggregated in the resulting density—the degree of transparency in the overall complex depends not only upon the sonoristic combination itself but also upon the perception of individual listeners. The auditory experience provided in this piece will thus guide us towards an inevitable question in noise music generally: how do we experience sound that includes a quantity of information in excess of our listening capacity?

Spanning forty-five minutes in total, the piece is divided into seven titled sections of varying length connected by attaccas (see table 1). All seven sections comprise a similar set of layer-forming components: long-sustained tones, glissandi, organ clusters, electronic noises, virtuosic playing of the organ, and concrete sounds. Whilst each section uses different acoustic materials to present a different perspective of sound penetration, they are structurally similar. As such, it is possible to use section 1 as a model for understanding subsequent sections. It alone, therefore, will be analyzed in detail. Its framework will then be used as a basis for exploring the diversity of the sonic palette in all other sections. In a comparison of the physical properties of sounds, two main questions will be discussed: (1) in what conditions can, or cannot, individual sounds penetrate the multilayered texture; and (2) which sonoristic features can be thought of as most pertinent within such a dense texture?

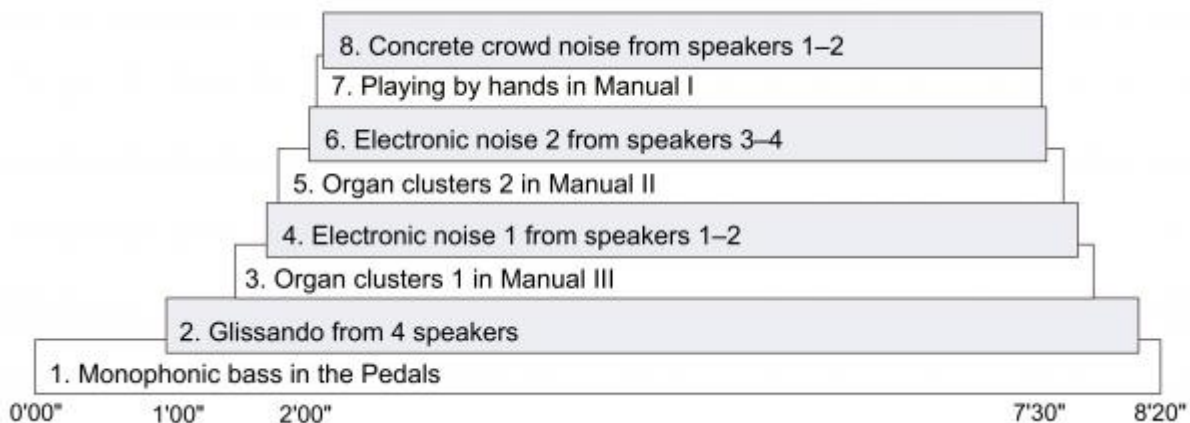
**Table 1: Seven sections in *Orgel und Rauschen***

	<b>Sectional titles</b>	<b>English translation (by the author)</b>	<b>Length</b>
<b>1</b>	Von der Perspektive der Deutlichkeit	On the perspective of clarity	8'20"
<b>2</b>	Von den Körpern im Nebel	On the bodies in the fog	7'27"
<b>3</b>	Die Bedingungen des Sehens	The conditions of seeing	5'23"
<b>4</b>	Über die wahre Lage des Horizonts	On the true location of the horizon	7'58"
<b>5</b>	Gedächtnis und Wahrnehmung	Memory and perception	4'27"
<b>6</b>	Von den Gestalten in grosser Entfernung	On the figures at a great distance	5'39"
<b>7</b>	Von der Farbe der Luft	On the color of the air	5'30"

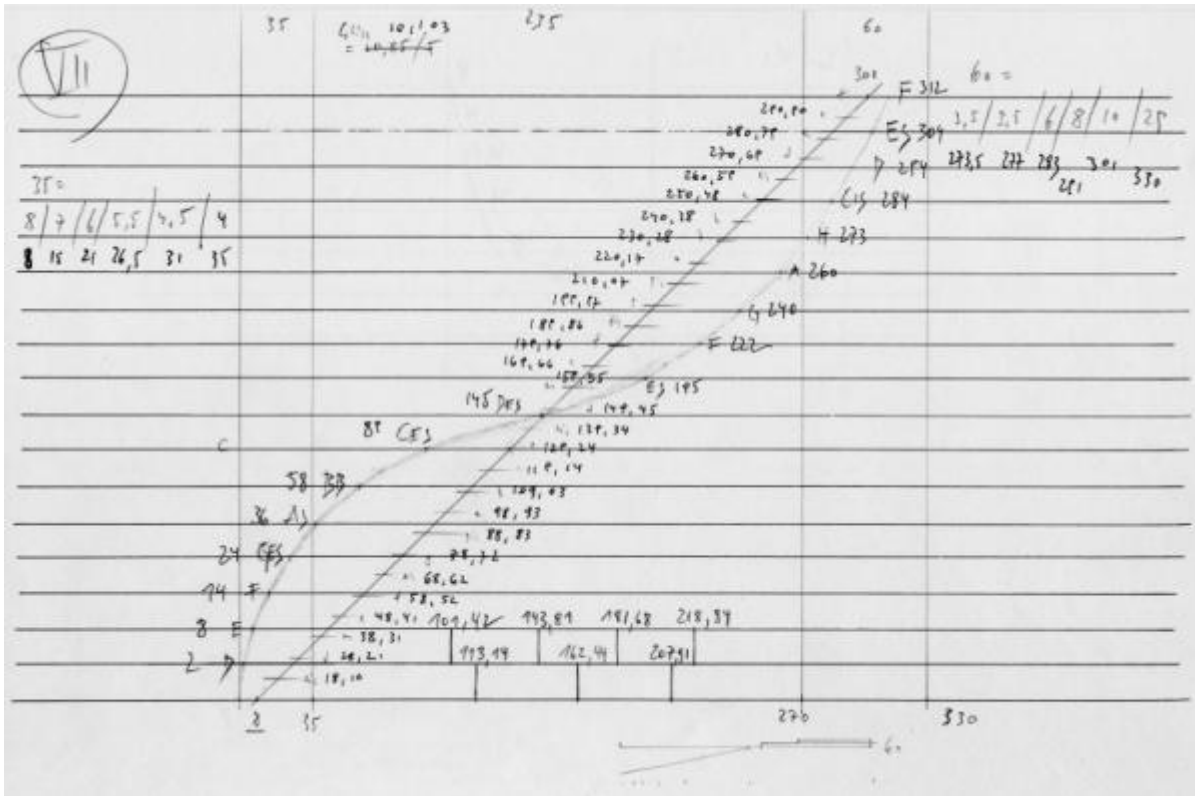
Each section is built upon four fundamental organ layers played on three manuals (I: Great, II:



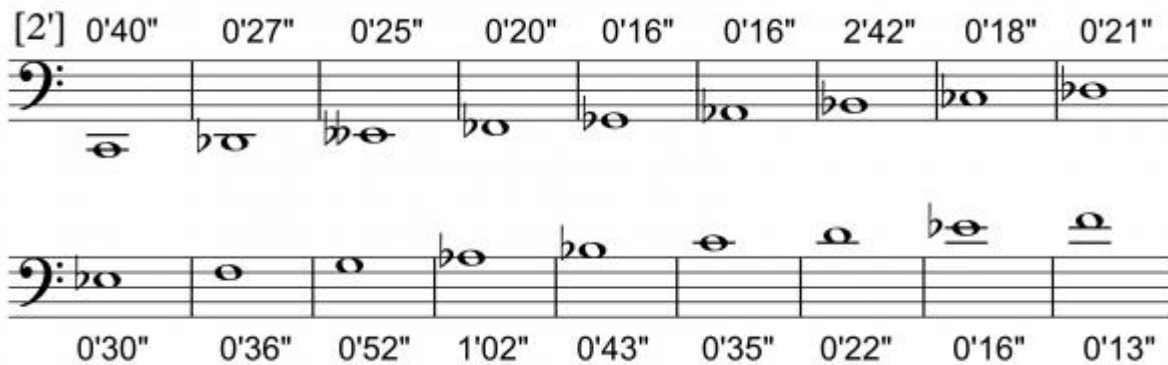
Swell, and III: Choir) and pedals combined with four layers of electronic noises emitted from four loudspeakers distributed in the space. The organ layers consist of a monophonic line of long notes in the pedals, two separate clusters pressed by lead weights (or felt wedges) in the lower manuals (II and III), and finally highly virtuosic passages “at the border of playability” by the hands in the top manual (I). Symmetry was clearly an important concept in the piece, as seen in the composer’s sketch for section 7 (see figure 2), which also becomes the basis for all other sections. The four organ layers and their corresponding electronic noises emitted from loudspeakers are, as shown in figure 1, successively stacked up at the beginning of the section and unstacked at the end, thus forming an approximate symmetry in the structural outline. In section 1, layer 1 begins with a long-sustained middle C in the pedals, as shown in example 1 (notated as C2 but played with 2-foot pipes and therefore two octaves higher). This pedal note (C4) gradually ascends in whole-tone and semitone steps, avoiding any specific pattern in interval or duration, with the eighteenth note finally reaching F6 at the end of the section. At 1'00" the bass becomes enveloped (“eingehüllt” in the words of the composer),<sup>[40]</sup> by an electronic glissando in the same register (layer 2). The first organ cluster joins at 1'31" in manual III (layer 3) and is quickly enveloped by electronic static noise (layer 4). The second organ cluster (layer 5), which has a distinct intervallic range, timbre, and register, is similarly enveloped by another static noise (layer 6). Layer 7, the virtuosic writing for hands, joins at 2'00", being subsequently enveloped by concrete crowd noise (layer 8). In contrast to the static nature of the first six layers, the virtuosic organ playing (7) and crowd noise (8) are defined by continuous movements. This qualitative difference in texture serves as a key factor in the resulting sound penetration, as further discussed below.



**Figure 1: Structural outline of the eight layers in section 1**



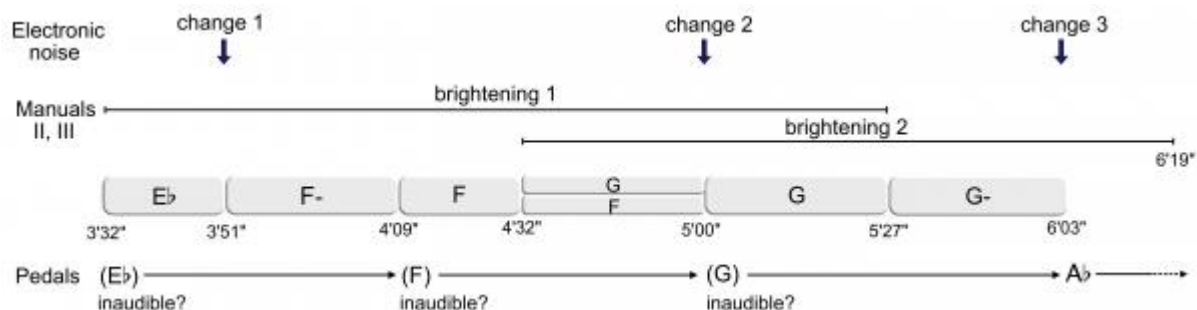
**Figure 2: Outline sketch of section 7 (by courtesy of the [composer's website](#)).** The diagonal straight and curved lines represent the pitch trajectories (Y axis) through time (X axis) of the electronic glissando and organ pedals respectively. The numbers located at the top left show the duration and timing of each layer's entry between 0'00" and 0'35", whilst those at the top right show their end points during the last sixty seconds.



**Example 1: Organ pedal movement in section 1 with duration indications**

Each time new material is added, a change of color can be perceived. Whilst the listener may be able to focus briefly on the property of a new layer that has just joined the mass, once it is incorporated into the overall agglomeration the quality of each static layer becomes increasingly difficult to hear. This is particularly the case after the entry of layer 3, due to its clustered nature. The same cannot be said of layers 7 and 8, however. Here the virtuosic complex movement is largely audible (even if not necessarily in every subtle detail), since it stands in sharp contrast to the dense static layers. The concrete noise in layer 8 also penetrates the overall mass, though a little more discreetly in this case. The crowd sounds, originally recorded in locations such as football fields, restaurants, or schoolyards, are projected onto the other layers so that they are “only guessable” and “appear just as an illusion over wide areas.”<sup>[41]</sup> In the resulting overall complex, the crowd voices are sometimes heard to be ambiguously pitched sounds that form a “choir”<sup>[42]</sup> due to the projection onto them of pitched sounds from other layers.

[6] The combined eight layers constitute a seamlessly dense sonority between 2'00" and 7'30" in which internal qualities such as sonoristic color, texture, or register constantly change. Three key elements draw our attention in this transformation: (1) the registral ascent based upon the monophonic line in the pedals; (2) the change in color in static layers 3–6 (organ clusters and electronic noises); and (3) the varying degree of transparency in the virtuosic playing on manual I.



**Figure 3: Discernible pitch classes between 3'32" and 9'03" and their relationship with the transformation in layers 1 and 3-6**

At the beginning and the end of section 1 the pedal movement in whole-tone and semitone steps is clearly discernible, whereas around 3'00" it suddenly becomes covered by the increased density in the other layers, its obfuscation continuing until 6'30". Despite the reduced discernibility of the pedals during this span, however, a series of sustained pitch classes can be heard in the mass. This starts with E flat at 3'32", ascending to G at 5'00", followed by slightly lower G- (see figure 3; for more detail, see movie 1). Whilst the gradual ascent of these pitch classes seems to correspond approximately to the trajectory in the pedals, the sonoristic property of the former is much more powerful than the simple monophony of the latter. Furthermore, if the pedal sound exists as the only source of those pitch classes, one cannot explain why, for example, an ambiguous F- starts to appear at 3'51" and G at 4'32", prior to the pitch transition in the pedals. A more plausible explanation is that the sustained sonorities from E flat to G derive, in all likelihood, from the emerging sense of pitchedness triggered by the electronic noises and the organ clusters (layers 3–6), in which the sound color regularly changes. As a secondary factor, however, the pedal sound may also help to stabilize the resulting pitched sonorities.

**Movie: Graphic representation of the author's analysis**

The changes in color in static layers 3-6 have an immediate impact on the sonic transformation.

As shown in figure 3, the electronic noises change at 3'51", 5'00", and 6'03" (at the indication of "R-Wechsel" in the score) whilst the timbres of the organ clusters in manuals II and III also suddenly change, at 3'33" and 4'33" (marked "Aufhellungen" [brightening]) with the addition of "a delicate admixed lighter register."<sup>[43]</sup> The overall movement of these two organ clusters is to shift imperceptibly and successively to higher pitches, discreetly contributing to the gradual transformation of the colors. Examples 2 and 3 present the pitch contents of the clusters at their starting point (NB, all notes within each bar are played together) and after the transformation in all the seven sections respectively. For example, the top left of example 2 (manual III of section 1) shows the start position, whilst the top left of example 3 shows the end state with numbering to show the order of note transposition and the exact timing indicated in the score. The individual transformation is imperceptible in the overall mass—one can only hear, at the end of the section (at around 7'48" in section 1), the final result of the transformation, which contains a larger number of higher pitches than at the beginning.

1

III 10 9 8 7

3 5 4 2

[10] [30]

2

II III

II III

[27] [23]

3

III II

III II

[18] [18]

4

III II

III II

[30] [30]

5

II III

II III

[18] [18]

6

III II

III II

[25] [25]

7

II III

II III

[20] [20]



**Example 2: Clusters at the starting point (in sounding pitch)**

no transposition

1

9 [6'30"]  
7 [5'30"]  
5 [4'36"]  
4 [4'07"]  
3 [3'27"]  
2 [3'05"]  
1 [2'27"]

III II

[10] [30]

2

[24] [26]

3

15<sup>ma</sup>

III II

[25] [11]

4

15<sup>ma</sup>

III II

[30] [30]

5

15<sup>ma</sup>

II III

[18] [18]

6

15<sup>ma</sup> 8<sup>va</sup>

III II

[25] [25]

7

15<sup>ma</sup> 15<sup>ma</sup>

II III

[29] [11]

**Example 3: Resulting clusters after transposition (in sounding pitch). Numbers in brackets show the total numbers of composed notes of clusters**

The changes in rhythmic density, direction of movement, and register in manual I (layer 7) serve as the third key element of the overall sonic transformation. In section 1, regardless of the qualities in the other layers, a large part of this virtuosic playing is audible only through the approximate shape of the movement. However, the occasional high-register appearances of the simple ascending or descending movements stand out as clearly discernible “figures” within the dense sonority (example 4; see also dotted lines with circled numbering in the movie). Within the tessitura F6 to F7, the average duration of each note is always an eighth note or longer so that the passage can be heard as a “figure” with a sense of stability rather than a partial element of the textural surface in the flow. Similar passages are also found in a lower register, often presenting a longer scale-like ascending movement (see long arrows with white boxes a, b, and c in the movie) within the approximate tessitura between C#3 and D5. They can only be perceived, however, as ambiguous movements with a sense of direction.

The image displays five numbered musical score extracts (1-5) for piano. Each extract consists of two staves, treble and bass clef. Extract 1 shows a complex texture with several blue circles highlighting specific notes. Extract 2 features a similar texture with blue circles. Extract 3 has blue circles and some notes are connected by curved lines. Extract 4 includes blue circles and some notes are connected by curved lines, with a '4/4' time signature change indicated. Extract 5 shows a dense texture with blue circles and curved lines connecting notes.

**Example 4: Score extracts 1-5 with colored marks indicating discernible “figures” by the author.**

The degree to which individual elements penetrate the overall mass differs considerably in each section, depending on the sonic properties of the composed layers. In order to illustrate this variety, the following section will examine the physical properties of individual components, focusing on how they are experienced in combination with one another.

## Colors of Noise, Combination of Noise

During the analysis presented thus far, “color” has been used as a word to represent the acoustic feature of static sound. The “color of noise” can be generally and technically defined by the

spectral density of an audio signal, by which different color names such as white, pink, brown, or blue are given to the particular signal contents. In Ablinger's terminology, however, the significance of "color" is more deeply related to "surface," "flatness," "structureless-ness," or "density" of sound. Paintings by artists such as Barnett Newman, Yves Klein, or Josef Albers, which have had a great influence on Ablinger's aesthetics, often consist of monochromatic colors within a simple structure. "The flatness of a monochromatic panel,"<sup>[44]</sup> as included in works by these visual artists, precisely corresponds to his concept of noise (i.e., the aforementioned "flatness," "structureless-ness," or "density"). The qualitative difference in static noise is thus equivalent to the difference in color in a visually dense surface.

[7] "Color" as opposed to "timbre"<sup>[45]</sup> is a convenient term that can encompass many elusive aspects of sound—the physical qualities which cannot be measured by frequency or duration. What, then, defines the color of a sound, and how can we describe its sonic quality? In the case of the organ clusters, for example, the color of the sound is defined by pitches, density (number of notes), and registration, all of which are specified in the score. Electronic layers 4 and 6, by contrast, do not have their characteristics so clearly specified. As such, when searching for descriptive labels that may encompass both types of sounds, one must use broader categories. These are proposed as follows:

1. Stability/variability
2. Register
3. The degree of pitchedness
4. Fricative intensity<sup>[46]</sup>

These criteria will be examined comparatively rather than statistically. "Subjective" listening, as has already been discussed in the earlier part of this article, is a key way to approach Ablinger's music, playing an especially important role in the analysis of electronic noises. Whilst individual layers in a sound complex cannot be separated in an audio analysis (unless they are recorded into different channels), with human ears we are often able to distinguish different elements in the vertical axis by flexibly changing our listening perspective within the mass. Whilst a spectrogram of an audio file can be useful to compare the overall sonic contents in different sections, the "color" of an individual sound within the section has to be analyzed more manually by our ears.

This approach allows us to create a basic profile of the electronic noises in layers 4 and 6, as shown in table 2. Whilst the same criteria are applied to all types of noise, the extent to which they are pertinent is often different in each sound. For example, variability can be said to be an important feature of 1-6 (i.e. section 1, layer 6), 4-4, and 5-4, whilst this is not relevant to those that feature a simple smooth surface. Furthermore, as an intermediate quality *allure* represents a vibrato-like sense of vibration that is found in 1-4 and 2-4.<sup>[47]</sup> Apart from the four basic criteria, table 2 also includes "other characteristics"—other key features that may not be encompassed by the main criteria.<sup>[48]</sup>

## **Table 2: Sonic properties of the electronic noises at their entries**

Section	Layer	Entry time (m:s.ms)	Stability/Variability	Register*	Pitchedness	Fricative intensity	Other characteristics
1	4	1:43.30	S (allure)	middle	√	+	Reverberation
	6	1:56.40	V	low		+ (?)	Dry
2	4	1:03.30	S (allure)	middle	√	+	Reverberation
	6	1:36.20	V	low		+ (?)	Rough
3	4	1:20.10	S	high		+++	
	6	1:28.70	S	low		+	Muffled
4	4	1:04.50	V	middle		++	Reverberation+
	6	1:14.10	S	high+low		+++	
5	4	0:52.80	V	low		+	Muffled
	6	0:59.90	S	high		+++	
6	4	0:32.50	S	high	√ (slightly)	+	Reverberation+
	6	0:45.20	S	high+low		++	Reverberation+
7	4	0:20.30	S	high		+++	Reverberation+
	6	0:30.30	S	high	√	+++	Reverberation+

\*compared to the electronic glissando in layer 2

Table 2 also suggests links between the criteria. A high degree of fricative intensity is more frequently perceived in a high register than in a lower one (compare, for example, 2-6, 3-6 and 3-4, 5-6). A harsh surface deriving from the fricative sonority in a higher register may even be associated with a sense of “brightness,” which is often observed in high-register pitched sounds (3-4, 5-6, 7-4, and 7-6). In a lower register, by contrast, the fricative quality can be perceived not so much with harshness as with warmth (as in 1-6, 2-6, or 5-4). As a matter of fact, it is more difficult to examine the degree of fricative intensity in a lower register because it is often hidden by more powerful layers in a higher register. In a low register, a grainy surface with a sense of variability is more easily highlighted.

An important difference between low and high registers is that our ears are more sensitive to higher than to lower frequencies. The degree to which sound penetrates, as exemplified by the registral balance between the organ clusters and the electronic noises, appears to be an important tactic for the composer.<sup>[49]</sup> In order for the organ clusters to be discerned only through their “shape and color,”<sup>[50]</sup> electronic noises are carefully chosen in accordance with the number of notes and registrations of the clusters. Noises in a higher register and with a higher fricative intensity, such as 3-4, 5-6, 6-4, 7-4, and 7-6, are most frequently combined with the clusters of a large number of high-pitched tones, as observed in the coupled clusters 3III, 5III, 6III, 7II, or 7III. If the organ clusters are in a lower register and with a softer timbre, by contrast, the electronic noises tend to be lower, as observed, for example, in the pairing between 3-6 and 3II or 5-4 and 5II. There is also a further way in which sound may penetrate: the sharp contrast in tessitura between the organ clusters and noise can be a key factor of the discernibility of the former, as observed, for example, in the pairing between 1-6 and 1II or 2-6 and 2III. In order to maintain the transparent relationship, however, it is always the electric noise that is lower, never the reverse.

[8] The composer’s careful manipulation of individual layers within the overall texture provides a distinct auditory experience in each section. The combination between the sonic profiles in the static layers described above and other non-static components (see table 3) suggests that the overall sonority becomes increasingly bright, sharp, and high in register as each section proceeds. The audibility of the pedals (layer 1), which form a similar ascending line at the start of all but the seventh section, depends upon the registral profile. Differences in audibility are of particular interest in sections 3 and 4. Whilst in both sections static layers 4 and 6 feature a similar fricative sonority (see table 3), there is a substantial difference in their registral

distribution—those in section 4 cover a wider range of register than those in section 3, spreading seamlessly from low to high. The same is true of the corresponding organ clusters (compare 3III/II and 4III/II in example 2). In parallel with the static layers, the other layers in section 4 also contain noticeably more intense sonorities than those in section 3 (dense, complex rhythmic contours and children’s high-pitched cheering, for example), so that none of them is completely enveloped—except layer 1. This sharply contrasts with section 3, in which the soft and light “staccato sempre” (layer 7) passage can be heard with the lower-pitched cheering (layer 8) and less powerful static sounds (layers 3–6), clearly separated into higher and lower bands. This combination of layers creates a space in which the monophonic line is discernible almost all the way through section 3.

**Table 3: Layer combinations in the seven sections**

Section	Monophony (layer 1)	Registrations (layer 7)	Textural profile of virtuosic playing (layer 7)	Concrete sound (layer 8)
1	Largely discernible	8-foot	Dense, continuous flow → chords (less audible)	Echoing voice in a large café or restaurant?
2	Largely discernible	8-foot	Chords + smooth passage (less dense than section 1)	? (hardly discernible)
3	Almost always discernible	4-foot	Light scattered rhythms in “Staccatissimo sempre”	Cheering in a sports ground?
4	Only occasionally discernible	4-foot	Intricate rhythms with a high degree of density	Children’s cheering in a schoolyard?
5	Largely discernible	4-foot	Light scattered rhythms in “Staccatissimo sempre” (similar to section 3)	Laughing, cheering with clattering sounds
6	Partially discernible	4-foot	Chords + smooth passage (similar to section 2) with an increasing degree of density	Echoing voices in a spacious place with a hitting noise?
7	Hardly discernible	2-foot	Varying degrees of intricacy based upon chords	Children’s cheering

Despite this attempt to “deconstruct” the overall sonority into separate elements, the multilayered sound cannot be completely and precisely separated—a layer to which (we think) we are listening may include a sonority from other layers. It is also difficult for us, on the other hand, to focus on all the existing elements in space at once. We always “select,” consciously or unconsciously, some elements within the mass, focusing less on others. In the natural flow of music, we can only experience the dense, complex mass of sounds by wandering through the vertical space, constantly changing our listening perspective.

## Form

The analysis of the seven sections of *Orgel und Rauschen* suggests, as previously discussed, the presence of a broad formal process in which the overall sonority becomes increasingly bright, sharp, and high as each section proceeds. What is more, the formal process in each section is, as is often the case in Ablinger’s composition, framed by a simple outline, in this case based upon an approximate formal symmetry and the ascending movement in the pedals. However, these logical frameworks do not necessarily have a direct impact on how we experience the piece—the monophonic line in the pedals is often indiscernible, and furthermore, both the organ melody and



the texture do not substantially change within each section but instead contribute to the overall static quality. The only element that could provide us with a sense of temporal division is the change of color in the static layers, as marked by the vertical lines shown in the top layer of movie 1. Yet, once again, the relationships between these segments are not directly associated with a large-scale formal function in our auditory experience.

This undefinable musical form can arguably be compared to moment form, originating from Karlheinz Stockhausen's permutable "Momentform"<sup>[51]</sup> and further defined by Jonathan Kramer as a form consisting of "self-contained entities [moments]" which are "capable of standing on their own yet in some sense belonging to the context of the composition."<sup>[52]</sup> In *Orgel und Rauschen*, in sharp contrast with Stockhausen's *Kontakte* (1958–60), there is no clear sense of sectional division marked by distinct components, but the resulting music in each section appears to be entirely dominated by a static quality. In other words, musical staticism, discussed by Kramer as a potential component of moment form in twentieth-century music, features in Ablinger's composition in an extensive manner. Despite the absence of clearly divided structural units, however, each segment with a different color can still be thought of as something akin to a "moment" that exists for its own sake whilst somewhat belonging to the wider context of a composition. A sense of a separate "moment" and its relationship with the overall form can only be created by the individual listeners noticing that they are not aimlessly floating in the static mass but following some kind of trail. Ablinger's works, as the composer says, "attempt to keep a balance" between "the timeless aspect," in which "the listener is left to his own devices to blaze an auditory trail through the piece," and "the temporal aspect," in which "more direction is given to the listening."<sup>[53]</sup> Differently expressed, Ablinger's music, especially where, as here, it combines extreme density with indefinite continuation, invites us to a more spontaneous listening, deprived of preconceptions or expectations.

## Conclusion

[9] In Ablinger's aesthetics, a musical piece is not a completed structure in itself but something that can only be completed *through* individual listening. As such, what the present author has experienced in these pieces might not be identical to what is experienced by other listeners. Different performances, furthermore, may produce a different effect in the same listener. It is important, therefore, to not just define the individual events that are occurring in space but to contemplate what occurs in individual listening. As the composer says, "listening is thus the means of observing perception."<sup>[54]</sup>

Even if this ambiguity always leaves an area that cannot completely be explained, musical analysis can still provide some general arguments about how a piece works, in the process allowing us to draw a line between what can be fully scrutinized and what cannot. Whilst it is frustrating to acknowledge the limitation of music analysis, it is exactly this element of uncertainty that makes music engaging, since it leaves space for our perception and imagination.

The illusive effect of noise is explored to its full extent in Ablinger's composition. In musical practice more generally, however, static noise or similar elements are not often used so extensively. Nevertheless, even in such situations sensory stimulation by noise can be important to our musical experience and interpretation. Noise allows us to release ourselves from the pressure to listen precisely to what exists in reality and instead to embrace the subjectivity, not

to mention productivity, of our own ears. It serves as a source for both the composer's and the listeners' imaginations.

## References

1. Arnold Schoenberg, "Opinion or Insight? (1925)" and "Composition with Twelve Tones (1941)," in *Style and Idea: Selected Writings of Arnold Schoenberg*, ed. Leonard Stein, trans. Leo Black (Berkeley: University of California Press, 1984), 258–64 and 214–45. ↑
2. Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge, MA: MIT Press, 1999), 69; see also chapter two, 68–156. ↑
3. Michel Chion, *Sound: An Acoulogical Treatise*, trans. James A. Steintrager (Durham: Duke University Press, 2016), 64. ↑
4. Pierre Schaeffer, *Traité des objets musicaux: Essai interdisciplines* (Paris: Seuil, 1966); Pierre Schaeffer and Guy Reibel, *Solfège de l'Objet Sonore*, issued as three LPs and a book (Paris: Seuil, 1967); reissued as three CDs: Pierre Schaeffer and Guy Reibel, *Solfège de l'Objet Sonore* (Paris: INA/GRM, 1998). ↑
5. Helmut Lachenmann, "Klangtypen der neuen Musik (1966)," in *Musik als existentielle Erfahrung: Schriften 1966–1995*, ed. Josef Häusler (Wiesbaden: Breitkopf & Härtel, 1996), 1–20. ↑
6. Peter Ablinger, *HÖREN hören/hearing LISTENING*, ed. Katja Blomberg (Berlin: Kehrer, 2008), 94. ↑
7. *Ibid.* ↑
8. Peter Ablinger, "Black Square and Bottle Rack: noise and noises," in *Noise in and as Music*, ed. Aaron Cassidy and Aaron Einbond (Huddersfield: University of Huddersfield, 2013), 6. ↑
9. Peter Ablinger, e-mail interview by Pablo Gianera, "About the 'City Opera,' 'Voices and Piano,' and on Perception," September 2011, accessed July 20, 2020. ↑
10. *Ibid.* ↑
11. Ablinger, *HÖREN hören*, 94. ↑
12. *Ibid.* ↑
13. Peter Ablinger, "Rauschen," last edited August 18, 2013, accessed July 20, 2020. ↑
14. *Ibid.* ↑
15. *Ibid.* ↑
16. Peter Ablinger, "Weiss," trans. Meaghan Burke, last edited August 18, 2002, accessed July 20, 2020. Original wording: "Angesichts von *nichts* (oder auch nur zu wenig Information), erzeugt es immer *etwas*," in: Peter Ablinger, "Metaphern (Wenn die Klänge die Klänge wären...)," 18, published in *Übertragung - Transfer - Metapher*, ed. Sabine Sanio and Christian Scheib (Bielefeld: Kerber, 2004), 425–75, as well as in Peter Ablinger,

*Annäherung: Texte – Werktexte – Textwerke* (Cologne: MusikTexte, 2016), 34–68. ↑

17. [Ablinger, “Weiss.”](#) Original wording: “Alle Metaphern (*Übertragungen*) sind selbst wieder Metaphern für die Interpretationstätigkeit des Geistes, für das permanente Erzeugen einer uns operationsfähig haltenden Wirklichkeit.” [Ablinger, “Metaphern,” 19.](#) ↑
18. [Wolfgang Gratzer, MGG Online, s.v. “Peter Ablinger,”](#) accessed July 20, 2020. Original wording: “reinen Hörens.” Unless otherwise indicated, all translations are my own. ↑
19. A number of studies on various genres of Ablinger’s works have been published: for example, G Douglas Barrett, “Between Noise and Language: The Sound Installations and Music of Peter Ablinger,” *Mosaic: A Journal for the Interdisciplinary Study of Literature* 42, no. 4 (2009): 147–64; Florian Neuner, “Das Rauschen des Böhmerwaldes: Peter Ablingers ‘Landschaftsoper’ als erstaunliches Experiment,” *MusikTexte* 124 (2010): 18–20; Wolfgang Gratzer, “Wie das Werk vergeht: Wie lässt sich mit Peter Ablingers ‘Weisse Wäsche’ adäquat umgehen?” *Musiktheorie: Zeitschrift für Musikwissenschaft* 27, no. 4 (2012): 369–82; Tom Rojo Poller, “Kopfwerk und Handwerk: Zum handwerklichen Aspekt konzeptuellen Komponierens am Beispiel von Sprachübertragungen in Werken Peter Ablingers und Klarenz Barlows,” in *Mythos Handwerk? Zur Rolle der Musiktheorie in aktueller Komposition*, ed. Ariane Jeßulat (Würzburg: Königshausen & Neumann, 2015), 147–72; and Amila Ramović, “Exhibiting Music: The Peculiar Case of Peter Ablinger,” *Časopis za muzičku kulturu Muzika* 14, no. 2 (2015): 30–48; G Douglas Barrett, “Music to the Letter: Noise, Language, and the *Letter from Schoenberg*,” in *After Sound: Toward a Critical Music* (London: Bloomsbury Academic, 2016), 96–115. ↑
20. [Christian Scheib, “Peter Ablinger: Static’s Music – Noise Inquiries,”](#) last edited August 8, 2002, accessed July 20, 2020. ↑
21. [Peter Ablinger, “Der Regen, Das Glas, Das Lachen,”](#) accessed July 20, 2020. ↑
22. [Scheib, “Peter Ablinger: Static’s Music,” 7.](#) ↑
23. [Peter Ablinger, “IEAOV,”](#) last edited December 29, 2012, accessed July 20, 2020. A full German version is published in Peter Ablinger, “IEAOV,” in *Annäherung: Text – Werktexte – Textwerke*, 369–73. The “verticalization” of sound was initially realized in 1995 for the performance of the first *IEAOV* piece entitled “Läuterung des Eisens” for saxophone, piano, percussions, and electronics. This system was created by Thomas Musil and Robert Höldrich at the IEM Graz specifically for Ablinger’s *IEAOV* project. ↑
24. Scheib mentions a preliminary experience of Ablinger’s sound “condensation” (see [Scheib, “Peter Ablinger: Static’s Music,” 12](#)). Almost ten years before the *IEAOV* series, Ablinger had experimented with a preliminary operation for sound verticalization through the composition of *Weiss/Weisslich 22* (1986/96), “Symphony of Haydn, Mozart, Beethoven, Schubert, Bruckner, Mahler, condensed into 40 seconds each.” In this piece, six to eight hours of symphonic music by each composer is recorded onto a hard-disc and transformed into formless sonic information by means of a newly designed software program. A series of musical events are thus “compressed” into a dense texture or “vertical column.” Ablinger’s resulting compositions present sums of all elements of the original symphonies without losing any information. ↑
25. [Peter Ablinger, “Hörstücke,”](#) last edited January 31, 2017, accessed July 20, 2020. ↑
26. [Ablinger, HÖREN hören, 95.](#) ↑

27. For the rustling sounds in *Weiss/Weisslich 18*, for example, the composer says, “for some trees I sat for more than a week, like a hunter, in order to get an undisturbed recording of 40 seconds.” Ablinger, *HÖREN hören*, 72. ↑
28. Ablinger, “Black Square and Bottle Rack,” 8. ↑
29. [Ablinger, e-mail interview by Gianera, “About the ‘City Opera.’”](#) ↑
30. Gratzner, “Wie das Werk vergeht,” 376. Original wording: “Der Anspruch adäquater Interpretation.” ↑
31. The analysis is based upon the recording: Peter Ablinger, *Orgel und Rauschen (Diaphanie 3)*, Hans-Peter Schulz (organ), recorded October 4–7, 2002, Los Angeles River Records, LAL2-21, 2003, CD. ↑
32. Ablinger, *HÖREN hören*, 95. ↑
33. A full list of this series is found on [Ablinger’s website](#), accessed July 20, 2020. ↑
34. [Peter Ablinger, “Orgel und Rauschen \(Diaphanie 3\),”](#) last edited January 18, 2008, accessed July 20, 2020. German version: “Schon immer suche ich nach dem Klang im Klang im Klang.” The English version is found on Ablinger’s website. ↑
35. *Ibid.* German version: “als Freejazz-Pianist war das Faszinierende an der größten Dichte und rasendsten Geschwindigkeit, daß sich in ihr eine schwebende, fast statische Langsamkeit entfalten konnte.” ↑
36. *Ibid.* ↑
37. *Oxford English Dictionary*, s.v. “diaphanie,” accessed July 20, 2020. ↑
38. [Ablinger, “Orgel und Rauschen.”](#) ↑
39. *Ibid.*; emphasis in the German version: “Ich nehme alle Töne – und da mir alle gefallen, nehme ich keinen mehr weg. Ein Ton, irgendwo weggenommen, würde im gleichen Moment an einer anderen Stelle wieder auftauschen [sic]. Das ist alles, was ich tue: daß ich ALLES unterschiedlich im Raum verteile, aber es bleibt immer ALLES.” ↑
40. Preface to the score with written instructions. German and English versions are available in [Ablinger, “Orgel und Rauschen”](#) (at the bottom of the page; “Vorwort zur Partitur mit Beschreibung und Details zur Aufführung” and “Preface for score with description and details for performance” respectively), accessed July 20, 2020. ↑
41. *Ibid.* German version: “ebenfalls nur erahnbare” and “[sodaß] sie über weite Strecken nur wie eine Illusion wirken.” ↑
42. *Ibid.* ↑
43. *Ibid.* German version: “durch ein zart beigemischtes, helleres Register.” ↑
44. [Ablinger, “Weiss.”](#) ↑
45. Whilst *timbre* refers to the spectrum of a sound as well as its envelope (the manner in which sound energy changes in time, often described as ADSR [Attack, Decay, Sustain, Release]), *color* does not include envelope, focusing only on the spectral profile of a fixed sonority. ↑

46. The term “fricative” is borrowed from the terminology of phonetics. Whilst in phonetics “fricative” is associated with an action that produces a sound (i.e., forcing air through a narrow gap), in this analysis it only refers to the resulting sound quality, i.e., a hissing noise with a sense of airy friction, similar to the sounds f, θ, ʃ, or s. [↑](#)
47. For the definition of “allure,” see Schaeffer, *Traité des objets musicaux*, 549–50. [↑](#)
48. It is worth referring here to Chion’s argument regarding Schaefferian theory on *objets sonores*. Responding to the frequent criticism that Schaeffer’s sound categorization is only designed for extreme examples, Chion contends that various criteria for describing the sonoristic features are not necessarily relevant to *all* sound. For example, “grain” is not a property that is always discernible in sounds. Nevertheless, recognizing this criterion makes us conscious of the qualitative difference between sounds that have grain and those that do not. The importance of “what is not” in Chion’s argument is pertinent in aural analysis of any type of sonority. See Chion, *Sound*, 226. [↑](#)
49. Preface to the score with written instructions, where the composer writes, “a frequent problem of balance might be that the higher tones within the organ play would appear clearer than the middle ones. This—in parts—can be counteracted by articulation: right hand (high register) articulates shorter (lighter) than left hand (lower register).” German version: “Häufiges Balance-Problem dürfte sein, daß vom eigentlichen Orgelspiel die höhere Lage deutlicher erscheint, als die Mittellage. Dem kann z.T. durch Artikulation entgegengewirkt werden: rechte Hand (höhere Lage) artikuliert kürzer (leichter) als linke Hand (tiefere Lage).” [↑](#)
50. Ibid. [↑](#)
51. Karlheinz Stockhausen, “Momentform: Neue Beziehungen zwischen Aufführungsdauer, Werkdauer und Moment,” in *Texte zur Musik* (Cologne: M. DuMont Schauberg, 1962), 1:189–210. [↑](#)
52. Jonathan D. Kramer, “Moment Form in Twentieth Century Music,” *The Musical Quarterly* 64, no. 2 (April, 1978): 181. [↑](#)
53. Ablinger, *HÖREN hören*, 95. [↑](#)
54. Ibid., 98. [↑](#)