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Esteban Buch

»Requiescat in Pace« (Rest in Peace), the formula is arguably a pleonasm without its theological content, that denies peace to the damned in Hell, and provides it to souls in Paradise. What can possibly mean, for a dead person, to rest without peace? And what is the meaning of resting, if the word applies both to relax and to be dead? These ambiguities might remind us that, while in English a sign for musical silence is called a *rest*, in German it is called a *Pause*, and in French, a *soupir*. There is no doubt that a musician is at work while singing or playing an instrument, but some might think she is resting when she does not produce any sound – a little bit like God, who allegedly worked six days and rested on the seventh. Still, in classical music scores rests are as essential as notes, and musicians are also paid for not playing them. The music work itself is an inextricable fabric of sounds and rests, since both are part of the aesthetic content. And silence also defines the boundaries of the music, witness the habit of waiting for the audience to be silent before starting to play, and also –even if transgressions are frequent- that of waiting for silence again before applauding.¹

The paradoxes of silence are not restricted to music. In the battlefields of the Great War, the issue of hearing and being heard had often life or death consequences. In the trenches, soldiers would strenuously wait for silence, as a sign that they could safely fall asleep, after many hours of hearing sounds that, like the explosions of the gunfire and the shouts and cries of the men, made them aware of the vicinity of danger. In this sense, silence was a synonym for rest and peace. Yet, sometimes silence could also mean a lethal threat, since soldiers learned to use their ears to identify and locate weapons, and that skill was useless when the enemy made no sound at all. And all that had a deep influence on their nerves. A picture published in Paris in December 1915 shows a soldier in his bed during a leave at home: »—Ohhhh ! !... j'peux pas dormir dans ce silence ! !...«, »I cannot sleep in this silence!«, says the legend. The war altered the very nature of silence for those most exposed to its violence. Meanwhile, the government recommended silence to civilians, by telling them to keep their mouths shut to prevent espionage. In another picture, also published in *La Baïonnette* in December 1915, the injunction to shut up is addressed to a woman, in a clearly sexist fashion. Traditionally, silence is a manly virtue.²

¹ Zofia Lissa, »Aesthetic functions of silence and rests in music«, in: *Journal of Aesthetics and Art Criticism* 22/4 (1964), p. 443-454; Thomas Clifton, »The Poetics of Musical Silence«, in: *The Musical Quarterly* 62/2 (1976), p. 163-181; Elizabeth Hellmuth Margulis, »Moved by Nothing: Listening to Musical Silence«, in: *Journal of Music Theory* 51/2 (2007), p. 245-276.

² The pictures are reproduced in Esteban Buch, »Silences de la Grande Guerre«, in : *Entendre la guerre. Sons, musiques et silence en 14-18*, Florence Gétreau éd., Gallimard-Historial de la Grande Guerre, Paris 2014, p. 128-133. See also Alain Corbin, *Histoire du silence*, Albin Michel, Paris 2016 ; Alexandre Vincent, »Une histoire de silences«, in : *Annales. Histoire, Sciences Sociales* 72/3 (2017), p. 633-658 ; Nira Pancer, »Le silencement du monde. Paysages sonores au haut Moyen Âge et nouvelle culture aurale«, in : *Annales* 72/3, p. 659-699.

Partly because of this gendered dimension, silence was also mandatory for musicians. At the outbreak of the war, all concerts were cancelled, as if the sound of music distracted people from the sounds of the battle.³ Many composers stopped writing music altogether, either because they were mobilized, or because they felt it to be inappropriate. However, works of serious music were composed as the war progressed, and also songs and other popular music. Some of them reflected the experience of war, usually in the form of patriotic and/or funeral pieces.⁴ Did that music also depict the experience of silence? This does not seem to have been the case, at least during the years of the conflict. And the pictures mentioned before did not represent silence either, but rather its opposite –a man complaining loudly about it, a command to shut up. Was silence in the war depictable at all?

The answer to that question is yes. But first, it took the war to end.

The End of the War

This image is the frontispiece of a nearly 600-pages book, *America's Munitions*, published by the US Government in 1919.⁵ According to the legend, it shows on a temporal line how on 11 November 1918 at 11 AM the guns in the American front near the River Moselle went silent. It is, so the title goes, nothing less than a picture of *The End of the War*:

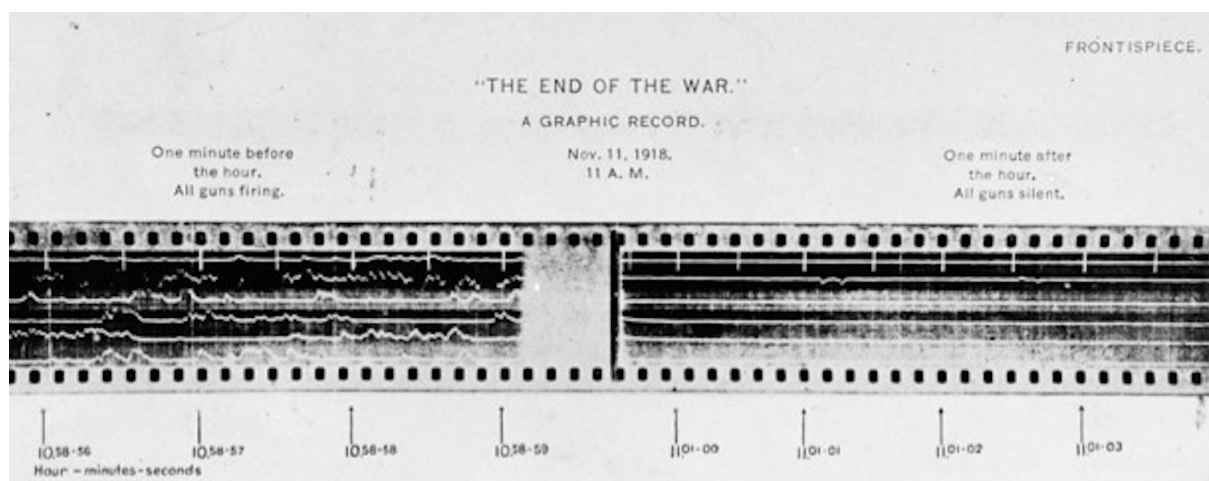


Fig. 1 – The End of the War⁶

³ Esteban Buch, »'Les Allemands et les Boches' : La musique allemande à Paris pendant la Première Guerre mondiale«, in : Le Mouvement social 208 (2004), p. 45-69 ; Myriam Chimènes and Charlotte Segond-Genovesi, »Les concerts à l'arrière : Paris«, in : Entendre la guerre, p. 88-99 ; Rachel Moore, *Performing Propaganda. Musical Life and Culture in Paris during the First World War*, Boydell Press, Woodbridge 2018.

⁴ Glenn Watkins, *Proof through the Night. Music in the Great War*, University of California Press, Oakland 2002 ; Esteban Buch, *Composer pendant la guerre, composer avec la guerre*, in : *La Grande Guerre des musiciens*, Symétrie, Lyon 2009, p. 135-160 ; Esteban Buch and Cécile Quesney, »Les compositeurs et la guerre«, in : *Entendre la guerre*, p. 100-109.

⁵ Benedict Crowell, *America's Munitions, 1917-1918: Report of Benedict Crowell, the Assistant Secretary of War, Director of Munitions*, Government Printing Office, Washington 1919.

⁶ Ibid., [frontispice, n.p.].

America's Munitions is a report on the weaponry and equipment produced during the Great War by US forces and industries. Authored by Benedict Crowell, the Director of Munitions and Assistant Secretary of War, it is clearly aimed at vindicating America's global leadership in war technologies. The frontispiece illustrates sound-ranging techniques that were also developed and used, more or less at the same time, by the French, the Britons, and the Germans.⁷ Their purpose was to locate the gun batteries of the enemy in order to destroy them. Several other sonic devices are described in chapter IV of the book: paraboloid detectors for locating planes, and geophones that detected mines, like a seismograph. This is how the chapter begins:

In childhood we were enthralled by the tales of those magic persons whose keen hearing could detect even the whisper of the growing grass. As camouflage developed, modern warfare yearned for such supernatural gifts of sense that troops might detect the unseen presence of the enemy. Accordingly Science, the fairy godmother of to-day's soldiers, raised her wand, and lo, the Army was equipped with the wonderful ears of the fairy tale, uncanny no longer, but a concrete manufacturing proposition.⁸

The sound-ranging »listening instrument«⁹ consisted in microphones set up in the trenches, one nearly a mile away from each other, and connected through wires to a recording apparatus. »The impulses received by the microphone in this equipment were recorded on a running tape smoked by an acetylene flame«.¹⁰ The smoked paper tape was moved by an indented rotor, thus making the picture similar to a film. It kept record of six microphones at the same time. The location of a gun battery resulted from a triangulation calculus based on three recordings of the same shot, where the time lapses –in seconds in the scale-time-determined the distances between the source of the explosion and the microphones.

To produce *The End of the War* picture, the paper roll was edited by cutting off the segments corresponding to the 11 AM minus one minute, and the 11 AM plus one minute time lapses. The legend explains that »the two minutes on either side of the exact armistice hour have been cut from the strip to emphasize the contrast«. At the left, we see the trace of »All guns firing«; at the right, that of »All guns silent«. A vertical line was added to underline the pivotal moment. No explanation is provided for the white section close to that line, which still adds to the discontinuity.

In short, the image shows three seconds of war, and three seconds of peace. But the words »All guns silent« are actually misleading, the two breaks in the second line at the right »probably being due –says the legend- to the exuberance of a doughboy firing his pistol twice close to one of the recording microphones on the front in celebration of the dawn of peace«. The picture not only shows the end of the war, but also the rejoicing of the victors. Silence is both the goal of the war, and the sonic image of victory itself.

The symbolic power of *The End of the War* picture was acknowledged by *The Journal of Electricity, Power and Gas*, the organ of the Pacific Coast Electric Transmission Association:

⁷ William Van der Kloot, »Lawrence Bragg's Role in the Development of Sound-Ranging in World War I«, in : Notes and Records 59/3 (2005), p. 273-84, here p. 274.

⁸ Crowell, *America's Munitions*, p. 383.

⁹ Ibid., p. 385.

¹⁰ Ibid., p. 387.

As this little photographic film so eloquently testifies, the guns of conflict have been silenced — perhaps, as is our fervent hope, for all time. Yet Armistice Day, in 1919, calls us to face tremendous new industrial problems which bulk as great in magnitude as those of the critical war period. Civilization still remains in the balance. It is for the splendid vision of the electrical industry to assist the inventive spirit of America to triumph now as then. It is for the men of the West to lend their wholehearted loyalty to the cause of America so that our nation may advance as never before. Amid the rejoicing of Armistice Day, the West is not forgetful of the paths of peace, beset with difficulties, yet leading into a future which appears radiant.¹¹

In reality, things did not go exactly as in *The End of the War* picture. The Convention of Armistice signed the 11 November 1918 at 5 AM in the Forêt de Compiègne said that all military operations in the Western Front would stop »six hours after the signature«. ¹² But guns did not stop shooting all at the same time. It is unlikely that the »two breaks of the second line« recorded an American pistol, as the legend claims, rather than a late enemy shot. Sound-ranging microphones captured only the low frequencies of the artillery, not all noises around. But that, of course, went against the narrative of *America's Munitions*, and its picturing what we might call the technical death of the enemy, as in the electrocardiogram of a dead person. By the way, the 11 November 1918 was in France a very noisy day, full of shouts of joy, bells, military music, and other sonic celebrations.¹³

To a musically minded reader, this synchronized end might also evoke the coordinated action of an orchestra obeying all at once to the closing gesture of its conductor, as in the cliché of Prussian efficiency. It is, so to speak, a visual dramaturgy of historical Time, appearing through »the wonderful ears of the fairy tale«, as Crowell said. You can see the end of the war, you can feel it – you can hear it, pretty much in the way you can have a mental sonic image from reading a musical score. The image says: the war was a long, horrendous noise, and now the rest is silence.

In Futurum

In 1919, the same year of the publication of *America's Munitions*, the Czech composer Erwin Schulhoff wrote in Dresden a collection of five short piano pieces entitled *Pittoresken*. He dedicated them to the painter Georg Grosz, a leader of the Dada movement he had recently met in Berlin, and wrote him in a letter that they were »aus dem Bordell der Zeit

¹¹ The Journal of Electricity, Power and Gas, 43/10 (1919).

https://archive.org/stream/journalofele431151919sanf/journalofele431151919sanf_djvu.txt (accessed 12 Feb 2019).

¹² Michel Roucaud, »La convention d'armistice du 11 novembre 1918«, in : *Revue historique des armées* 245 (2006), 78-81 ; Alain Fauveau, »Le dernier combat : Vrine-Meuse, 10 et 11 novembre 1918«, in : *Revue historique des armées*, n° 251 (2008), p. 18-34.

¹³ Aline Fryszman, »Exultation festive et tristesse le 11 novembre 1918 : les paradoxes de la victoire dans le département du Puy-de-Dôme«, in : *Siècles* 39-40 (2014), <http://journals.openedition.org/siecles/2874> (accessed 12 Feb 2019).

herausgekommen und nicht mehr als ein Excrement«.¹⁴ The first, probably incomplete, performance took place during a Dadaist gathering in Dresden in November 1919.¹⁵ The collection was published the same year in Berlin, with a poem by Grosz set as an epigraph or, perhaps, a frontispiece. Entitled »Aus den Gesängen«, Grosz's text begins: »Welten! Fluten! Ihr taumelnden, torkelnden Häuser!!! Cake-walkt am Horizont!!«. The painter evokes »Negermelodien«, and praises »Australien, Afrika, Amerika« – the whole world, minus Europa. And he insists: »Welten – ich rufe, schreie!!!«. The two first pieces of Schulhoff's *Pittoresken* are *Foxtrot* and *Ragtime*, two American genres; the two last are *One-Step*, still an American dance, and *Maxixe*, a Brazilian dance à la mode. The third is entitled *In Futurum*, and is quite different from the rest of the collection:

¹⁴ Quoted in Gottfried Eberle, *Der Vielsprachige : Erwin Schulhoff und seine Klaviermusik*, Pfau Verlag, Saarbrücken 2010, p. 85. See also Josef Bek, *Erwin Schulhoff. Leben und Werk*, Bockel Verlag, Hamburg 1994, p. 45-47.

¹⁵ Bek, *Erwin Schulhoff*, p. 203.

III. In futurum.

Zeitmaß-zeitlos.

tutto il canzone con espressione e sentimento ad libitum, sempre, sin al fine!

Erwin Schulhoff,
In Futurum
© Ries & Erler, Berlin 1991

Fig. 2 – Erwin Schulhoff, In Futurum
(copyright by Ries & Erler, published with kind permission)

Arguably, *In Futurum*, and with it the whole *Pittoresken*, were closely related to Schulhoff's war experience. This is admittedly conjectural, since there are no traces of an explicit association in the composer's mind. Still, the context is eloquent. Schulhoff was drafted in 1914 in the Austro-Hungarian Army, and was sent first to the Russian front. He fought later in Italy, where he was severely wounded, and kept as a prisoner in a camp. The end of the war found him there, in poor health, depressed, furious against the military, and turned into a

pacifist, a socialist, and a revolutionary. Traces of this are explicit in postwar works like *Sinfonia Germanica*, written in Dresden in 1919, an anti-nationalist parody of the German national anthem, and a most extraordinary manuscript where he uses some notational tricks that also appear in *In Futurum*, like big anthropomorphic, smiley-like notes.¹⁶ The anti-militarist stance of the Dadaist circles of Dresden and Berlin included using ironic nicknames such as »Colonel Schulhoff« and »Marschall Grosz«. Under this shape, Grosz is sort of a character of *In futurum*, thanks to a G.P. [Generalpause] identified as a »Marschall Pause«.

Through the title, the score, and this allusion to a silent or resting Marschall that responds to Grosz's *Rufen* and *Schreien*, the piece brings together silence, the war, and the future. This echoed some earlier concerns. Already in 1916, Schulhoff noted in his *Tagebuch* that the war was a mortal threat to »all acquired culture of European mankind« (»alle erworbene Kultur der europäischen Menschheit«), and envisioned it as »Eingang des Zukunftslandes«.¹⁷ In 1919, in a program for a series of *Fortschritts-Konzerte* he organized in Dresden, he described his music, together with that of Schönberg, Berg, Webern, Hauer, Scriabin, and others, as »Zukunftsmusik«.¹⁸

Was, then, *In futurum* a picture of the times to come? Not quite. Its title is a Latin accusative form that means *For the future, Für die Zukunft*. The piece does not represent, nor announces, the future; rather, it is addressed to the future, as if to bear witness of the present for generations to come. This might have a juridical meaning: in French law, the expression *In futurum* designates a legal order »de conserver ou d'établir avant tout procès la preuve de faits dont pourrait dépendre la solution d'un litige«, an order to establish some piece of evidence, or to preserve it from destruction (art. 145 of the *Code de Procédure Civile*). Schulhoff might have known this, for back in 1913 he lived for some time in Paris, taking lessons with Debussy.¹⁹ In this perspective, the silence of *In futurum* is evidence for a trial to come, a contribution to future justice on the times that produced it.

Now, *In futurum* is the central piece of a collection of fashionable dances. In the other four pieces of *Pittoresken*, rests are similar to those of many jazz-inspired pieces of the time, be they Schulhoff's or some other composers'. In all these scores, rests are part of rhythmic, melodic, and formal patterns, but they do not seem to have a semiotic function of their own. The *Pittoresken* series as a whole relates to the war first of all by opposing mourning and destruction, by negating death through different tones of exotic eroticism. But that makes the pivotal silent piece all the more significant. *In futurum* suggests that at the very heart of noise, speed and fun, as a counterpoint to the eroticized movement of the bodies, lie silence, immobility, and death.

This nothingness implies some kind of voicing, though. According to Gottfried Eberle, the indication *Tutto il canzone con espressione e sentimento ad libitum, sempre, sin al fine!* designates a vocal piece, as do the respiration commas.²⁰ The trace of the human voice is arguably paramount in the piece, although ironic antiphrasis. Yet, there is no text, nor actual vocal line; the *canzone* might perhaps remind a classical *Lied ohne Worte*, but the commas are not

¹⁶ Eberle, *Der Vielsprachige*, p. 103.

¹⁷ Quoted in Tobias Widmaier, »Colonel Schulhoff, Musikdada. Unsinn als Ausdruck von Lebendigkeit«, in : *NZM* 155/3 (1994), p. 14-21, here p. 15.

¹⁸ Erwin Schulhoff, *Schriften*, Tobias Widmaier (ed.), Von Bockel, Hamburg 1995, p. 9.

¹⁹ Derek Katz, »Erwin Schulhoff«, http://orelfoundation.org/composers/article/erwin_schulhoff (accessed 12 Feb 2019).

²⁰ Eberle, *Der Vielsprachige*, p. 94.

congruent with that either. Whose breath are we supposedly not listening to? The subject-performer is enigmatic through and through, as is the listener herself. The score transgresses musical notation in many ways, that are often logically inconsistent. The inversion of clefs might induce a silent crossing of hands, that some pianists actually perform in concert; but nothing says that they should. The 3/5 and 7/10 measures are a-grammatical signs, together with the interrogation and exclamation marks, the weird double fermata signs, the nice visual descending and ascending curves of 16th- quintuplets in the fifth system, the more distressing visual fall of 32th-notes just before the end, and the big smiley-like B and D big notes at the end, that make for fugitive unsound pitch references.

On the other hand, the score rigorously sticks to 4/4 measure. According to Marianne Betz, the many syncopations evoke a ragtime or a cake-walk, thus echoing the rest of the collection.²¹ Yes, these signs can be read as the written shadow of dancing bodies that are no longer there. But no rhythm is ever repeated, and no particular genre is actually quoted. In fact, no two measures are exactly the same. In this postwar music, silence never repeats itself. Betz also compares it to a piece for percussion by Schulhoff called *Step*, a rhythmical score with no pitches.²² And it is true that *In futurum* is a pure sequence of rhythms; but their chronometrical relations dissolve in a *Zeitlos* measure.

Inside this a-temporal rhythmical space, *In futurum* combines two traditional techniques for notating silence: fermatas, that suspend the metrical framing, letting the performer decide for how long; and rests, that are part of this metrical framing, and whose duration is determined by the composer. This suggests a dramaturgy of composer and performer. The performer's agency, rich in »*espressione e sentimento*«, also appears in the exclamation marks before or after the fermatas. The only sign of four exclamation marks characterizes the »*Marschall Pause*«, making of it the climax of the piece; beyond the allusion to Grosz, it introduces a military, hyperbolic figure of authority.

In futurum makes use of Western musical notation at a level of complexity comparable to other *neue Musik* scores of that time. This resulted from a historical process during which the notation of silence evolved as a negative of the notation of sound. The invention of the signs for rests followed the differentiation of the signs for sounds, with the increasing number of flags in the rests corresponding to that of the notes (one for an eighth-note, two for a sixteenth-note, and so on).²³ Interestingly, Schulhoff did not use a third conventional sign for musical silence, namely the indication *Tacet*, preeminent in John Cage's later versions of 4'33. According to Elizabeth Hellmuth Margulis, in Western music, »most commonly, silences delineate boundaries«. ²⁴ Yet Schulhoff's piece arguably challenges the very notion of boundary. Rather, it is the negative of a non-silent piece of music, where time itself –historical and musical time- is pictured through its own negative, *Zeitmaß-Zeitlos*.

In this sense, it is very much like a photographic negative.

²¹ Marianne Betz, »"In futurum" - von Schulhoff zu Cage«, in : AfM 56/4 (1999), p. 331-346, here p. 334.

²² Betz, »'In futurum' - von Schulhoff zu Cage«, p. 33.

²³ Richard Rastall, »Rest«, in : New Grove Dictionary of Music and Musicians, Stanley Sadie and John Tyrell eds, Macmillan, London 2001, Vol. 21, p. 228-229.

²⁴ Margulis, »Moved by Nothing«, p. 252.

Technical pictures of time

This brings us back to *The End of the War*, seen as a moment in the history of the picturing of time. In the late nineteenth century, scientists sought intensively to represent time curves through mechanically-produced images. More often than not, these graphics were not related to sound; examples given by historian of photography Michel Frizot range from curves representing the fluctuations of the level of the Seine, to Etienne-Jules Marey's devices for registering animal bodily parameters, soon to be followed by his famous *chronophotographies* of running horses and humans. Marey's experiments with animals are part of the prehistory of the electrocardiogram, invented in 1902 by Willem Einthoven.²⁵ Eventually, this made of the flat line of an electrocardiogram a most popular representation of death, which in actual medical practice often results from a crisis first represented by chaotic visual patterns.²⁶

As part of these variegated representations of temporal processes, the visualization of sound has a history of its own. Interestingly, it was first thought of as a form of writing, rather than of drawing or painting. Jonathan Sterne observes that »to create a form of automatic sound writing« was »something of an obsession in nineteenth-century science«.²⁷ The first mechanical recording of sound was invented by a stenographer, Léon Scott de Martinville, who in 1857 produced an image of the time curve of a human voice. In 1878, Alfred Cornu and Ernest Mercadier depicted the sound of a violin by using a wire connected to a stylus.²⁸ The principle is similar to the wax cylinders that around that time inaugurated the era of the mechanical reproduction of sound. In 1895, Emile Berliner claimed that the voices recorded by his gramophone »may be analyzed by studying the beautiful record curves which they show in phonautograms printed from original record plates«.²⁹

However, throughout this period there seems to be no evidence of anyone representing silence. In the early times of sound recording, the idea was unlikely to make sense at all. If we take silence as an object of perception on its own grounds, rather than as the background for non-silent phenomena, *The End of the War* picture might well be the first mechanical representation of silence in Western history.

These late nineteenth-century technological developments did not influence the technique of musical notation, let aside that of rests. Yet in this period writer and humorist Alphonse Allais, a member of the group Les Artistes Incohérents, imagined what is probably the first silent piece in music history, the *Marche funèbre composée pour les funérailles d'un grand homme sourd*, published in 1897 in his *Album primo-avrilesque*. Even if the whole album was a joke, a *poisson d'avril*, it also marked the history of monochrome paintings by including pictures like the all-white »*Première communion de jeunes filles chlorotiques par un temps de neige*«. This was first shown in 1883 at the Exposition des Artistes Incohérents, one year after poet

²⁵ Michel Frizot, »Les courbes du temps. L'image graphique et la sensation temporelle«, in : *Aux origines de l'abstraction*, Serge Lemoine and Pascal Russo eds., Musée d'Orsay, Paris 2003, p. 68-83 ; Bruce Fye, »A History of the origin, evolution, and impact of electrocardiography«, in : *American Journal of Cardiology*, 73/13 (1994), p. 937 – 949.

²⁶ Cardiologist Adrián Baranchuk, private communication.

²⁷ Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction*, Duke University Press, Durham 2003, p. 41.

²⁸ Serge Benoit, Daniel Blouin, Jean-Yves Dupont and Gérard Emptoz, »Chronique d'une invention : le phonautographe d'Édouard-Léon Scott de Martinville (1817-1879) et les cercles parisiens de la science et de la technique«, in : *Documents pour l'histoire des techniques* 17 (2009), p. 74 and 70, <<http://journals.openedition.org/dht/502>> (accessed 12 Feb 2019).

²⁹ Quoted in Sterne, *The Audible Past*, p. 48.

Paul Bilhaud presented in the same setting an all-black »*Combat de nègres dans une cave pendant la nuit*«.³⁰

Allais' *Marche funèbre* is a score of 24 bars without notes nor rests, nor any signs whatsoever, except for the title, the bar lines, and the indication *Lento rigolando* (in French »*rigoler*« means »having fun«). It is an obvious parody of Beethoven's *Eroica*, where the deaf composer takes the place of the *grand'uomo* consecrated in music history as, so to speak, the negative of Bonaparte. Written in the heyday of the French cult of Beethoven, it was both an echo and a satire of the high-spirited and pompous words of the *Beethovéniens*, later also disparaged by Claude Debussy and Erik Satie.³¹ This kind of joke on Beethoven's deafness leads up to Mauricio Kagel's film *Ludwig van* (1970), where the music is supposed to sound exactly like Beethoven heard it, that is, badly. In this historical perspective, the silent *Marche funèbre* is a quite early example of the critique of the Western musical canon. Allais also made fun of still older clichés for mourning: »*L'auteur de cette Marche funèbre s'est inspiré, dans sa composition, de ce principe, accepté par tout le monde, que les grandes douleurs sont muettes*«, he wrote in the preface, thus alluding to Seneca's famous sentence, »small sorrows speak; great ones are silent«.³²

The connection with *In Futurum* is perhaps not coincidental, given Schulhoff's staying in Paris on the eve of the war, and the affinities between the Artistes Incohérents and Dada. (On the other hand, there is no trace that John Cage knew either Allais' or Schulhoff's pieces when writing 4'33 some years after World War II). But whether Schulhoff knew Allais or not, the differences are as significant as the similarities. Even if Allais' preface said that »*les exécutants devront uniquement s'occuper à compter des mesures*«, thus imagining some kind of performance, be it thoroughly absurd, his picturing of silence was essentially a lack of signs, a void meter whose perception induced the mental image of a time without qualities. This made it an a-grammatical score. Yet it was very different from Schulhoff's own a-grammatical score, which is a logically inconsistent proliferation of centuries-old visual signs, whose exuberant multiplicity induced a saturated mental experience.

The logical pattern of silence

Schulhoff's radical assault on tradition was pure Dada. *In Futurum* is Dadaist *humour noir*, whose blackness reflects the cruelty and desperation of the postwar situation. Even if Europa was finally at peace, or sort of it, Schulhoff's silence did not sound like peace. It was the work of a defeated, not only because the Austrians lost the war, but also because of the composer's early awareness that, regardless of who would win and who would lose, the Great War was the ruin of European humanist culture. Schulhoff turns a technique defined by artisanal agency and traditional authority against itself. He represents silence through a

³⁰ Denys Riout, *La peinture monochrome: histoire et archéologie d'un genre*, Jacqueline Chambon, Paris 1996, p. 170 ; Raphaël Rosenberg, »De la blague monochrome à la caricature de l'art abstrait«, in : *L'art de la caricature*, Presses universitaires de Paris, Nanterre 2011, <<http://books.openedition.org/pupo/2208>> (accessed 12 Feb 2019).

³¹ Leo Schrade, *Beethoven in France. The Growth of an Idea*, Yale University Press, New Haven 1942; Esteban Buch, *Beethoven's Ninth. A Political History*, The University of Chicago Press, Chicago 2003, p. 172-177.

³² Alphonse Allais, *Album primo-avrilisque*, P. Ollendorf, Paris 1897, p. 23, <https://gallica.bnf.fr/ark:/12148/btv1b86263801/f15.image> (accessed 12 Feb 2019).

hyperbolic distortion of a language Europeans had painstakingly developed in order to produce a visual image of sound. In that sense, *In futurum* bears witness of the ruins of the world of yesterday.

This is the exact opposite of *The End of the War* picture, produced by the triumphant American state, as a tribute to its own military and industrial power. »Truly, history has been here written electrically!«, commented *The Journal of Electricity, Power and Gas*, as part of its lobbying in favor of a San-Francisco based company.³³ America praises itself as the country that not only won the war by silencing the enemy's weapons, but also managed to take a still picture of History itself. This was a wholly technical operation. As we have seen, some editing of reality was needed to produce the image of »the supernatural gifts of sense«, as Assistant Secretary Crowell said. Yet, by cutting off the temporal no man's land that separated past and future, the US department of War somehow acted also like an artist specialized in the flourishing new cinematographic montage. And since sound-ranging techniques will keep developing throughout the twentieth century, in 1919 *The End of the War* did represent the future.

Now, does it suffice to oppose the silent American picture and the silent European score, as two icons of a major historical divide? Not quite. During the Great War, while enrolled as a soldier in the Austrian army, Ludwig Wittgenstein wrote in the *Tractatus Logico-Philosophicus*: »A gramophone record, the musical idea, the written notes, and the sound-waves, all stand to one another in the same internal relation of depicting that holds between language and the world. They are all constructed according to a common logical pattern.«³⁴ Susan Sterrett comments that Wittgenstein, contrary to many who contrasted the gramophone and the score as examples for the difference between image and symbol, was interested in what these two things had in common.³⁵ This invites us to reflect on the »common logical pattern« that connects the two pictures of silence in the Great War, and to look for a rule allowing to turn *The End of the War* into a score, or *In futurum* into a graphic. Yet, that might be impossible without alluding to their common referent. For Wittgenstein, the »rule of projection« between one language and the other implied not only semiotic equivalences, but also the relationship between language and the world.

Theodor W. Adorno wrote in *Philosophy of New Music* that Schoenberg's pre-war atonal works were like »seismographs« of the traumatisms of the age; later on, he declared in *Minima Moralia* that »taste is the most accurate seismograph of historical experience«.³⁶ We might find some inspiration in the metaphor of the seismograph, a mechanical device closely resembling the sound-ranging apparatuses of the Great War, and capable of depicting historical moments of culture that, like the tectonic movements of the earth or the ominous rumor of distant cannons, could not be perceived through the ordinary senses. Even though Adorno was no fan of Dada, in his perspective *In futurum*, a musical score expected to count as a work of art, might be a more complex and accurate rendering of the collective traumatism caused by the

³³ The Journal of Electricity, Power and Gas, 43/10 (1919).

³⁴ Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, London 1922, tr. Pears/McGuinness, 4.014-4.0141, <https://people.umass.edu/klement/tlp/tlp.pdf> (accessed 12 Feb 2019).

³⁵ Susan Sterrett, »Pictures of Sounds: Wittgenstein on Gramophone Records and the Logic of Depiction«, in : *Studies in History and Philosophy of Science Part A* 36/2 (2005), p. 351–362.

³⁶ Theodor. W. Adorno, *Philosophy of New Music*, University of Minnesota Press, Minneapolis 2006, p. 14; Theodor. W. Adorno, *Minima Moralia: Reflections on a Damaged Life*, Verso, London and New York 2005, p. 145.

war than *The End of the war* picture. In the latter, the visual contrast between the chaos of war and the platitude of peace suggests to what extent the victor was deaf to anything but the horizon of its own »radiant future«.

The other way around, we could also think that *The End of the war*, by its very likeness to a flat electrocardiogram amounting to a death diagnosis, captured the crude reality of twentieth-century mass destruction practices in a more direct and pertinent way than any work of art. *In futurum*, by multiplying the written echoes of microscopic movements of the soul, gave credit to a myth of passionate interiority that hardly corresponded to the real state of mind of spiritually broken soldiers like Schulhoff himself. In that sense, the dry accountability of American microphones and acetylene flames made up a better picture of the blunt nothingness the war produced at an industrial level than the idealized non-sounds of a late Romantic piano.

Now, staying with Wittgenstein's terms, what could possibly be a world whose logical form was silence? At this point we might remember Sigmund Freud, who after the Great War revised his theory of libido to make room for what he called the death drive. »After severe shock of a mechanical nature, railway collision or other accident in which danger to life is involved, a condition may arise which has long been recognised and to which the name 'traumatic neurosis' is attached –he wrote in *Beyond the Pleasure Principle*-. The terrible war that is just over has been responsible for an immense number of such maladies and at least has put an end to the inclination to explain them on the basis of organic injury to the nervous system due to the operation of mechanical force«.³⁷ Should we think that, during these four horrible years, silence was the very voice of the death drive that kept multiplying the traumatic neuroses and destroying all kinds of life – human, animal, vegetal?

This would amount to an essentialization of silence itself, thus contradicting its polysemic variations, attested in the historical record. For one thing, *The End of the War* shows in a single image, through the contrast between the chaotic pattern of noise at the left and the regular shapes of silence at the right, one of the most widely shared experiences of the Armistice: a strong and deep feeling of relief. In other words, it is an invitation to *requiescere in pace*, to rest in peace, addressed to the dead and the living alike. We might leave things open there, and remember, as a conclusion, that the concept of silence only makes sense in relation to someone's capability to register it, be it a human artifact or a living creature. At the very least, the two pictures discussed in this article bear witness of the fact that, for all the suffering, all the losses and all the dead, the end of the war was not *quite* the end of the world.

³⁷ Sigmund Freud, *Beyond the Pleasure Principle*, The International Psycho-analytical Library, London and Vienna, 1922, p. 7.