

# Musique en fer forgé

Erik Satie, Le Corbusier  
and the Problem  
of Aural Architecture

*James Graham*

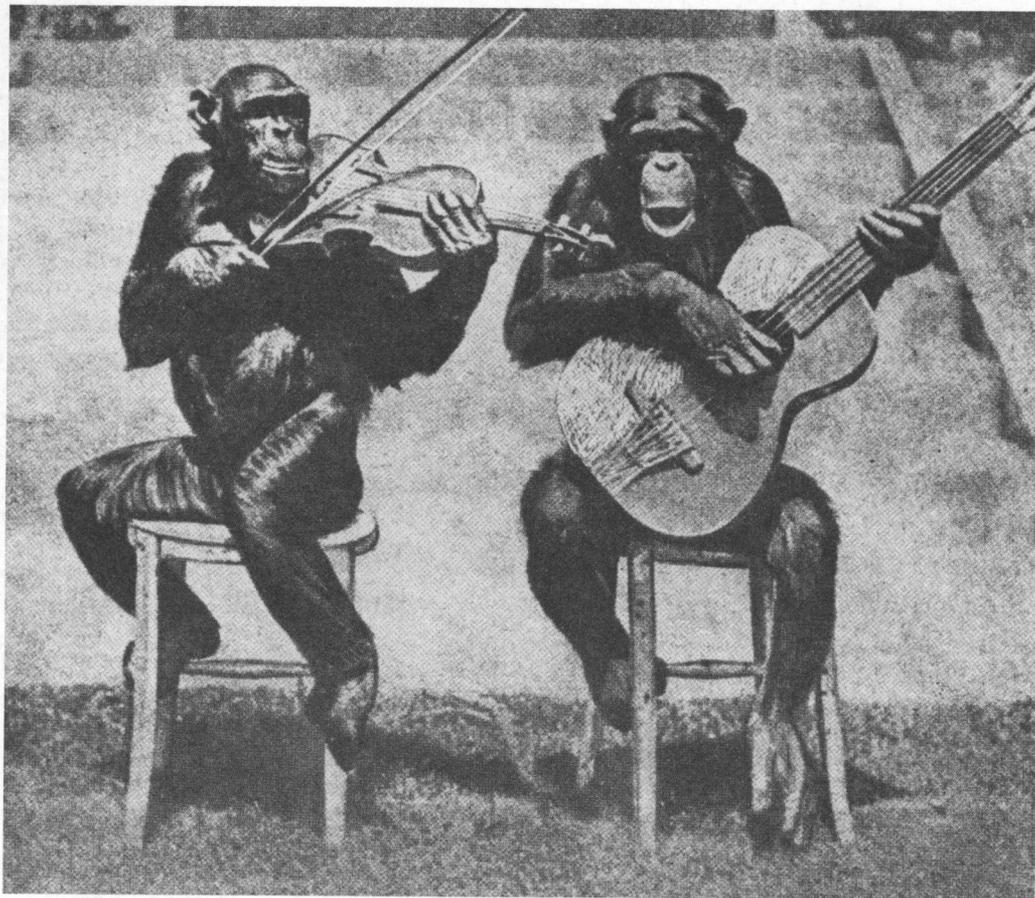


Illustration from chapter 3,  
'Plagiarism', from Le Corbusier,  
*L'art décoratif d'aujourd'hui*, 1925

'If you are looking for music', Theodor Adorno wrote in 1934, 'you have to step outside the space of immediate life, because it no longer is one'. The lost immediacy of genuine aural culture, supplanted in the metropolises of interwar Europe by a pervasive 'music in the background', could only be found 'where it costs the price of admission, at the opera, at a concert'. Adorno's lament was based in a common if nostalgic faith that the auditorium, filled with attentive, cosmopolitan listeners, remained a last bastion of legitimate musical experience – a respite from the proliferating 'incidental' music of daily life. In place of the cultured sounds of the concert hall, the modern ear was awash in 'the music of the café', a wholly dismissive phrase that indicates easy, unthinking consumption. 'It costs the listener nothing; it is included in the price of the coffee, the hot chocolate, the vermouth; he barely notices it'.<sup>2</sup>

Almost a decade earlier, in *L'art décoratif d'aujourd'hui* (1925), Le Corbusier had similarly railed against the diminishment of musical experience as the commercial and residential spheres were filled with a drone of background noise. *Ronron* is his chosen term in French, the recurring Rs onomatopoeically recalling the rhythmical sound of a contented cat or an engine running. For Le Corbusier, though, the purr of the Parisian café takes on the timbre of existential desperation:

*Then ronron to fill in the holes, the emptiness. Musical ronron, coloured ronron, embroidered or batiked ronron. Ronron at high volumes, ronron at low volumes, reading the newspaper (descriptions of the actions of others), cinemas, dancehalls, Pigalle ... in order to escape oneself, to never be alone.*<sup>3</sup>

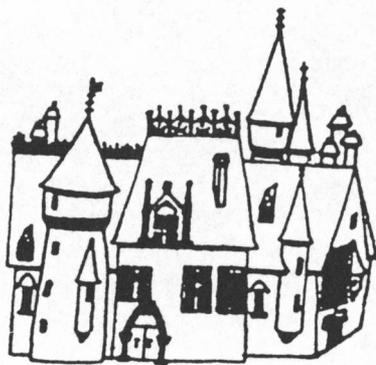
Removed from the space of the concert hall, this music in the background pre-empts intimacy and solitude – offering instead a social escape founded on the distractive hum of the 'merely decorative'. Lest the reader mistake the point, Le Corbusier ends the chapter with a photograph of a chimpanzee duo playing guitar and violin. Throughout this unsparingly broad critique of the *arts décoratifs* as they had been practised up to 1925, Le Corbusier extends his anti-embellishment stance across the visual and auditory realms of metropolitan experience, viewing and hearing extraneous decoration as a form of perceptual (if not moral) pollution. As a needless embroidering of urban experience, to Le Corbusier's ear, this persistent drone was one of many banal but habit-forming media that stymied the avant-garde's efforts at promoting environmental order. Instead of being surrounded by the cultured artefacts of a rigorous modernity, we are instead 'showered with P-o-e-t-r-y'.<sup>4</sup>

Even at the turn of the century, the Austrian architect Adolf Loos had noted how the musical themes of the opera house (and its definitively

*What can I do about it?  
The future will prove me right.  
Haven't prophecies of mine  
already been realised?*

Erik Satie,  
*Feuilles libres* (1923)<sup>1</sup>

high-culture *Gesamtkunstwerke*) were leaching into a distracted urban scene. Coining a characteristically dry aphorism in 'The Story of a Poor Rich Man' (1900), Loos relates his title character's petition to replace the ringing chimes of streetcars with the bell motif from Wagner's *Parsifal*: 'where the applied arts celebrated such triumphs, applied music could hardly lag behind'.<sup>5</sup> The term 'applied music' (*angewandte Musik*) would later be adopted by the composer Hanns Eisler (also Austrian) to describe a revolutionary, workerist genre of music that would undermine both the petit-bourgeois nature of the concert hall and the quaintness of 'functional music'.<sup>6</sup> In 1900, though, the formulation remained perfectly Loosian in its marriage of insight and absurdity, pointing to a broader commoditisation of art in public life. The early twentieth century certainly did see music increasingly 'applied' to programmatic ends outside of the salon or the concert hall, and yet the act of musical listening as a learned cultural behaviour had only been codified in the previous century. Seen in this historical context, the decorative surplus that Loos, Adorno and Le Corbusier assailed was in some measure the inverse of an increasingly rationalised public sphere – a regressive compensation, to adapt Adorno's term, for an urban milieu supposed to be shaped by managerial science, standardised construction and an architecture of unadorned abstraction.



*Hôtel du Baron Pulard  
(Construction tout enfance)*

If indeed the dislocation of cultural artifice from its proper and 'autonomous' sphere was a kind of aesthetic pollution, as these critics posited, then the orderly urban regime sought by Le Corbusier was necessarily counter-defined

by the notion of background noise, whether aural, visual or psychological.<sup>7</sup> Each categorical binary frames and partially explains the other. After all, the distinction between 'noise' and 'music' has always been one of acculturation – a cliché that continues to be confirmed by each passing generation of music listeners. Noise needs a music to be measured by, a normalised cultural soundscape against which the noisy makes its appearance.<sup>8</sup> Moreover, sound and music are decidedly spatio-temporal and can be heard only relative to the context in which they are 'applied'. This necessitates an appeal to architectural typologies (auditoria, restaurants, salons, dance halls, houses, offices and the street itself) in demarcating culture from noise, concerts from cafés. Science can measure the properties of sound, but never its propriety.

The musical field was tremendously destabilised by this new experiential mode of urban life, as the act of listening was reshaped by the cultural upheavals of modernism. The French composer Erik Satie was among those preoccupied with the changing role of music in settings beyond the concert hall, and his experiments proved highly instructive for later generations of composers interested in hearing music as an environmental influence rather than a vehicle for the concentrated emotional immersion of the romantics – an experience that many twentieth-century thinkers found characteristic of the nineteenth-century bourgeoisie. For Satie this was not just a matter of what one listens to and where one listens to it, but a question of what it meant to be a modern resident of the modern city, navigating a milieu of noise suffused with music, banality mingled with the beautiful. What role were the arts to play in the redefinition and interpretation of those distracted urban spaces? What might it mean for music to abandon its artistic autonomy and embrace being one of many media that shaped the aesthetics of metropolitan life? Even more daringly, how might composers transcend *angewandte Musik* and create a music that acted as a material system proper to architecture itself?

These questions came to a head in Satie's infamous *musique d'ameublement* of 1917–23, a brilliantly polemical attempt at rethinking music's spatial status. This 'furnishing music' addressed the prevalence of music in the background on its own terms, recasting the *ronronnement* of daily life as a creative opportunity and revelling in the cultural impurities that distressed more purist-minded designers. Le Corbusier's modernism demanded a commitment to remaking the city and its culture, while Satie's modernism was more situational than utopian and more playfully referential than ascetically abstract – an aural architecture built on the existing foundations of the metropolitan soundscape. At a moment when the cultural

elites of Paris saw France finally stirring from a pre-war malaise, these contrasting positions show the conflicted but often overlapping roles of architecture and music in shaping urban experience. As the act of listening became more self-consciously spatial in the twentieth century, Satie's *musique d'ameublement* stood as a rebuke to a totalising tendency (only sometimes latent) in modern design, positing a radical and even revolutionary way of hearing the city as it was.

Few knew the Parisian café as intimately as Satie – ‘le gentleman de velours’, as he was known for his grey velvet suits. Composer, provocateur and bohemian pianist, he found employment at the famed Chat Noir cabaret in Montmartre after growing disaffected with his classical studies, and he actively defended the culture of the cafés against detractors who thought of them as sites of dissolution and idleness. ‘I do not think that going to cafés, or any other place of that genre, is inherently bad: I confess to having worked there extensively’, he claims with a certain pride. ‘It is a place for exchanges of ideas, which can only be to the good... However, to exhibit morality and look respectable, I say: Young people, do not go to the café; listen to the solemn voice of a man who has been there a lot – but does not regret it, the monster!’<sup>9</sup> (Always cheerfully contradictory, Satie added elsewhere that ‘altogether, I am not a Café man; I prefer the Pub. *Oui.*’)<sup>10</sup> Mock confessional aside, though, the café’s haphazardly layered din of high culture, low culture, music, chatter and urban noise produced some of his most inventive concepts and compositions.

One such encounter with the background noise of the café finds Satie sitting down to eat with the artist Fernand Léger. Léger was a friend of Satie’s and relished his provocations – he admiringly described Satie’s participation in the proto-dadaist *Relâche* as ‘a lot of kicks in a lot of backsides’.<sup>11</sup> The year is 1917 or 1918. Léger has recently returned from the front, having survived the harrowing mustard-gas attack at Verdun, and the shock of war is viscerally present in his paintings. The two may well be plotting or recalling a meeting of the Société Lyre et Palette held at the Swiss painter Émile Lejeune’s studio at 6, rue Huyghens, an epicentre of the Parisian musical and artistic spheres complete with its ‘malodorous heating system and hard wooden benches’.<sup>12</sup> Or they might have simply been pausing in the midst of a long walk – Satie was famous for regularly walking all the way from his beloved Montparnasse to his home in Arcueil, and Léger was known to periodically join him.

At their chosen rendezvous, the ‘music in the background’ was not sufficiently backgrounded. Rather than be ‘forced to endure insufferably raucous music’ the pair left,

although decades later Léger would still recall Satie’s response:

‘One might nonetheless create a *musique d'ameublement*, that is to say, a music that would be a part of the ambient noise and take account of it. I imagine it to be melodic, softening the noise of knives and forks without dominating, without imposing. It would fill the sometimes awkward silences between guests. It would spare them from banal conversation. At the same time, it would neutralise the noises of the street, which enter without discretion.’ It would, he said, be responding to a need.<sup>13</sup>



Thus arose the *musique d'ameublement*. His neologism is often translated as ‘furniture music’ – evoking Matisse’s aphorism that art should be ‘something like a good armchair’ – but that rendering in English lacks *ameublement*’s broader claim to the wall hangings, material finishes and fixtures that define a room beyond the objects placed within it.<sup>14</sup> The pieces are exceptionally brief and written for small chamber ensembles; some also happen to be based on fragments from two of Satie’s least favoured composers, Ambroise Thomas and Camille Saint-Saëns.<sup>15</sup> They move at a lively pace in rigid metre, with the shortest of them lasting from five to seven seconds. These compositions never resolve to a satisfying tonic, as *musique d'ameublement* is meant to be repeated unceasingly, looping *da capo* with such regularity that one ceases to listen with the sustained attention of a concertgoer. It is designed instead to influence the noises of everyday life with another kind of sonic colouring, one that offers a structuring regularity to the surrounding sounds. Daniel Albright has argued that ‘perhaps it better serves to invite the listener to a kind of autism’, but for all the provocation of the pieces themselves, they were a consequential move towards hearing music architecturally.<sup>16</sup> Satie gave them names like ‘Tapestry in Wrought Iron’, ‘Phonic Tiling’, ‘At a ‘Bistro’, ‘A Salon’ and ‘Wall Hanging in a Prefectoral Office’.

In Léger’s retelling of Satie’s spontaneous description, the focus of the *musique*

*d'ameublement* is both internal (moderating knives and forks alongside silences) and external (masking the din of the street) – a dualism, it might be observed, that was also prevalent in the architectural discourse around noise abatement that would gather momentum in the coming years, particularly in Paris. Moreover, this description straddles differing aspects of Adorno and Le Corbusier’s critiques of aural culture, which otherwise seem quite in tune with each other. Like Adorno, Satie is against the culture of transplanted concert music – familiar strands of reworked classics become kitsch – but unlike Le Corbusier’s vision of sternly unmediated intimacy, he sees a need for the amelioration of awkward silences. But Léger’s recollection doesn’t fully identify Satie’s central thesis: this is a music that’s no longer quite music. Satie’s invention, meant more as *ameublement* than *musique*, is consciously responding to a different set of disciplinary stakes. As Satie’s long-standing friend and protégé Darius Milhaud knew, the project was not simply sonic, but spatial: ‘Just as one’s field of vision embraces objects and forms, such as the pattern on the wallpaper, the cornice of the ceiling or the frame of the mirror, which the eye sees but to which it pays no attention, though they are undoubtedly there, Satie thought that it would be amusing to have music that would not be listened to’.<sup>17</sup> As with Walter Benjamin’s well-known description of the reception of architecture, *musique d'ameublement* is meant to be experienced in a state of distraction.

That these pieces were written around the time of Satie’s extensive involvement in the Société Lyre et Palette is telling.<sup>18</sup> He was a firm believer that music had not kept pace with developments in the visual arts, and took a keen interest of his own in drawing, calligraphy and architecture. The British composer and conductor Constant Lambert was not alone in thinking that despite Satie’s ‘intensely musical faculties ... the mentality that directed these instincts would have found truer expression in one of the plastic arts’, and many of Satie’s contemporaries would say as much.<sup>19</sup> Satie and Léger were both participants in a particularly famed gathering of the Société on 6 June 1917 – the year of his first *musique d'ameublement* – in honour of Satie and the recent success (ie, scandal) of his score for the ballet *Parade*. The piece had premiered three weeks earlier, in collaboration with Jean Cocteau, Pablo Picasso and the choreographer Léonide Massine.<sup>20</sup> At the Société several of Satie’s disciples performed compositions, with canvasses by Picasso, Matisse, Modigliani and Léger hanging on the studio walls.<sup>21</sup> Satie’s painterly collaborators had surrounded him with work that asked him to see the city differently, and as the rowdily discordant energy of *Parade* attests, his ears

Opposite, above and overleaf:  
Erik Satie, hand-drawn,  
fictitious real estate advertisements,  
1890–1924

were freshly listening as well.<sup>22</sup> ‘The only musician who had eyes’, as Man Ray once called him, Satie saw in the fragmented dimensionality and subjective perception of modern art a call to rethink musical experience in similarly spatialised terms.

Satie had been interested in architecture for over 30 years by the time of his *musique d'ameublement*. Having grown up in the shadows of the eclectic Église Saint-Léonard in Honfleur, he developed a taste for the gothic – its architecture and its more eccentric manifestations.<sup>23</sup> In 1886, during his second stint at the Paris Conservatoire, Satie regularly evaded his studies with long and rapturous visits to Notre-Dame, recently restored by the architect Eugène-Emmanuel Viollet-le-Duc, where ‘his thoughts used to follow the curves of the vaulting and rise towards the Creator’, as his brother Conrad recalled.<sup>24</sup> Or he could be found poring over Viollet’s compendious *Dictionnaire raisonné de l'architecture française* – a hobby he indulged in the Bibliothèque Nationale, designed by Henri Labrouste. This period of Satie’s life also saw an early example of architecturalised music with his *Ogives*, predating but informing his far more famous *Gymnopédies*. Both were suites of multiple short pieces, which for one observer demonstrated Satie’s ‘peculiarly sculptural views of music’ in that they allow one to look at the same underlying material from different vantage points.<sup>25</sup> Inflected by Gregorian chant, the *Ogives* have been called ‘a clumsy, charming souvenir of the naïve enthusiasts of the period’, but they distinctly evince Satie’s sensibilities, blending high concept with esoteric content.<sup>26</sup>

These scores might also be read architecturally, as Satie’s title – a term describing the tapered point of a gothic arch – seems to demand. The lack of measures suggests a free-flowing melodic line, an absence of temporal strictures that is characteristic of chants as they rise and fall, following the curves of the vaulting toward the Creator, as it were. But there remains a strong sense of modularity at work. The melody repeats invariably, articulated with different chord inversions that ornament the underlying geometry, resolving not to the E-minor that begins each repetition but to a rather less conclusive D-minor, in the case of his first *Ogive*. Satie establishes a strict ABAB pattern of dynamics, alternating loud and soft in a metre that suggests expandable repetition in time.

When this score is compared to Viollet-le-Duc’s drawings of *ogives*, well known to Satie from his extensive studies of Viollet’s *Dictionnaire* under the Bibliothèque’s own domes, it becomes clear that the two share a similar set of concerns echoed across a disciplinary impasse. For Viollet, the stakes of the *ogive* revolve

around the establishment of rigorous rules that guide repetition through space. The line’s construction is geometrically inviolable, but able to be patterned flexibly; the architectural element is systematised for repetition, but in the form of a skeleton that need not predetermine flesh, as the diagrammatic nature of Viollet’s drawings attests. The pointed arch, like Satie’s pseudo-Gregorian line that descends and returns, is a melodic arc whose modalities and dynamics remain to be invented.

This is a literal reading, but one that Satie’s further work supports. Metaphors between architecture and music come easily – one critic has argued that Satie’s ‘musical edifice’ was made of ‘traditional and stable bricks, though they are placed at odd angles’ – but this particular metaphor doesn’t do justice to Satie’s attraction to architecture itself, particularly its modular repetition and its encompassing spatiality.<sup>27</sup> (Cocteau got closer, if cryptically, when he called the score for *Parade* ‘a masterpiece of architecture; that’s what ears accustomed to vagueness and thrills can’t understand’).<sup>28</sup> This architectural affinity included Satie’s otherwise inexplicable pastime of creating fictitious real estate advertisements, sometimes including intricate sketches in ink and always employing an elaborate range of penmanship. His descriptions are also decidedly picturesque: ‘Comfortable and old house of ill-repute, in cast iron, with a terrifying aspect and an evil garden’, reads one, or ‘Beautiful romanesque priory, in cast iron, with park and dependencies’. They continue in this vein, with virtually all of them containing the crucial phrase *en fonte*, ‘in cast iron’.

CONFORTABLE  
et VIEILLE  
**MAISON borgne,**  
en fonte,  
**d'aspect terrifiant, avec**  
**un méchant jardin.**  
VIEUX  
MEUBLES GROSSIERS  
(A UN SORCIER)

Cast iron was one of the central technologies in industrial standardisation. Rather than crafting individual pieces by hand, as with wrought iron, a single mould could produce an unlimited number of repetitions of the same form. The technique had a major impact in the production of machinery but also the urban landscape – bridges, train stations, market halls and exposition buildings were among those new typologies that would be catalogued by architectural texts like Sigfried Giedion’s *Building in France, Building in Iron, Building in Ferroconcrete* (1928). Giedion celebrated the new scales and spaces that cast-iron architecture

enabled (though often hidden away behind the lingering classicism of Parisian facades), arguing that ‘where the nineteenth century feels itself unobserved it becomes bold’.<sup>29</sup> Even the domed vaults of Labrouste’s Bibliothèque Nationale – the place where Satie whiled away his conservatory days studying Viollet-le-Duc and where Le Corbusier researched *L'art décoratif d'aujourd'hui* – were designed in cast iron, resting on slender metal columns. Architecture had been transformed by the radical modularity of this quintessentially modern material to the point that Benjamin, following Giedion, saw it as the outward expression of the very subconscious of the nineteenth century.

Little wonder, then, that Satie’s interest in iron borders on the maniacal – capturing this subconscious was just what he was after. Between the high gothic stereotomy of his *Ogives* and the ironclad industrial picturesque of his fancifully sketched châteaux (produced by the dozen from the same moulds, one imagines), the architectural sensibility of his *musique d'ameublement* becomes more apparent. Where Maurice Ravel thought of his famed *Bolero* as ‘orchestral tissue without music’, Satie himself insistently categorises this music as material fit for building, a true ‘Tapisserie en fer forgé’. His choice of terminology is important here – this is a tapestry of wrought iron rather than cast. Among the differences between these two methods of ironworking, the most notable here is the role of artisanal labour in *fer forgé*. While wrought iron was often made with repetitive motifs, the trace of the hand remained; serial reproduction was a matter of handiwork rather than mechanics. The meaning of this material distinction for the musicians of the *musique d'ameublement* was, quite simply, that they still had jobs. With mechanised music in its ascendance, Satie’s *musique en fer forgé* stands for craftsmanship and the presence of the musician.

Satie elaborates on this point further in an essay called ‘Propositions Proposed about Igor Stravinsky’. What starts as a supportive review of the recently premiered *Mavra* rather suddenly turns into a discourse on Stravinsky’s experiments with the pianola – the musical version of the Jacquard Loom, now best known as the player piano. A composition is translated onto a scroll of punched holes, and when run through the pianola it triggers the notes with unvarying precision. As with a wound-up music box, the sound is created in real time but requires no musician and avails itself of no situational interpretation. On the whole, Satie found himself enthused. ‘Without a doubt, *l'enregistrement mécanique* is a certainty; and it will cause musical composition to develop more quickly and more surely than all the schoolmarms combined’, he argues, closing

with a typical equivocation: ‘ – or not’.<sup>30</sup> That ‘the idea of listening to an automatic instrument is contrary to custom’ was precisely the point for the counter-customary Satie, and he saw in the pianola a capacity to enliven the ears of both composers and their audiences. Like the *musique d’ameublement*, it was a change in the practice of listening. But for Satie, the piano and the pianola remained distinct forms of artistic creation, each with their own ability to overthrow canonical authority. Music in the age of its mechanical reproducibility battled its share of demons (much as rival media like photography loomed portentously over the canvases hung at the Société Lyre et Palette) – but where the pianola was concerned, Satie told the musicians to rest easily. He cast his lot with vitality over mechanisation, an act of loyalty to his own employment in the cafés of Paris.

For all this, though, Satie described his own invention in rationalist and distinctly architectural terms. ‘*Musique d’ameublement* is fundamentally industrial’, argues Satie, recalling the typological focus of early cast-iron architecture with its wide spans and repetitive production. ‘We wish to establish a form of music designed to satisfy “utility” requirements. Art does not come into these requirements. *Musique d’ameublement* creates vibration; it has no other purpose; it fills the same role as light, warmth and comfort in all its forms.’ It is a music that tunes its environment, just as a building envelope’s fixtures and services tune the interior atmosphere. (Little wonder, then, that Reyner Banham’s *Architecture of the Well-Tempered Environment* adapted its title from a cycle of compositions by Bach.) Adorno found himself saying the same thing 12 years later, if less complementarily. ‘When café music falls silent, it sounds as if a miserly waiter is turning off a couple of electric bulbs’, he writes. ‘Background music is an acoustic light source.’<sup>31</sup>

The very possibility of describing a kind of music in these terms is the evidence of its modernity, much as architectural modernity turned from the language of the academies to the rhetorics of function, environment and space. Confronted with the soundscape of the growing industrial metropolis – and the psychical shock brought on by its unceasingly ‘onrushing impressions’, as Georg Simmel put it – modernism sought to mitigate its effects by learning from it and even emulating it, but also by countering its effects. The distraction afforded by this music in the background is intended to soothe, but unlike the typical café kitsch, Satie hoped to move beyond unthinking acquiescence to banality – to a compensatory but nonetheless progressive music, one that might help lessen the exhaustion of urban life by turning the sensory saturation of the city against itself. ‘Do not go to sleep without

listening to *musique d’ameublement*’, Satie cautions us, ‘or you will sleep badly’.<sup>32</sup>

In April 1932 – three months after Le Corbusier called for ‘soundproof living rooms’ in a highly publicised *New York Times Magazine* article – an engineer from General Electric set up an ‘electric ear’ in New York’s Metropolitan Opera House.<sup>33</sup> As Emily Thompson has pointed out, the event ‘highlights the role that new tools and terminology – and the technicians who wielded them – played in transforming the meaning of noise’.<sup>34</sup> If noise pollution could be quantified, then it could be fought. As a demonstration, the engineer measured how loudly the famous diva Lily Pons sang an aria in Verdi’s *Rigoletto*. She hit 75 decibels, and yet was bested by her leading man, Beniamino Gigli, who clocked in at 77dB, somewhere between a streetcar and the subway. (The musicians, for their part, beat even the subway with 95dB.) A *New York Times* editorial suggested that ‘for real decibels’ they might ‘bring on Stravinsky or better still Antheil’, and here Thompson rightly suggests that the distinction between musicians and technicians had grown harder to pinpoint – the figure of the composer-experimentalist was a novel but increasingly familiar invention of the early twentieth century, and it was a role that Satie also embraced. That the Met’s performance was ‘music’ through and through, of course, was never in doubt. ‘Although the metre has proved of great value in the location, measurement and control of insidious noises that affect the nervous system’, the *New York Times* went on to explain with confidence, ‘no such sounds were recorded last night’.<sup>35</sup>



The electric ear’s cameo at the Met came exactly 20 years after Satie wrote teasingly about its elder and apocryphal cousin, the phonometrograph, a coinage that appears to be specific to Satie and predates the actual invention of such devices.<sup>36</sup> ‘The whole world will tell you that I am not a musician. That’s true’, Satie tells us. (Here he footnotes his paltry notice in the *Musiciens français d’aujourd’hui* of 1911. The volume had been compiled by the composer and critic Jean Poueigh, who would

also later write a highly critical review of *Parade*. Satie responded with a postcard that read only: ‘You are an asshole, and an unmusical asshole at that’ – for which he was convicted of defamation of character and served eight days in jail.)<sup>37</sup> But Satie continues to riff on Poueigh’s dismissal. ‘My work is purely phonometrical. Take my *Fils des Étoiles*, or my *Morceaux en Forme de Poire*, my *En habit de Cheval* or the *Sarabandes* – one sees that no musical ideas governed the creation of these works. It is scientific thought that dominates.’ He describes taking the measure of much of the classical canon – Verdi, Beethoven and so forth – and an atmosphere of unbridled silliness prevails. ‘The first time I used a phonoscope, I examined a B flat of average size. I have never, I assure you, seen something more repugnant. I called in my man to show it to him. On the phono-scales an ordinary F-sharp, very common, registered 93kg. It emanated from a fat tenor, whom I also weighed.’ Underneath the absurdity, Satie’s text speaks to a discourse on noise pollution that would expand in the following decades, and it obliges us to see the *musique d’ameublement* alongside other architectural advances in tempering noise. ‘Do you know how to clean sounds? It’s a dirty business’, Satie continues. ‘Taking stock of them is tidier; indexing them is a meticulous task and demands good eyesight. Here, we encounter phonotechnique.’<sup>38</sup>

‘Cleaning sounds’ was a matter of urgency in the booming industrial metropolis and a difficult one indeed. But where Satie’s ‘phonotechnique’ was a playful stocktaking – one that was most drastically realised in the semi-futurist cacophony of *Parade* – the field of architecture was more obliged to take on the ‘dirty business’ of ameliorating urban din. Acoustics took on greater importance and a new science (and materiality) developed around them that inspired architectural advances. Le Corbusier, for one, described a ‘factory of exact air’ in his *Précisions* of 1930, and it is telling that the aural aspect was included in the cleanliness of the interior atmosphere. ‘At all times there is clean air inside at exactly 18°. The house is sealed fast! No dust can enter it. Neither flies nor mosquitos. No noise!’<sup>39</sup>

To take another example, even as Satie was developing his *musique d’ameublement* the HW Johns-Manville Company of New York was developing its ‘Akoustikos Felt’, an insulating material made from chemically treated cattle hair.<sup>40</sup> Where previous sciences of acoustical engineering had required precisely shaped spaces, this new product’s applicability independent of a room’s shape was seen as a selling point for designers uninterested in formal compromise – as was the material’s essential invisibility. ‘Noise and confusion is eliminated WITHOUT CHANGING THE ARCHITECTURAL APPEARANCE of the rooms’, the

La Musique d'ameublement pour soirées, réunions,  
etc ... Le qui est la Musique d'ameublement? — un plaisir!

La Musique d'ameublement remplace

les "valsey",

les "fantaisies sur les opéras", etc...

Ne pas confondre! C'est autre chose!!!

Plus de "fausse musique": du meuble musical!

La Musique d'ameublement complète le mobilier;

Elle permet Tout; Elle vaut de l'Or; Elle est  
nouvelle; Elle ne dérange pas les habitudes;

Elle ne fatigue pas; Elle est Française;

Elle est inuyable; Elle n'ennuie pas.

L'adopter c'est faire mieux!

Ecoutez sans vous gêner.

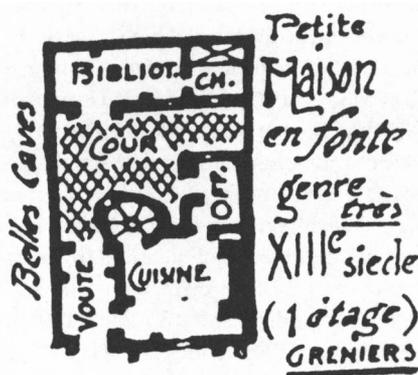
CONFECTION  
& SUR  
MESURE

advertising materials proclaim. Where Satie's aural environment and the acoustical industry converge is in their shared aim of adding an aurally potent but visually negligible layer to a given space – an eminently architectural intervention that alters the inhabitant's sensory life without dictating appearances.

The Johns-Manville Company might have stopped there, but they also saw themselves responding to an architectural discipline that had lost its way with the advent of modernism. 'The whole development of building construction and building materials during the past 25 years has been in the direction of POOR ACOUSTICS', they argue, blaming an emphasis on 'public safety and health' for the proliferation of acoustically unbecoming materials. 'This demand has naturally led to the almost exclusive use of steel, concrete, tile and hard plaster, with a minimum of wood finish' – in short, the entire litany of the modern movement's preferred materials. The whiteness of the wall became the Johns-Manville Company's metaphor for the aggravating aural effects of modernist purity. 'If the walls of the room are painted white so as to reflect the maximum amount of light and if the source is very bright, the intensity or glare of the light within the room will be so great as to be uncomfortable and fatiguing to the eye. If, however, a neutral tint of grey or buff is given ... the intensity is greatly reduced and the eye is thereby much relieved.'<sup>41</sup>

Just as acoustic insulation absorbs excess noise reflection, the panelling of the wall (perhaps also supplied by the Johns-Manville Company) absorbs the harsh light of the orderly whitewashed interior.<sup>42</sup> This is a complex matter. The commercial interior of the early twentieth century was seen as a prototypically modern space, and it spoke to Le Corbusier's grounding in technocracy and Taylorism.<sup>43</sup> *L'art décoratif d'aujourd'hui* included many illustrations of American office interiors and clerical equipment, the *objets types* of industrialist rationality countering his polemically curated catalogue of overwrought ornamentation. But as the Johns-Manville Company insists, where modernism 'healed' the ills of eclectic, archaic and exotic furnishings, it created experiential ills of its own – even Léger would retrospectively write that the modern architect (by which he implicitly refers to his friend Le Corbusier) had 'gone too far in his magnificent attempts to cleanse through emptiness'.<sup>44</sup> These ills were to be mitigated through new architectural products but also through a kind of aesthetic moderation, in which neither the reassuring comforts of the old nor the demanding asceticism of the new took command of the urbanite's perceptual and emotional life. The *musique d'ameublement* was one such product, operating in, on and with an architectural space.

Le Corbusier, for one, understood Satie in precisely these terms, and critiqued him accordingly. 'The cinema, the café, the theatre, the stadium, the club, the "five o'clock" suppers, dance halls, domestic wireless – all are diversions which flourish in exact proportion to the amount of leisure permitted by daily work', he writes in a chapter of *L'art décoratif d'aujourd'hui* on the usurpation of folklore. 'Daily work provides marching orders of Prussian rigour'. Le Corbusier saw the decorative arts (as practised in 1925) as feeble compensation for the realities of everyday life and isolation, and this is where the endless proliferation of 'decorative' background noise enters in. Withholding little condescension for modern workers and their appetites for distraction, Le Corbusier continues with an odd moment of personal invective in a book that tends towards broadly telegraphic polemics: 'But they do not feel alone, they are happy to be in an office where discipline reigns, where everything is organised – to feel themselves firmly in the harness, on all four feet and with blinkers on, and with the babble of Tartarin all round – the chamber music of Erik Satie.'<sup>45</sup>



This is a somewhat paradoxical passage, as it plays against Le Corbusier's abiding fondness for music. He would elsewhere describe architecture and music as 'intimate sisters' and 'instinctive manifestations of human dignity ... in both of them, a heart that tends to rise above itself'.<sup>46</sup> His architecture was often attuned to sound and music – his Philips Pavilion, for example, was a multi-media collaboration with the designer-composer Iannis Xenakis,<sup>47</sup> his chapel at Ronchamp was an 'acoustical landscape'<sup>48</sup> and the gramophone often took a position of prominence in his interiors.<sup>49</sup> In an autobiographical sketch all the more self-mythologising for being in the third person (as was his tendency), Le Corbusier notes that 'he came from a family of musicians,

*Opposite:* Erik Satie, 'Sons industriels', for the anticipated (but ultimately unrealised) premiere of the *musique d'ameublement*, March 1918

but he could not even read music; yet he was a musician through and through, and knew just how music is made; he could speak about music and pass judgment upon it... Music and architecture alike are a matter of measure.'<sup>50</sup> As it happens, Le Corbusier could read music perfectly well. His mother, Marie Jeanneret-Perret, was a piano teacher, and his brother Albert was a successful violinist and composer. In a letter that will feel familiar to anyone who studied piano as a child, Marie writes to the future architect's father to remind him that 'Doudou', as young Charles-Édouard Jeanneret was called around the house before he took Le Corbusier as his *nom d'architecture*, 'must do his piano exercises regularly'. This practice later paid off with high marks in his music classes at the École Industrielle.<sup>51</sup>

Le Corbusier also took a keen interest in the work of Émile Jaques-Dalcroze, who had tutored Albert Jeanneret in Hellerau and whose ideas about music, movement and eurythmics inspired many modernist thinkers on the problem of rhythm and space. And he was deeply moved by a performance in São Paulo by Josephine Baker (whom he also sketched nude in his steamship cabin).<sup>52</sup> He writes rhapsodically about energetic rhythms of black music in the Americas, hearing in them a profound appeal to the soul that was missing from the academicism of the Parisian conservatories. 'The emotions of the machine age are different from heavy and "sophisticated" cooking', he writes. 'Quite different! Much closer to the heart, and tears have come back to the edge of eyelids.'<sup>53</sup> What he heard in the African rhythms that migrated to the New World was a kind of timelessness – outside the scholasticism of the concert hall, outside the demands of popular fashion, but alluring to the modern ear.

Le Corbusier's fullest theoretical statement of the relation between architecture and music came with the publication of *The Modulor* (1948). 'Sound is a continuous phenomenon, an uninterrupted transition from low to high', he writes, and he observes that the 'modulation' of sound is as old as human history. But notation marked a critical threshold in making music modern, as it did for architecture – in this respect, *The Modulor* is Le Corbusier's addition to the weighty shelf of treatises that includes Vitruvius, Alberti and Perrault. 'How to divide into sections the continuous phenomenon of sound?', Le Corbusier asks. 'How to cut up sound in accordance with a rule acceptable to all, but above all efficient, that is, flexible, adaptable, allowing for a wealth of nuances and yet simple, manageable and easy to understand?' Pythagoras, the Gregorians, Bach – each had advanced the means of taking measure, but the twentieth century (in music as in architecture) saw the old authorities as having grown obsolete. 'It may well be – I take it upon myself

to predict it – that the apotheosis of the machine age will demand a subtler tool’, Le Corbusier writes in 1948, ‘capable of setting down arrangements of sounds hitherto neglected or unheard, not sensed or not liked’.<sup>54</sup>

The graphical scores of Russolo, the sublime sonic intensity of Antheil and the expanded aural consciousness of Satie (let alone his phonometrography) all demonstrate that this would not have been such a bold prediction even 30 years earlier. But what is notable in Le Corbusier’s *Modulor* is his faith in the renaissance project of establishing humanistic measure, even as art’s many isms were undermining the cause of proportion altogether. For all the radicality of his architecture and urbanism, Le Corbusier remained a classicist.<sup>55</sup> ‘To rise above oneself’, Le Corbusier writes, one doesn’t need ‘second-hand clothing’ but rather ‘this which is nothing but is everything: proportions. Proportions are a series of interacting relationships. They need neither marble, nor gold, nor a Stradivarius, nor to be Caruso.’<sup>56</sup>

Satie was likewise influenced by the upwelling of classicism that accompanied France’s renewed cultural patriotism in the face of the Great War, although he remained persistently sceptical of the nationalism and state-sanctioned aesthetic dogmas that came with it.<sup>57</sup> The classical tropes of proportion, balance and order are prevalent in his music at this moment, but they were also often subtly ridiculed, ‘rendering absurd the wartime ideal of “true” French classicism’, in Jane Fulcher’s analysis.<sup>58</sup> His *Socrate*, written at the same time as the *musique d’ameublement*, is especially telling in this regard. Satie himself deemed it to be ‘white and pure, like the Antique’, and the poet René Chalupe agreed, finding it ‘bare and serene, modest in its nudity’ – terms that recall classical sculpture but also the aspiration of Le Corbusier’s buildings to what Mary McLeod has called ‘the architectural equivalent of nudity, a perfected nakedness’.<sup>59</sup> Chalupe continues, describing *Socrate*’s ‘drawing in clear, definite lines where cheating had no place’ and ‘the appropriate, well-measured light which never dispersed into impressionistic shimmer and avoided the twilight areas so propitious for hiding weaknesses’ – lines that would be perfectly at home in Le Corbusier’s *Vers une architecture*, which famously defined architecture as the ‘masterful, correct and magnificent play of volumes in light’.<sup>60</sup>

For all this, though, *Socrate* contains its own ironies that undermine its reputation as a patriotically French and wholly classical undertaking. An old hand at adopting styles – each of which, like the gothicism of his *Ogives*, implies an architectonic – Satie’s classicism was a knowing one, rendered at times absurd in its self-consciousness. (The subversion of *Socrate* includes the fact that Socrates was considered

something of a gadfly, and was sentenced to drink poison hemlock for his iconoclasm and impiety – a kindred soul, perhaps.) Even within this period, Satie was not especially consistent in style. He would turn around and describe his *Mercure* of 1924, which like *Parade* had sets by Picasso and choreography by Massine, as a kind of ‘purely decorative theatre’ – an anti-classical phrase that is almost begging, it seems, for Le Corbusier’s impending disapproval.<sup>61</sup>

After Satie’s death, Le Corbusier would emphasise and honour a classicism that never fully belonged to the composer. ‘For 25 years



I have heard profound musics in the people under all the skies of the world’, he writes in 1930. ‘I declare: “I like Bach, Beethoven, Mozart, Satie, Debussy, Stravinsky”’. That is classical music, which is made in the head of a man who has tried everything, measured everything and who has chosen and created.’<sup>62</sup> He even lists Satie among his classical ‘Olympians’ in a 1940 letter to his mother.<sup>63</sup> But this Olympian classicist doesn’t quite resemble the real Satie, who was far more ambivalent about the political function of artistic classicism, who collaged folk songs into ballets and who celebrated the culture of the café. Seen outside this posthumous revisionism, the dismissal that met Satie in Le Corbusier’s *L’art décoratif d’aujourd’hui* (‘the babble of Tartarin all round’) comes into sharper focus.

This familiarity and rivalry between architect and composer was accentuated by Satie’s appearances in the pages of *L’Esprit Nouveau*, the journal edited by Le Corbusier and the painter and writer Amédée Ozenfant. Over its six years of publication it included a number of writings on music, many by Albert Jeanneret.<sup>64</sup> Before being taken as the journal’s title, the phrase *l’esprit nouveau* had shown up in the writings of Guillaume Apollinaire in 1917 – most prominently in his programme notes for Satie’s *Parade* (even if the phrase was a bit of a misnomer for the composer’s intentions).<sup>65</sup> But the term originated as part of what Kenneth Silver has called an ‘extraordinarily rich harvest of patriotic wartime bywords’, implying a renewal of French culture through a return to the lessons of antiquity.<sup>66</sup> *L’Esprit Nouveau*’s second issue included a lengthy appreciation of Satie’s

work by Henri Collet, printed perversely adjacent to a French translation of Adolf Loos’s notorious ‘Ornament and Crime’ (1908), while the April 1921 number included a collection of Satie’s writings under the title ‘Cahiers d’un mammifère’.<sup>67</sup> Satie’s provocative and telegraphic writing style, alongside his reputation for experimentalism, made him a good match for the journal. But while it has been argued that ‘the musical aesthetic of *L’Esprit Nouveau* is associated with no name as much as Erik Satie’s’ – that he embodied the possibility of a purist music – Satie’s cultural politics never sat comfortably with the purist project.<sup>68</sup>

Ozenfant had known Satie for some time before the founding of *L’Esprit Nouveau*. Ozenfant was friendly with many of the cubists, and he recalled how important the sarcastic humour of *les Montmartrois* was to that circle’s development – they were listening to Satie as Satie was looking at their canvasses. (For Ozenfant, purism was a somewhat more serious matter. He would later claim that while he enjoyed artistic humour, ‘*l’Esprit du Chat Noir*’, personified no doubt by Satie, ‘should have stayed in Montmartre, behind a glass of beer’).<sup>69</sup> Ozenfant attended the premiere of *Parade*, and while he delighted in recounting the tale of the ‘riot’ that ensued, he also recognised its artificiality – wryly noting that tickets were obtained not by purchase but by invitation. ‘The truth is that certain supporters worked towards realising this little fantasy of Cocteau, Satie, Picasso and Diaghilev’, he writes, by turning it into ‘*un beau scandale historique* ... the spectacle moved from the stage to the room’.<sup>70</sup>

In March 1918 Ozenfant and Satie sat down for breakfast to discuss an event that Satie was planning for the salon of the Parisian fashion designer and impresario Germaine Bongard.<sup>71</sup> Ozenfant ran the Galerie Thomas directly next door to Bongard’s atelier, and had likewise benefited greatly from her patronage. Among other things, Bongard supported the production of Ozenfant’s magazine on fashion and the artistic avant-gardes, *L’Élan*, in her own studio. (At this point, Ozenfant had only just met Charles-Édouard Jeanneret, who had arrived in Paris the year before and had yet to transform into Le Corbusier. By the end of the year, they would co-write ‘Après le Cubisme’ and Ozenfant would host Jeanneret’s first exhibition of paintings, also at the Galerie Thomas.)<sup>72</sup> Bongard was equally instrumental in bringing Satie into the artistic elites of the time. Before Bongard – Ozenfant claims – Satie was but a ‘refined researcher entirely unknown to the public’. It was the concerts at her salon that allowed him further entry into artistic friendships and collaborations like *Parade*.<sup>73</sup>

The event that the two discussed over breakfast was the planned premiere of the *musique d’ameublement* – the occasion for which

Satie wrote his first text on these pieces, calling them 'sons industriels' and describing them as architectural utilities. But the performance *Chez Bongard* never happened. The advancing German troops had moved their so-called 'Paris Gun' into the forests of Coucy-le-Château-Auffrique and begun shelling the city on 23 March 1918. The first explosion rattled Ozenfant's window, and the barrage continued with such regularity that he could time the spacing and predict the next one. (Ozenfant reports that when Satie arrived for their breakfast at a café behind the 'recently nicked' Église de la Madeleine, he 'nervously demanded that they descend to the underground dining room'.) With the realities of war approaching the city limits, Bongard cancelled her calendar of cultural events, including the *musique d'ameublement*. 'Couture was dead, but we were alive', writes Ozenfant, 'and we decided to head to Bordeaux'.<sup>74</sup> The shelling ceased that August, but Bongard never rescheduled the *musique d'ameublement*.

The tone of Satie's interactions with this group would change in the subsequent years, and he was seldom shy about levelling *ad hominem* critiques of Ozenfant and especially of Le Corbusier (with whom he also shared his congenital myopia). Satie made something of a ritual out of dissociating himself from former colleagues and especially their institutions, and he was soon on the offensive. 'Sly and crafty' is how he describes Le Corbusier. 'Ozenfant is the more mischievous of the two, but only just ... don't go thinking that the "Other" is stupid - with his short sight.' It is the backhanded compliment of a sparring partner, and there is a sort of regard in these kinds of publically personal spats. One is left to wonder whether Satie harboured ill will that the *musique d'ameublement* was never premiered by the Bongard circle, or whether 'Après le Cubisme' sat badly with a composer who'd cast his lot with Picasso and revelled in the messy work of undermining authority and aesthetic tidiness alike. Le Corbusier and Ozenfant's journal didn't escape Satie's sardonicism either, despite his own participation: 'Something terrible has happened: ... My subscription to *L'Esprit Nouveau* has just expired ... yesterday ... Yes ... I'm "all in a dither" about it'.<sup>75</sup>

Le Corbusier, then, may have had personal reasons enough to single out Satie in *L'art décoratif d'aujourd'hui*, but this moment of mutual disdain should not obscure what was at stake, intellectually, with this rebuttal. It is true that one could imagine Le Corbusier applauding Satie's radical new forms of music writing, or even acknowledging that Satie's *sons industriels* might even have approached that 'subtler tool' for understanding 'sounds hitherto neglected or unheard, not sensed or not liked' that he later called for in *The Modulor*.

Satie's rhetoric of functionalism is of a piece with Le Corbusier's, and the two shared no shortage of colleagues and influences despite their generational divide.

But in his stringent opposition to Satie's place in the decorative world of the working class we also see Le Corbusier's admission that environmentally designed music might belong to the realm of architecture, and that its intrusion is not entirely welcome when the architect is not the one in charge (as was the case in his collaborations with Xenakis). There is competition only because the two have equal standing, and Satie was one of few composers whom Le Corbusier would admit to those grounds. Despite supposedly embodying a musical *esprit nouveau* that would qualify him as a collaborator, Satie's spatial project was more about radical pluralism than it was a classical model, and it had the potential to undermine both the austerity of Le Corbusier's politics and the purist elegance of his aesthetics - a threat to the white walls and *objets types* of Corbusian modernity.



Perhaps Le Corbusier needn't have fretted. The popularity of Satie's other concerts in this period proved to be the *musique d'ameublement's* undoing when it was finally premiered two years later in June 1920. It was performed during the intermission of another show at the Galerie Barbazanges (run by Paul Poiret, the brother of Germaine Bongard), and things did not go according to plan.<sup>76</sup> Satie simply used the available musicians from other works being performed, which left him with the rather odd instrumentation of three clarinets, one trombone and piano, each posted in a different corner of the theatre. But while the musicians cooperated as best they could, the audience was less able to meet Satie on his terms (unlike the stacked deck of *Parade's* attendees). As Darius Milhaud recalls:

*A programme note warned the audience that it was not to pay any more attention to the ritornellos that would be played during the intermissions than to the candelabra, the seats or the balcony. Contrary to our expectations, however, as soon as the music started up, the audience began to stream back to their seats. It was no use for Satie to shout: 'Go on talking! Walk about! Don't listen!' They listened without speaking. The whole effect*

*was spoiled. Satie had not counted on the charm of his own music.*<sup>77</sup>

That the audience could not ignore Satie's music had less to do with charm than acculturation, of course. If architecture is experienced in a state of distraction, the audience for the first *musique d'ameublement* was not yet ready to see it as architecture. While the candelabra, the seats and the balcony surely went unremarked on, the premiere of work by Erik Satie was Culture, not Noise, and the performance, despite the composer's best efforts, was experienced in a determined state of attention.

The failure of *musique d'ameublement* to be ignored by its audience is a central part of its critical import. In the absence of a positivistic science of noise pollution (or a true phonometrography), the relevant metric of acoustic value is simply the self-conscious apprehension of the listener. This heightening of attentive hearing became a familiar trope in postwar conceptual music, emblematised by the work of John Cage (himself a devotee of Satie). 'To be interested in Satie', Cage once argued, 'one must be disinterested to begin with, accept that a sound is a sound and a man is a man, give up illusions about ideas of order, expressions of sentiment and all the rest of our inherited aesthetic claptrap'.<sup>78</sup> This 'disinterest' - which is a far cry from not listening at all - proved profoundly interesting to Cage, and he studied Satie extensively.<sup>79</sup> In particular, he was fascinated with Satie's *Vexations*, found hidden behind the piano when Satie died in 1925 (the year of Le Corbusier's *L'art décoratif*). The score went unpublished until Cage reproduced it in the French journal *Contrepoints* in 1949. The manuscript bore an enigmatic inscription in Satie's unmistakable hand: 'In order to play the theme 840 times in succession, it would be advisable to prepare oneself beforehand, and in the deepest silence, by serious immobilities.'<sup>80</sup> Never afraid to take things literally, Cage staged a performance of the piece with all 840 repetitions, requiring shifts of pianists and lasting approximately 18 hours. (*The New York Times*, playing along with the conceit, covered the performance by sending reporters in shifts to witness the entire event, and one even ended up participating when a pianist failed to show up).<sup>81</sup> It is in some ways the opposite of Cage's famous '4'33", being founded on intense repetition rather than unaccustomed silence, but it results in a similar mental state in which listening habits are dislodged, developing a spatio-temporal form of perception outside of what we think of as 'cultured' listening.<sup>82</sup>

A critical practice needs a normative practice to run counter to, and Satie's architecturally embedded music reached one possible end in 1936. That year marked the debut of the now famous Muzak Corporation, founded by

General George Owen Squier after years of research in military communications.<sup>83</sup> Employing as many as a hundred musicians at any given time in its New York studios, the company offered a 'wired radio' service that fed background music through telephone lines to paying subscribers. To Darius Milhaud, the resemblance to Satie's *musique d'ameublement* was notable. 'The future was to prove that Satie was right', he writes; 'nowadays, children and housewives fill their homes with unheeded music, reading and working to the sound of the wireless. And in all public places, large stores and restaurants, the customers are drenched in an unending flood of music. Is this not *musique d'ameublement*, heard, but not listened to?'<sup>84</sup> But one might see Muzak more precisely as an infrastructural version of the background noise that was up for critique in Satie's work.

It is an atmosphere of unmitigated distraction, meant to mask the passage of time and promote complacency; Cage called it 'music for factory workers or for chickens to force them to lay eggs'.<sup>85</sup> Muzak's pervasiveness in both spaces of leisure (Adorno's 'music of the café') and spaces of productivity (the acoustically tuned office) makes the transition between them seamless – a *Gesamtkunstwerk* of banality. 'Audio Architecture is emotion by design', the Muzak Corporation writes. 'Its power lies in its subtlety. It bypasses the resistance of the mind and targets the receptiveness of the heart.'<sup>86</sup> The decorative arts, as Le Corbusier had noted in 1925, are still 'bathing us in P-o-e-t-r-y ... invented by others and filling whatever empty holes may be left in our crowded days'.

Does aural architecture retain any measure of its potentially critical capacity? The musician and producer Brian Eno has warned against conflating the possibilities of ambient music with the grimmer realities of Muzak's consolidation of emotive consumerism. Instead Eno began developing his own *angewandte Musik*, beginning with his canonical *Music for Airports* of 1978, generated through a temporal diagram of tonal clusters. 'An ambience is defined as an atmosphere, or a surrounding influence: a tint', he writes. 'Whereas the extant canned music companies proceed from the basis of regularising environments by blanketing their acoustic and atmospheric idiosyncrasies, Ambient Music is intended to enhance these.' It is an augmentation rather than a neutralisation of environment, and Eno, like Cage and Satie before him, was well aware of the central principle of this music-as-building-material: 'It must be as ignorable as it is interesting'.<sup>87</sup> Where music finds itself unobserved, it approaches the condition of architecture.

Pollution rarely finds a champion. Despite a general moral consensus that pollution is a thing to be avoided, the question of what

constitutes pollution remains far from settled – and 'noise' is one of its most difficult to reconcile subgenres, especially when considering the creative ends it was put to across the twentieth century. To take an example from the visual arts, Peter Thorsheim's *Inventing Pollution* makes the case that the dense coal smoke hovering over nineteenth-century London had, amidst a host of negative impacts, an unexpectedly positive capacity to create new forms of seeing. This altered apprehension of the urban landscape was captured by the painters of the period: 'In 1879, foreshadowing later debates over post-impressionism, *The Times* complained that smoke dangerously distorted ordinary perceptions of reality', he writes. This filter of smog was an aesthetic but also an ideological liberation, one that would have likely appealed to Satie. 'A polluted atmosphere', *The Times* went on to argue, 'caused artists to see things "not as they are, but as the painter thinks they ought to be".'<sup>88</sup> A decade later, Oscar Wilde (in a characteristic inversion) argued that impressionism had in fact brought on the fog and not vice versa. 'Where, if not from the impressionists, do we get those wonderful brown fogs that come creeping down our streets, blurring the gas-lamps and changing the houses into monstrous shadows?' he asks. 'There may have been fogs for centuries in London. I dare say there were. But no one saw them, and so we do not know anything about them. They did not exist until Art had invented them. Now, it must be admitted, fogs are carried to excess.'<sup>89</sup>



Art and fog; music and noise. The reversibility of the question of which came first – the fog or the impressionists – places the two in tension, and it gives the smoky and noisy by-products of the industrial city potentially operative roles in the making of culture. The clouded vistas of the smog-darkened city were ripe with potential, inspiring what Robert Musil called 'possibility-sense' (*Möglichkeitssinn*) as opposed to 'reality-sense' (*Wirklichkeitssinn*). Thorsheim's interpretation

Opposite: Jean Cocteau, sketch of Erik Satie, 1916  
© De Agostini Picture Library/  
Bridgeman Art Library

of this productively polluted vision is decidedly political: 'Beneath the literal meaning of this statement lies the suggestion that pollution may inspire a revolutionary rejection of modern industry and the economic structures associated with it.'<sup>90</sup> The forms of seeing inspired by the polluted air of metropolitan Europe might be not just modern, but utopian – embedding a radical futurity within the straightforward representation of the existing everyday. The making-immanent of reality is a critical act.

Erik Satie – an 'aged plotter of revolutions' himself, as his *New York Times* obituary put it – offered a similar blueprint for the heightened apperception of the real through his remaking of the urban soundscape, setting the stage for a century of simultaneously aural and architectural experiment. When the artist and musician Max Neuhaus argued in 1974 that 'silencing our public environment is the acoustic equivalent of painting it black', or that 'just as our eyes are for seeing, our ears are for hearing', he touched on the same sonic possibility-sense that Satie sought to activate some 60 years before.<sup>91</sup> Where Muzak 'bypasses the resistance of the mind', the *musique d'ameublement* instead promotes that very resistance – against the encroachment of kitsch in the realm of popular culture, against the purist polemics of Le Corbusier, and against disciplinary battle lines that held aural experiments apart from the spatial arts. Its iconoclasm was typical of Satie's persistent questioning of prevailing dogmas, and his resistance was perhaps his most defining characteristic. 'He never allowed himself the comfortable perch of suspect charm or striking force', Cocteau tells us, and those two 'perches' map out the dialectic of regressive listening and avant-gardist aesthetics that Satie was out to undermine. 'He never listened to the Sirens, except the Sirens inside. He always clogged his ears with wax. He was, always, like the wise Ulysses, well tied to the mast.'<sup>92</sup>

The mast that Satie remained most firmly affixed to was his beloved Paris, even as its entrance into industrial modernity was punctuated by the violence of war, cultural foment and increasing urban traffics of all kinds. Even in its evident failure, Satie's aural architecture was an attempt to wrest control of the public realm from the productive and distractive din of the capitalistic city, all by simply amplifying the distracted listener's sonic consciousness. The *musique d'ameublement*, for all its affinities with the modernist project, was an individualist counterpoint to the Corbusian desire for 'straightening up', and it stands as an anticipatory critique of the coming century's saturation (and accompanying inattentiveness) in the auditory realm of public life.<sup>93</sup>



Frétentieux  
Château  
genre gothique,  
en fonte; avec  
PETIT PARC  
insolent; & nobles  
Dépendances.  
(Marquis de Valois)  
Ancien

This essay began in a doctoral colloquium on pollution and architecture taught by Jorge Otero-Pailos; thanks to Jorge and the colloquium cohort for a number of stimulating conversations. An abridged version was presented at the 'Music: Parts and Labour' conference at NYU in April 2012. Thanks also to the many colleagues (and family members) who have thoughtfully read and commented on this piece – but especially Mary McLeod, whose ideas, support and citations have been instrumental to the essay's development, and warmly appreciated by its author.

1. Collected in Erik Satie, *The Writings of Erik Satie*, trans. Nigel Wilkins (London: Eulenburg Books, 1980), p 98.
2. Theodor Adorno, 'Music in the Background [1934]', in Richard Leppert (ed), *Essays on Music*, trans. Susan H Gillespie (Berkeley, CA: University of California Press, 2002), p 506. The essay appeared four years before his famous work on music and commodity fetish.
3. Le Corbusier, *L'art décoratif d'aujourd'hui* (1925; Paris: Éditions Vincent, Fréal & Co, 1959), pp 30–31. Translations from French and German are the author's throughout except where cited.
4. *Ibid*, p 28.
5. Adolf Loos, 'Von einem armen reichen Manne [1900]', in *Sämtliche Schriften* (Vienna: Verlag Herold, 1962), p 204.
6. See Günter Mayer, 'Eisler and Adorno', in David Blake (ed), *Hanns Eisler: A Miscellany* (Luxembourg: Harwood Academic Publishers, 1995), pp 152–54. Eisler also used the term *Gebrauchsmusik*, 'utility music', with some frequency. The revolutionary intentions of his music were enough to warrant extensive investigation by the FBI during his time in America, which culminated with his deportation in 1948 after appearing before the House Committee on Un-American Activities.
7. This understanding is drawn from Mary Douglas' anthropological definition of pollution as 'matter out of place', a register of cultural mores rather than objective criteria. See Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (1966; London: Routledge, 2005), p 44.
8. The term 'soundscape' was coined in the 1970s by the musician R Murray Schafer, who also claimed that 'noise pollution results when man does not listen carefully'. R Murray Schafer, 'Soundscapes and Earwitnesses', in Mark M Smith (ed), *Hearing History: A Reader* (Athens, GA: University of Georgia Press, 2004), p 3. 'Soundscape' has since become a common term in cultural and technological histories, represented by the work of Alain Corbin and especially Emily Thompson's decisive *The Soundscape of Modernity*.

- 'Like a landscape', Thompson argues, 'a soundscape is simultaneously a physical environment and a way of perceiving that environment; it is both a world and a culture constructed to make sense of that world'. Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900–1933* (Cambridge, MA: MIT Press, 2002), p 1.
9. Erik Satie, text in *Catalogue mensuel de Pierre Trémois* 5 (Paris: Éditions Pierre Trémois, October 1922). Translation adapted from Wilfrid Mellers, 'Erik Satie and the 'Problem' of Contemporary Music', in *Studies in Contemporary Music* (London: Dennis Dobson Ltd, 1947), p 21.
  10. Erik Satie, *The Writings of Erik Satie*, *op cit*, p 121.
  11. Satie referred to *Relâche* as a pornographic ballet, and the event occasioned the creation of René Clair's famed *Entr'acte* of 1924.
  12. James Heyward, liner notes to *Jean Cocteau, Erik Satie and Les Six* (LTM CD 2402, 2005).
  13. Fernand Léger, 'Satie inconnu', *La revue musicale* 214 (June 1952), p 137.
  14. 'Tableau biographique', *ibid*, p 8.
  15. The pieces in question are Saint-Saëns' 'Danse macabre' and Thomas' 'Mignon'. See also Ornella Volta, *Satie Seen Through His Letters*, trans. Michael Bullock (New York, NY: Marion Boyars, 1989), pp 175–76.
  16. Daniel Albright, *Untwisting the Serpent: Modernism in Music, Literature and Other Arts* (Chicago, IL: University of Chicago Press, 2000), p 191.
  17. Darius Milhaud, *Notes Without Music: An Autobiography* (New York, NY: Da Capo Press, 1970), p 122.
  18. For a brief but synthetic account of Satie's participation in the *Lyre et Palette*, see Mary E Davis, *Classic Chic: Music, Fashion and Modernism* (Berkeley, CA: University of California Press, 2006), pp 94–97.
  19. Constant Lambert, *Music Ho! A Study of Music in Decline* (New York, NY: Charles Scribner's Sons, 1934), p 134.
  20. The show was mounted as a benefit for injured veterans of the war but was met with substantial booing and 'every other epithet that signified unpatriotic behaviour'. For a thorough look at *Parade* and Picasso's involvement in particular, see Kenneth E Silver, *Esprit de corps: The Art of the Parisian Avant-Garde and the First World War, 1914–25* (Princeton, NJ: Princeton University Press, 1989), pp 115–126. Amédée Ozenfant's recollections of the event are revealing, and are discussed later in this essay.
  21. This meeting of the *Lyre et Palette* included performances by Arthur Honegger, Georges Auric and Louis Durey, part of a Satie-following group known as *Les nouveaux jeunes*, later to become *Les Six*, which Satie characteristically disavowed not long after. *Les Six* also included Francis Poulenc, Germaine Tailleferre and Darius Milhaud, who remained closest to Satie in his experimentalism. Incidentally, Milhaud's 1923 ballet *La Création du Monde* was performed with sets designed by Léger.
  22. Some of the most notable innovations in the score for *Parade* – including parts written for typewriters, foghorns and

- milk bottles – are better traced to Cocteau than Satie. Cocteau and other collaborators (not including Satie) made a trip to Rome during the creation of *Parade*, where they met with the Italian futurists and would have certainly encountered Luigi Russolo's *Art of Noises*, about which he wrote a manifesto in 1913. In fact, Satie and Picasso 'colluded' to undermine Cocteau's politics and aesthetics on the project, including by 'resisting Cocteau's call for even more realistic sounds'. On this, see Jane F Fulcher, *The Composer as Intellectual: Music and Ideology in France 1914–1940* (New York, NY: Oxford University Press, 2005), pp 78–79.
23. Mary E Davis, *Erik Satie* (London: Reaktion Books, 2007), pp 17–18. Around the same time, Satie was developing a friendship with the flamboyant and eccentric Joséphin Péladan, whose Rose-Croix branch of Catholicism practised an 'intoxicating blend of esotericism and eroticism' that certainly spoke to Satie's mystical interests – although, as Steven Whiting has noted, Satie leavened his spirituality with considerable humour. Steven Moore Whiting, *Satie the Bohemian: From Cabaret to Concert Hall* (Oxford: Oxford University Press, 1999), pp 130–52.
  24. Robert Orledge (ed), *Satie Remembered* (Portland, OR: Amadeus Press, 1995), p 49.
  25. Constant Lambert, *op cit*, p 128.
  26. The phrase is from Pierre-Daniel Templier, *Erik Satie* (Paris: Éditions Rieder, 1932), translated in Robert Orledge, *op cit*, p 9. For more on the influence of Gregorian chant, see Dom Clément Jacob, 'Erik Satie et le chant Grégorien', *La revue musicale* 214 (June 1952), pp 85–94.
  27. Wilfrid Mellers, *op cit*, p 18.
  28. The phrase appears in Cocteau's *Le coq et l'arlequin* and is cited and translated in Daniel Albright, *op cit*, p 196.
  29. Sigfried Giedion, *Building in France, Building in Iron, Building in Ferroconcrete*, trans. J Duncan Berry (1928; Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1995), p 101.
  30. Erik Satie, 'Propos à propos d'Igor Stravinsky', *Feuilles libres* 29 (October–November 1922), pp 351–52. 'L'enregistrement mécanique' carries multiple meanings; it can refer to 'recording' (the term used in existing translations of this text) but also etymologically evokes 'notation' or 'registration'. In Satie's text the term straddles these usages, and has been left untranslated here to avoid importing unintended specificity.
  31. Theodor Adorno, *op cit*, p 508.
  32. Erik Satie, *A Mammal's Notebook: Collected Writings of Erik Satie*, edited by Ornella Volta, trans. Antony Melville (London: Atlas Press, 1996), p 200.



33. Le Corbusier, 'A Noted Architect Dissects Our Cities – Le Corbusier Indicts Them as Cataclysms and Describes His Ideal Metropolis', *The New York Times*, 3 January 1932. On his eventual trip to New York in 1935, one of Le Corbusier's first stops was Radio City in the Rockefeller Center, where he marvelled at the 'silent walls' that prevented the transfer of sound. 'In each room spectators occupy an amphitheatre which is outside of it, enclosed as if they were in a glass aquarium. They are free to speak; none of their chatter escapes the aquarium'. Le Corbusier, *When the Cathedrals Were White*, trans. Francis E Hyslop Jr (1937; New York, NY: McGraw-Hill Book Company, 1964), p 33.
34. Emily Thompson, *op cit*, p 145.
35. 'Lily Pons 'Noisier' Than a Street Car', *The New York Times*, 28 April 1932.
36. As of 1917, five years after Satie's essay, one major report on noise pollution still concluded that 'noise not only has no instrument of measurement but it is even without a satisfactory definition'. See Emily Thompson, *op cit*, p 145. For a broadly European look at the rise of noise abatement and sound legislation in the preceding years, see Karin Bijsterveld, *Mechanical Sound: Technology, Culture and Public Problems of Noise in the Twentieth Century* (Cambridge, MA: MIT Press, 2008), especially chapter 3.
37. Poueigh's pseudonym for the catalogue was 'Octave Séré', which is how it is cited in Satie's text. Satie's postcard to Poueigh is quoted from Kenneth E Silver, *op cit*, p 165.
38. Erik Satie, 'Mémoires d'un amnésique', *La revue musicale STM* 8, no 4 (April 1912), p 69.
39. Le Corbusier, *Precisions on the Present State of Architecture and City Planning*, trans. Edith Schreiber Aujame (1930; Cambridge, MA: MIT Press, 1991), p 66.
40. Unexpected materials are a hallmark of early sound insulation. The 'Cabot's Quilt' used eel-grass on the grounds that it was durable, sanitary and unflammable (and perhaps easier than cattle hair to gather in large amounts). The 'Flax-li-num Insulating Company' used flax for the same purposes.
41. H W Johns-Manville Co, *Business Noise: Its Cost and Prevention* (New York, NY: H W Johns-Manville Co, 1920), pp 1–4. The Johns-Manville Company is still in the business of producing insulating materials.
42. This can be compared with Le Corbusier's 'Law of Ripolin', referencing his preferred brand of whitewash, among a myriad other calls for whiteness in architecture. The 'Law of Ripolin' was first published in *L'Esprit Nouveau*, and a chapter by the same name in Le Corbusier, *L'art décoratif d'aujourd'hui*. See also Mary McLeod, 'Undressing Architecture: Fashion, Gender and Modernity', in Deborah Fausch et al (eds), *Architecture: In Fashion* (New York, NY: Princeton Architectural Press, 1994), pp 38–123; and Mark Wigley, *White Walls, Designer Dresses: The Fashioning of Modern Architecture* (Cambridge, MA: MIT Press, 2001).
43. Mary McLeod, 'Architecture or Revolution': Taylorism, Technocracy and Social Change', *Art Journal* 43, no 2 (Summer 1983), pp 132–47.

44. Carolyn Lanchner, 'Fernand Léger: American Connections', in *Fernand Léger* (New York, NY: Museum of Modern Art, 1998), p 39.
45. Le Corbusier, *The Decorative Art of Today*, trans. James I Dunnett (1925; London: Architectural Press, 1987), pp 29–30.
46. Le Corbusier, *Precisions*, *op cit*, p 11.
47. The Philips Pavilion was designed for the Brussels Expo of 1958 and incorporated Xenakis' composition *Metastaseis* along with Edgar Varèse's seminal *Poème électronique*. Xenakis happened to briefly and unsuccessfully study with two Satie disciples – Arthur Honegger and Darius Milhaud. See Marc Treib, *Space Calculated in Seconds: The Philips Pavilion, Le Corbusier, Edgar Varèse* (Princeton, NJ: Princeton University Press, 1996).
48. See Josep Quetglas, 'Ronchamp: A Landscape of Visual Acoustics', in Jean-Louis Cohen (ed), *Le Corbusier: An Atlas of Modern Landscapes* (New York, NY: Museum of Modern Art, 2013), pp 212–17.
49. Charlotte Perriand had this recollection of entering the Maison La Roche for the first time: 'Entering this space, enveloped by cantatas by Johann Sebastian Bach (Corbu had plugged in the gramophone), was like stepping into an unknown world throbbing with music, in total communion with the whole'. Charlotte Perriand, *A Life of Creation* (New York, NY: Monacelli Press, 2003), p 26. I am grateful to Mary McLeod for pointing me to this source (among many others).
50. Le Corbusier, *The Modulor: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics*, trans. Peter De Francia and Anna Bostock (1948; London: Faber & Faber, 1961), p 29.
51. Peter Bienz, *Le Corbusier und die Musik*, *Bauwelt Fundamente* 120 (Braunschweig: Vieweg, 1998), p 20. Bienz's dissertation remains the most thorough accounting of Le Corbusier's lifelong involvement with music, with a particular attention to the musical aspects of *L'Esprit Nouveau*, the Philips Pavilion and the Modulor proportioning system.
52. In a moving if patronising passage, Le Corbusier ponders the capacity of a properly put-over popular song for the elevation of the masses that witness it: 'In her steamship cabin, she picks up a little guitar – a child's toy – that someone gave her and sings all the blacks' songs... She lives all over the world. She moves immense crowds. So there is a real heart in crowds? Music finds its way there. Man is a magnificent animal. But he has to be raised above himself, he has to be torn away from the abominable lies that make a hell of his life, without his understanding the reasons and denouncing them'. Le Corbusier, *Precisions*, *op cit*, p 12.
53. *Ibid*, pp 13–14.
54. Le Corbusier, *The Modulor*, *op cit*, pp 15–17.
55. This is a prevalent interpretation in Le Corbusier studies (one that Le Corbusier encouraged in texts like *Precisions*, *The Modulor* and even *Towards a New Architecture*). Colin Rowe's retracing of the Palladian proportions in Le Corbusier's early houses was a notable early entry in this vein. Colin Rowe, 'The Mathematics of the Ideal Villa', *The Architectural Review*, March 1947, pp 101–04.
56. Le Corbusier, *Precisions*, *op cit*, p 12.
57. Jane Fulcher's *The Composer as Intellectual* offers a compelling account of Satie's musical politics, while also making a case for music as a kind of intellectual labour that bears the same scrutiny and responsibilities as more generally established forms of political thought. Her readings of *Parade* and *Socrate* can be found in Fulcher, *The Composer as Intellectual*, *op cit*, pp 70–84 and 146–51.
58. *Ibid*, p 79.
59. Kenneth E Silver, *Esprit de corps*, *op cit*, p 270; Mary McLeod, 'Undressing Architecture', *op cit*, p 75.
60. Ulrich Mosch, 'Erik Satie: *Socrate* for Voices and Small Orchestra, 1917–18', in Gottfried Boehm, Ulrich Mosch and Katharina Schmidt (eds), *Canto d'Amore: Classicism in Modern Art and Music, 1914–1935* (Basel: Öffentliche Kunstsammlung Basel, 1996), p 126.
61. *Ibid*, pp 281–82.
62. Le Corbusier, *Precisions*, *op cit*, p 11.
63. He terms his brother Albert an 'artisan' by comparison: 'Some have in the interior judgment of their heart a taste for excellence, quality in the extreme, the meaning of the game. This happens, but it is not common and requires violent inner turmoil, which is a sacrifice like uncontrollable passion. But that concerns only a few'. Le Corbusier to his mother, 16 November 1940, collected in Le Corbusier, *Correspondance: Lettres à la famille 1926–1946*, edited by Rémi Baudouin and Arnaud Dercelles, vol 2 (Paris: Infolio, 2013), p 709.
64. For a thorough discussion of the articles on music that appeared in *L'Esprit Nouveau*, see Bienz, *Le Corbusier und die Musik*, *op cit*, pp 55–66.
65. As Jane Fulcher has it, 'Apollinaire's assertions concerning Satie's music would reinforce the irony that, while adhering to certain classic traits, [Satie's score for *Parade*] was, in fact, an attack on wartime classicism'. She goes on to note that Apollinaire at least partially intuited this rift in coining the term 'sur-réalisme' to describe the distance inserted between the classic content and its intended reading. Jane Fulcher, *op cit*, p 83.
66. Kenneth E Silver, *op cit*, pp 122–23.
67. Henri Collet, 'Erik Satie', *L'Esprit Nouveau* 2 (November 1920). Satie's contribution to *L'Esprit Nouveau* included his famous line 'celui qui n'aime pas Wagner n'aime pas la France'. Erik Satie, 'Cahiers d'un mammifère', *L'Esprit Nouveau* 7 (April 1921).
68. Peter Bienz, *op cit*, p 59.
69. Amédée Ozenfant, *Mémoires: 1886–1962* (Paris: Seghers, 1968), p 94. Not incidentally, Ozenfant recalls that Satie was 'never really drunk, but always at least a little, which made him constantly irascible'. *Ibid*, p 91.
70. *Ibid*, p 92.
71. For more on Bongard and her role in Parisian art, fashion and music (and her influence on Satie in particular, who found a marked 'creative stimulus' in his participation in this circle), see Mary Davis, *Classic Chic*, *op cit*, pp 93–116. It was Bongard's studio that 'solidified his position in the centre of the vibrant group of artists, poets, writers and musicians who were working in the war years to recast modernism as an expressive mode that could accommodate fashionable avant-garde approaches as well as pro-French political sentiment'. *Ibid*, p 94.
72. A recent account of the early days of Purism can be found in Danièle Pauly, 'Rue Jacob: Landscapes Drawn and Painted 'in the Evening, by Lamplight'', in *Le Corbusier: An Atlas of Modern Landscapes*, *op cit*, pp 226–31.
73. Amédée Ozenfant, *op cit*, p 91.
74. *Ibid*, p 99.
75. Satie in *Le cœur à barbe* 1 (April 1922), translated in Satie, *The Writings of Erik Satie*, *op cit*, p 70.
76. Mary Davis notes that the performance, while largely unsuccessful, did garner Satie a notice in the first issue of the French *Vogue*. See Mary Davis, *Erik Satie*, *op cit*, pp 127–28.
77. Darius Milhaud, *op cit*, p 123.
78. John Cage, 'Erik Satie', in *Silence: Lectures and Writings by John Cage* (Middletown, CT: Wesleyan University Press, 1961), p 82. Cage had his own (more literal) version of 'furniture music'. Inspired by the film director Oscar Fischinger – who believed that there is a 'spirit which is inside each of the objects of the world' and that 'all we need to do to liberate that spirit is to brush past the object, and to draw forth its sound' – Cage began creating pieces for 'the infinite number of sound sources from a trash heap or a junk yard, a living room or a kitchen... We tried all the furniture we could think of'. John Cage, *For the Birds: In Conversation with Daniel Charles* (Boston, MA: Marion Boyars, 1981), pp 73–74.
79. A notable moment here is the summer of 1948, when Cage devoted a semester of study at Black Mountain College to Satie's oeuvre. That same summer, Buckminster Fuller constructed his 'supine dome' (so called because of its reluctance to stand up) on the grounds there, an important step on the way to his geodesic structures. Fuller participated in Cage's staging of Satie's *Ruse of Medusa*, and Cage's lifelong interest in Fuller's writings and thinking also dates to this intensive summer of interaction.
80. See Erik Satie and John Cage, 'Vexations', *Contrepoints* 6 (1949).
81. Harold C Schonberg et al, 'A Long, Long, Long Night (and Day) at the Piano: Satie's 'Vexations' Played 840 Times by Relay Team', *The New York Times*, 11 September 1963, pp 45, 48.
- One of the performers was John Cale, later of the Velvet Underground; his involvement in 'Vexations' warranted an appearance on the game show 'I've Got a Secret' in 1963.
82. It is, as Daniel Albright observed of Satie's *musique d'ameublement*, the opposite of a hieroglyph – a music that 'doesn't aspire toward an instant of devastating apprehension of meaning, but instead aspires toward a pleasant diffusion, a letting-go of meaning'. Daniel Albright, *op cit*, pp 191–92.
83. 'Muzak: A Brief History of Elevator Music', *Muzak Music*, 2011, <http://music.muzak.com/music/elevator>.
84. Darius Milhaud, *op cit*, cited in Robert Orledge, *op cit*, p 154.
85. In this passage, Cage is critiquing the lifelessness of experimental electronic music in a way that recalls Satie's thoughts on Stravinsky and the pianola: 'I think that live sounds really have a different quality and that they reach greater extremes of softness and loudness. They have a presence, and this presence is intact, while conventional electronic sounds, those from studios of "experimental" music, are necessarily compressed. By their very nature, they can only give you a little more difficult form of Muzak!' John Cage, *For the Birds*, *op cit*, p 137.
86. 'Why Muzak – Overview', *Muzak Music*, 2011, [http://music.muzak.com/why\\_muzak](http://music.muzak.com/why_muzak).
87. Brian Eno, *Ambient #1: Music for Airports*, LP (E G Records, 1978), liner notes.
88. Peter Thorsheim, *Inventing Pollution: Coal, Smoke and Culture in Britain Since 1800* (Athens, OH: Ohio University Press, 2006), p 54.
89. Oscar Wilde, 'The Decay of Lying', *Intentions* (Leipzig: Heinemann and Balestier, 1891), pp 33–34. This paragraph does not appear in the original 1889 publication of the essay in the journal *The Nineteenth Century*.
90. Peter Thorsheim, *op cit*, p 54.
91. Max Neuhäus, 'BANG, BOOOoom, ThumP, EEEK, tinkle', *The New York Times*, 6 December 1974, reproduced in Branden Joseph, *op cit*, p 61.
92. Cocteau's vision of Satie as Ulysses is somewhat redundant in its preventative measures. The point of being tied to the mast was for Ulysses to listen to the song of the Sirens without having the freedom to succumb to it, while the wax was for the crew that would keep rowing without hearing. Jean Cocteau, 'Satie', *La revue musicale* 214 (June 1952), p 17.
93. The idea that Le Corbusier was engaging in a kind of urban and aesthetic housekeeping after the distinctly modern trauma of mechanised warfare is discussed in Kenneth E Silver, 'Purism: Straightening Up After the Great War', *Artforum* (March 1977), pp 56–63.

