

Auscultations

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A talk given at the University of Iowa Sound Research Seminar 29 January 2010 and at [Sonic Acts XIII: The Poetics of Space](#), Amsterdam, 27 February 2010

Four months ago I woke up largely deaf in one ear. I assumed I had a blockage or infection of some kind and went off to a weekend conference in Reading. Three days later, there was no change. I read widely on the internet and found what looked like a match for my condition in what is known as SSHL, or Sudden Sensorineural Hearing Loss. By now I was experiencing little shoves of vertigo as well, and my left ear seemed filled with a continuous rushing sibilance, silver-veined with a soprano sine-tone. A visit to my general practitioner produced the advice that I should drizzle olive oil into my ear to soften the putative wax that was causing the hearing loss and tinnitus, preparatory a syringing that would assuredly disperse it. (Now listen. Doctors are always able to persuade themselves that they can see build-ups of wax inside ears, and are always confident that they are equipped to deal with it. For decades family doctors have been blasting and bombardiering eardrums with ear syringes. I urge you all never to permit this procedure. No doctor who does not have otological specialism should ever be trusted to make any intervention in ears of any kind; my experience suggests that most general doctors are not even capable of making reliable observations of the ear. End of intermission.) A week after the onset of the deafness, I managed to secure a walk-in appointment at the Royal Throat Nose and Ear hospital in London (not much easier than securing a walk-on part at the National Theatre), by dint of hypnotising my GP into thinking that she was the source of the knowledge, that I had myself gathered and imparted to her, that sudden hearing loss should always be treated as a medical emergency. But by the time I had forced my way into the presence of medically-qualified persons, there was, as I had already abundantly verified, nothing to be done. In a certain proportion of cases, hearing can spontaneously return after an episode of SSHL, which it is thought is often caused by an infection that interrupts blood flow to the cochlea, There are some indications that high doses of steroid can help reduce inflammation in the cochlea, if that is the cause, somewhat improving the prospects of the return of hearing. But this course of treatment needs to be started within three days of the onset of the condition to have much chance of having an effect. Although I was duly prescribed a twelve-tablet per day course of steroids, a week had already elapsed when I began it, and there was predictably no improvement after another week. There has been no spontaneous return of hearing since, nor now will there ever be. I am my own sea-shell, listening in on the shanties borne on the waves of pulse and synapse. I am, as Marvell puts it, 'deaf with the drumming of an ear'. There's frying tonight, and every night, my left ear being permanently tuned to a between-stations sizzle. Though my noises off are always on, there are sometimes new notes to be heard. Sometimes, for example, a certain faint grinding seems to be detectible within or beneath the quietly roaring hush, like the probing of a cat's whisker, flickering across my cochlea, trying to find my station.

There are distinct gains from this reduction of hearing. It has for example given me a very valuable insight, that I have not had since my son's experience of glue ear as a 9-year old, into the appalling degradation of sound quality in the urban world, especially in the buildings in which I teach that seem designed on the principle indicated in Beckett's

Mercier and Camier, in which a character entreats ‘Speak up, I’m not deaf’; that is, designed to ensure that if you are deaf, as much as possible of the sound world will be maliciously withheld from you, with as many of the distinguishing features of discourse as possible mired in various forms of lo-fi humming slurry.

Indeed, the most distinctive feature of this episode and its continuing aftermath has not been what has been lost but rather what has been gained, namely the continuo of tinnitus that now accompanies me, toning and texturing everything I say and hear. It was a surprise to me to learn how common this is. One in three people will experience some form of tinnitus and about 1 in 6 have some measure of tinnitus at any one time. I am in fact very fortunate in that my tinnitus is scarcely distressing or disturbing. For one thing, it is monotonic, rather than pulsatile – it does not thud or bump, poltergeist-like, but hisses and sizzles away in more or less the same form, and at more or less the same level, all the time. If I do sometimes wish it were not there, it is not because it intrudes upon me, as psychotic voices do, but simply because it is so monotonous. I can’t say I love it exactly, but it has already started to become my carrier wave, my ground-bass (ground-treble, really), my auditory self-taste, something like the hum of my being, a personalised version perhaps of what Levinas describes as the *il y a* of existence.

The topic of internal sound has been of interest to many writers on sound and audiosophes. John Cage famously derived from his experience of the isolation tank the principle of the plenitude of sound and the unattainability of absolute silence. Take away all sources of external auditory stimulus, and you begin to hear the sound of your own bodily processes – the taps and gnashes of your teeth, the swilling and gurgling of saliva, the clicking and crackling that accompanies your swallows, the tiny rasps of breath in your nostrils, even the flicking of your eyelids. All of these are objective sounds, in that they can easily be detected and captured by microphones. Although the buzzes, bubblings and bangs of tinnitus resemble and can blend with these somato-sounds, it has been common since the middle of the nineteenth century to distinguish them as ‘objective tinnitus’ from the ‘subjective’ tinnitus that it is not possible for anyone else to hear. The isolation-tank experience can give rise to the latter as well as to the former. In 1953, a group of students, none of whom suffered from any hearing loss or tinnitus, were placed in a soundproofed room and asked to report on what they heard; nearly all of them reported hearing hissing or buzzing sounds like those heard by sufferers from tinnitus.

[\(http://www.rnid.org.uk/information_resources/tinnitus/about_tinnitus/what_is_tinnitus/\)](http://www.rnid.org.uk/information_resources/tinnitus/about_tinnitus/what_is_tinnitus/)

One of the distinguishing features of tinnitus is that it is very hard to place it. In its worst forms, which can cause desperation and even suicide, the experience is of a sound that has all of the powers and qualities of an external force acting upon us, without any possibility of evading it, or putting any distance between ourselves and it. Such sounds are a kind of endogenous, indwelling exteriority, an outside that comes at you from the inside. This does not, however, usually mean that the sounds have the precise quality or existential print of sounds heard in the world. There are accounts of people who have complained for years of mysterious and sinister humming noises and whose symptoms have been accounted for as tinnitus but who have then been found really to have been hearing mechanical objects and processes. There are also some accounts of tinnitus sufferers mistaking their sounds for sounds coming from the world outside, though this tends to happen only at their onset. Adam Politzer, whose textbook on diseases of the ear was the most influential work of otology of the second half of the nineteenth century,

recorded cases of patients thinking they heard draughts in the chimney, or the rattling of wagons in the street outside, but insisted that '[h]allucinations of hearing do not, on the whole, occur frequently in aural patients without the conjunction of an altered state of the brain' (Politzer 1883, 193). For the most part, sufferers from tinnitus are very clear that the sounds emanate from their ears, or from parts of the head close to them. It is in fact far from clear what it means precisely to say that something comes from the ear, since the locative sensation of touch extends only a short distance into the meatus, and we have no direct means of distinguishing conditions and effects in different part of the auditory apparatus. Occasionally, sufferers can hear, or even consciously produce sounds from the ear, which may be audible to others, though these are usually simple mechanical or pneumatic effects of a rather simple kind. D.B. St John Roosa thought that 'objective tinnitus aurium' of this kind was 'usually intermittent in character and of a crackling nature', and recorded a case of a patient who was driven by it into insanity and suicide (Roosa 1891, 349). Edward Woakes, who produced a lengthy study of vertigo and tinnitus in 1896, also recorded some cases of patients who could produce clicks and crackles at will, but thought them due to muscular contractions and of little clinical interest (Woakes 1896, 64-5). The recent discovery of oto-acoustic emissions has made it clear that the ear is indeed and in actual fact a sound-producing as well as a sound-receiving apparatus, and has had important applications, for example in investigating deafness in children who are too young to give feedback in speech. But I am not aware of any work that suggests that these emissions are ever likely themselves to enter the auditory field.

If we hear sounds with our ears, with what organ do we hear what is going on inside the organ of hearing? What organ does the ear use to overhear itself? In one sense the answer is simple, for of course we do not hear anything at all solely with our ears, which act as a sound-gathering reservoir and a transformer of mechanical vibrations into electro-chemical impulses that can be interpreted as sound by the brain. So really the brain 'hears' the ear in the same way as it hears what is conveyed through it. But the experience of hearing does not correspond to this, and none of us experiences sound as being heard in or by the brain, any more than we experience the pain in our big toe in the brain. Rather, we hear things in a plaited simultaneity as both taking place in the ear and at the point from which we take the sound to be coming. The sounds heard in tinnitus do not usually have this quality of exteriority, and so cannot easily be referred outwards to the world. At the same time, they are still characterised by a kind of split between the hearing location and the location of hearing, though in fact these are felt to be the same 'place', namely, the ear.

If the sounds of tinnitus have a very different feel from sounds that emanate from real world objects and events that are exterior to us, they are nevertheless also definitely and unarguably *sounds*, in a way in which imaginary or remembered sounds are not. The tantalising, and, for many, tormenting enigma of tinnitus is that its sounds have exteriority to the self without the position or definition that normally accompany such exterior objects. One of the puzzling things about tinnitus, and one of the things that make it clear that it is an auditory phenomenon (let us not ask awkward questions at this point, and just assume that we know what that is), is that its sounds interact with real-world sounds. Aristotle was one of the first to notice that tinnitus sounds can be masked or drowned out by outside sounds, wondering, in his *Problemata*, 'Why is it that buzzing in the ears ceases if one makes a sound? Is it because a greater sound drives out a less?' (Aristotle 1927, 32.9). Tinnitus sufferers usually find that their noises are louder, or at least more noticeable, at night. It is possible to mask tinnitus through choices of

particular kinds of wide-spectrum ambient sound, which often seems to have similar characteristics to the tinnitus itself. So tinnitus sufferers often sleep better with fans or air-conditioning units going – the kind of indefinite, lo-fi sounds that Murray Schafer thought were destroying the soundscape of the world but which ironically seem to give some relief to tinnitus sufferers who may often have had their hearing damaged in the first place by overexposure to such sounds. There is a flourishing trade in ambient tapes – for example of in-cabin aeroplane noise or dish-washers – for a similar purpose. Writing this as I am on an American Airways Boeing 777, I am in a position to report that my own tinnitus cheerfully holds its own across all its frequencies to this kind of saturating soundwash. On the other hand, the monotonic nature of my tinnitus actually helps me to ignore sounds in noisy environments, precisely by itself swamping the kind of high frequencies that might otherwise be spikily soliciting my attention. My tinnitus is therefore rather more soporific than stimulating in bed, as effective as the washing machine used to be for our youngest son when he was fretful, and an effective way of fading the volume down on the world if I wish to concentrate.

It is sometimes suggested that tinnitus might be treated by noise-cancelling procedures like those that operate with noise-cancelling headphones. The flaw with this idea is that most tinnitus does not occur in the same way as other sounds – that is, no cochlear hair-fibre vibrations are involved. Rather, tinnitus is heard in the brain, as a result of cochlear damage. What occurs with white noise is masking rather than noise-cancellation (Petroff 1998). So perhaps Aristotle was right – the tinnitus is swamped or shouted down. But then how and where does interaction or mixing occur between acoustic and (so to speak) non-acoustic sounds?

Adam Politzer reported another form of interaction between real-world and tinnitant sounds, as I am minded to call them:

In some patients tinnitus was principally caused by the striking of a pendulum clock; many heard the strokes resound in the interior of the ears, others perceived at the moment the clock struck a confused tinnitus, which was either of short or long duration; similar phenomena have also been produced by the twittering of birds, by rustling of paper, or by the patient's own voice. (Politzer 1883, 195)

Politzer also reported that patients who heard noises which resembled the noises they heard in their head were made uncertain whether they came from inside or outside: one patient who had a ticking tinnitus could not judge whether or not he could really hear the ticking of a watch and another who heard an almost continuous cricket-like chirping beside his ear was unable to distinguish it from real chirps imitating it emanating from a human mouth (Politzer 1883, 195). My own tinnitus seems to interact with sibilants, overlaying voices with what I can only describe as a kind of hoarse lisp. Researchers have found that, in cases where hearing loss is not total, but only in a certain frequency band, the accompanying tinnitus tends to match that band (Motluck 1998). It is as though the brain were making up for the loss of sounds in that expected frequency range, by patching them in itself, in an auditory equivalent of one explanation for phantom-limb pain, the tinnitus here being a kind of auto-assuagement. If this is true, then there is a complex and curious bit of feedback going on in my case. I have lost certain higher frequencies, and have accompanying tinnitus which seems to have the effect, when combined with certain external sounds, of actually boosting some of the frequencies that

have been lost. It is as though my tinnitus were a net thrown out to catch the frequencies that would otherwise go missing.

The uncertainty of the place, process and nature of head noises seems to bring an intense need to describe, identify and assign them. One way of giving them a local habitation and a name is to ascribe them to the influence of otherworldly visitants or possessing spirits. Early charms suggest that treatments for tinnitus would be aimed at expelling the spirit or other noisy entity. There is an Egyptian remedy for a ‘bewitched ear’ in the Ebers papyrus, which dates from around 1600 BC (Kamal 1968, para 678, quoted Stephens 1984, 963). Assyrian and Mesopotamian remedies, dating from around 700 BC, distinguished between three kinds of tinnitus, ‘singing’, ‘whispering’ and ‘speaking’, and offered differing treatments depending whether the left or right ear was affected. The assumption seemed to be that tinnitus was the sign of a haunting or possession (there is a tablet that declares, rather wonderfully, ‘when the hand of a ghost seizes a man, his ears sing’ (Thompson 1931, quoted Stephens 1984, 964). Such possessions have not always been seen as unwelcome. ‘Kaulana-ula trills in my ear;/A whispered suggestion to me’, goes a Hawaiian prayer, the translator of which glosses it as ‘[a] singing or trilling sound, a *tinnitus aurium*, a sign that the deity Kaulana-ula was making some communication to the one who heard it’ (Emerson 1909, 33). Eskimo traditions speak similarly of benign ghosts who make themselves manifest through tinnitus: ‘The most harmless way in which a ghost can manifest himself is by whistling, the next by a singing in the ears (aviuiartornek), by which performance he simply asks for food; and generally when singing in the ear is perceived, it is the custom to say: "Take as thou likest"—viz., of my stores. (Rink 1875, 44). Such references may be compared perhaps with the curious references to the peeping and piping sounds made or conjured by sorcerers and soothsayers in the Hebrew Bible. John Potter records, among a number of ‘Internal Omens’, in the classical world, such as palpitations and twitchings, ‘a Ringing in the Ears; which if it was in the Right Ear, was a lucky Omen’ (Potter 1697, 307).

As these kinds of supernatural explanation have lost their persuasiveness, attempts at assignation have more commonly taken the form of referring the tinnitus sounds to more familiar external sounds. A kind of half-way house is represented by the explanation offered by Gilbertus Anglicus in his *Compendium medicinae* of around 1240. Following his helpful suggestion for removing worms from the ear (he recommended sleeping with an apple pressed against the ear, into which the worm would be lured), Gilbertus explained that ‘ringing in a mannes eris, or opere noise liche blowing of hornes’ was due to ‘a grete wyndi mater þat is in þe eere and moveþ vp and dovun and al abouten withinforþe and may not out for his boistesnes’ (Getz 1981, 65). Relating tinnitus noises to more familiar external sounds could assist efforts at masking tinnitus sounds by finding sounds in the world to match or mimic them, as proposed for example by Jean-Marie Gaspard Itard in his *Traité des maladies de l'oreille et de l'audition* (1821, Stephens 1864, 969).

Writers on tinnitus rarely fail to be impressed by their range and variety. Politzer included sounds that resembled waterfalls, ringing bells, the buzzing of a swarm of bees, the swish of leaves in a wood, the rumbling of a train, the chirping of crickets and twittering of birds. He also listed much more unexpected sonic analogues, including:

inarticulate human voices, the barking of a dog, the smashing of panes of glass, grinding of scissors, the breaking of beams in the head, the sound of a trumpet, the tone of a low or high pitched violin-string, chaotic musical

tones, crashing and crackling in the ear, pistol-shots, clattering, the sensation of wind rushing out of the ear, the knocking of a hammer, the noise of a mill, the croaking of frogs, etc. (Politzer 1883, 193-4)

Politzer was impressed by the complex ways in which these sounds could be orchestrated: 'I have seen patients who heard whizzing, ringing, hissing and droning simultaneously, and even barking as of a dog and inarticulate human voices in the street' (Politzer 1883, 194). It is not clear whether this abundance is a measure of the real variety of sounds or of the somewhat desperate inventiveness of those struggling to convey their sensations. Politzer leaned toward the latter view:

If a considerable number of aural patients are tested in regard to the noises they hear, very varying statements will be received. Certainly all the statements are not correct, for what the one takes for rushing, the other will possibly call hissing or whizzing, and many patients openly confess that they are not able to compare their subjective sensation with any known objective noise. (Politzer 1883, 193)

William R. Wilde offered in 1853 what became the popular and frequently-repeated view that patients' descriptions of their tinnitant noises were strongly influenced by their station or customary environment, and proposed a class-inflected atlas of tinnitus referents. Thus, country folk will draw their similitudes from falling or flowing water, the sounds of birds and bees and the rustling of leaves, but urban sufferers will hear their tinnitus echoed in industrial noises and the rolling of carriages. 'Servants', he added conclusively, 'almost invariably add to their other complaints that they suffer from "the ringing of bells" in their ears' (Wilde 1853?, 83-4, quoted Allen 1874, 201). This conceit tickled the inventions of a number of writers, who attempted improvements on Wilde's joke, Edward Woakes, for example, referring to 'the bell-like noises which, when experienced by domestic servants, are likened to anything but "the bells of heaven."' (Woakes 1896, 58). D.B. Roosa went one better with the observation that 'in the country, old women much given to tea-drinking sum up the category of their ailments by saying that "all the tea-kettles in Ireland are boiling in their ears." No description of tinnitus aurium has ever surpassed this one given by the great Irish observer' (Roosa 1891, 348).

Usually, physicians sought to tame and reduce the puzzling polymorphousness of tinnitus by assigning its different dialects to a small number of organic causes. 'It is only by having recourse to some method of classification that we can hope to understand it' wrote Edward Woakes (Woakes 1896, 61). Woakes's aim was to reduce to almost nothing the large and ungovernable category of 'subjective tinnitus', trusting that '[t]he rigid mapping out of the factors of a symptom will usually be equivalent to the transference of it from the category of subjective to that of objective phenomena' (Woakes 1896, 60). Paul Allen similarly thought that '[u]nless we are able to connect this most important, distressing, and undefinable symptom with the discoverable morbid condition in the ear itself, we shall never diminish the number of cases of "nervous deafness," so called' (Allen 1874, 208). Woakes therefore offered his readers a chart which paired different causes to different sounds. Pulsating sounds were said to be due to hyperaemia (or anaemia), chirping, chattering, or bell-like sounds resulted from venous congestion, tidal sounds arose from the irritation of various sensory nerves, and bubbling and gurgling testified to the presence of fluid in the ear (Woakes 1896, 62). J.P. Pennefather agreed that 'the character of the tinnitus will often help in fixing the precise part from whence the morbid influence proceeds' (Pennefather 1873, 126), but he was less confident than

Woakes would be of being able to track different sounds reliably to their anatomical source; often, he wrote, 'the most fertile imagination is unable to realize the allegorical description which the patient gives' (Pennefather 1873, 126).

In fact, despite the aim of using the variation of tinnital sounds to map different pathologies, many writers on the subject were in fact driven by the conviction that all forms of tinnitus could be referred to one basic cause, though there was no agreement as to what that cause was. Obstructions of the ear from accumulations of wax or mucus as a result of catarrh and rheumatic conditions was a favourite – Paul Allen affirming roundly that tinnitus is 'almost invariably a concomitant of chronic aural catarrh' (Allen 1874, 207). William Harvey insisted that sufferers from tinnitus are 'haunted with every conceivable noise: the whizzing of a bullet – the rustling of leaves – the roar of a distant waterfall, or of breakers on the shore – the boiling of a tea-kettle – the beating of drums – the discharge of musketry or artillery' (Harvey 1876, 50), and enquired sharply of his reader 'How, then, can noises be symptomatic of any one particular disease?' (Harvey 1876, 50). And yet Harvey himself tends to trace almost every instance of tinnitus he discusses to some form or other of 'preternatural fulness of blood' (Harvey 1876, 53).

If one way to combat the indefiniteness of tinnital noises was to refer them outwards to noises in the external world, another was to round them up into full-blown hallucinations, a process that seemed to propel them inwards and outwards simultaneously. Shaped into auditory hallucinations, noises in the head are no longer fixed in place by means of similitude, but rather by being resolved into actual external sounds, or rather the illusion of them. It is hard to believe that this can have happened very often, since auditory hallucinations tend to be intermittent, while tinnitus is usually continuous. But it may perhaps have given some measure of relief to subjects otherwise tormented by distractions by experiences of hearing that were at once so definite and yet so unidentifiable. Perhaps such an experience may lie behind the early ascriptions of tinnitus sounds to ghosts and devils. There is some evidence to suggest that the hearing of voices among psychotics may sometimes be assisted by the prompts or scaffolds provided by familiar everyday sounds (knocking pipes, creaking floorboards, gusting winds, or wavering gas jets). It may be that the default condition among human beings is the tendency to look or listen out for voices in nonvocal sounds, a condition to which psychotics and non-psychotics who hear voices may be returning.

Edward Woakes begins his discussion of tinnitus with accounts of Mahomet and Joan of Arc, for the sake of the 'striking exemplification it affords of the general influence exerted by disease upon the course of human affairs' (Woakes 1896, 55). The voices, bells, and other sounds which Mahomet heard in his visions 'point conclusively to the coexistence of Tinnitus of labyrinthine origin', a condition which thus 'gives the key to the whole problem of Islam' (Woakes 1896, 55). Joan of Arc was also clearly 'the subject of Tinnitus, chiefly, it may be inferred from what is recorded, of the chattering, talking type' (Woakes 1896, 57). Her mental condition then 'converted these sounds into articulate voices' (Woakes 1896, 57). Some nineteenth century writers associated insanity with ear-disease, believing that ear noises were likely to progress to the voices of psychosis. A case was reported in 1871 of a patient in the Indiana State Asylum for the Insane 'who attempted to destroy herself by putting a steel button in her ear. The patient was discharged from the hospital, as having recovered her reason, but became nervous and despondent, until she was relieved by the removal of the button; and a dread of insanity and of sudden death, from which she suffered, then also disappeared' (Roosa 1891, 347).

But tinnitus by no means always led to this kind of outcome. There are quite regular reports of sufferers from tinnitus, that in this case it might be better to call tinnitus subjects, making amicable accommodation to their noises. Often this involves construing them, not as voices, but as music. One of D.B. Roosa's patients provided for him a detailed score of the (somewhat minimalist) music her noises performed for her:

February 13th. – Morning, C sharp, B flat, F sharp in right; B in left.
Night, E flat, C flat.

February 14th. – Morning, E flat, C flat. Night, C sharp, B flat, F sharp.

February 15th. – Morning, C sharp, B flat, F sharp. Night, C sharp, B flat, F sharp.

February 16th. – Morning, C sharp, B flat, F sharp. Night, F sharp, E flat.

February 17th. – Morning, E, C sharp, A. Night, D, B, G, and so forth.

(Roosa 1891, 348)

A patriotic patient of William Harvey's was luckier in his set-list, describing improbably to his doctor 'the pleasure he experienced in hearing the national anthem during the whole of the morning, while his evening hours were solaced with the more "allegro" movement of "Rule Britannia." ' (Harvey 1876, 51). In the early years of the twentieth century, Evan Yellon, a deaf writer on deafness, recommended a similar technique of converting the tinnitus into desired sound. Rather astutely, he referred his reader to the definition of dirt as matter out of place (a definition that readers often find itself hard to place definitively, its origin being assigned to Lord Chesterfield, T.H. Huxley and Mary Douglas), and suggested that noise might similarly be regarded as sound over which we have no control. Remarkably, he recommended using tinnital sounds as a kind of raw material from which to call up beautiful or desirable sounds from the deaf subject's past, which could then replace them:

[I]f we can learn to bring noise into harmony, it ceases to be noise, as in the general acceptance of the word, and becomes ordered sound. This means that we shall have won control over the chaos of sound by which we have been worried. Most, if not all, deaf people have it in their power to gain the control of which I speak. Incidentally, in gaining it, there will also be won the key to unsuspected power and consolation, and the freedom to a realm of dear delight. (Yellon 1910, 89)

Many patients with tinnitus seem impelled by it to a form of the great purgative obsession that human beings in all times and places seem to have had with regard to their bodies – the idea that all bodily and spiritual ills can be regarded as the result of some kind of alienness inside them that needs somehow to be extracted or extruded. Hence the extraordinarily tenacious insistence of sufferers from tinnitus that they have some form of obstruction that needs to be cleared to restore them to themselves. At its extreme, this purgative fantasy can produce extreme forms of self-torture like that experienced by Antonin Artaud, for whom the body's very forms of organisation were the effect of a kind of alien possession, from which the body had to be freed. The purgative obsession often centres on one or other of the forms of phantasmal cavity in the body, of which the stomach or chest is one, the mouth another, the anus another and the ear and head another still. Tinnitus, which seems at once firmly located and unlocatable, palpable and yet indefinable, does not so much arise in this space as give rise to it. The imagined space of the ear is particularly ambivalent and fascinating. Half anatomy and half imagination, this phantasmal space is a fitting locale for sounds that themselves

similarly constitute an allegorical 'black box', in Michel Serres's conception, between the orders of the material and the informatic.

Tinnitus brings to a focus the question of what it means to hear a sound. If I do not hear a sound that is caused by some auditory event in the world, there are other ear-witnesses who can attest to what I have missed or ignored. But if I do not take notice of or register (oddly, the French word for recording) a sound that in any case only I can hear, in what sense can it be said to have taken place? Is the sound there (where?) if I do not pay attention to it? With what kind of ear might I turn a deaf ear to what presents itself to purely internal audition? It is commonly and rightly asserted that our hearing is highly selective, and that we are actively at work filtering sounds all the time by our more or less conscious acts of turning or tuning our attention. Freud suggested that the ego might be thought of in just this way, as a screen for excitations, rather than as a receiving command-centre. Michel Serres suggests that the integrity and continuity of consciousness also depends upon the damping down or filtering out of internal noises. Sitting in the amphitheatre at Epidaurus, he experiences the sanative subduing of his own internal noise:

I listen, I wait, in the dense silence. Even the insects sleep, ever present in the muteness of summer. Diaphanous, the world calms the turbulent noise of my body. My organs fall silent – health returns. Illness comes upon me when my organs can hear each other. Silence in the great theatre, in the capital of healing. The body no longer listens to itself, adrift in the pavilion of the immense ear of the gods. When a body will not remain silent, what voice do we hear? Neither voice, nor language; cœnaesthesia emits and receives thousands of messages: comfort, pleasure, pain, sickness, relief, tension, release – noises whispered or wailing. Æsculapius quietens these messages, and slowly erases them. We are healed better by leaving noise behind than by diving into language. (Serres 2008, 85)

In contrast to those who see in tinnitus an image of the inescapability of individual identity, Serres proposes a kind of collective tinnitus or tinnitus of the collective, drowned in and drugged by its own noisy emissions, which cuts out all sound that emanates from outside the social: 'The group devotes itself to its own din, revels in its own roar, notices little outside itself. It resembles a sick body, rumbling from the clamour of its own organs. What health would it recover if it were one day to fall silent? Is it only the good health of individual bodies that depends on silent organs?' (Serres 2008, 89)

Treatment at Epidaurus consisted of sleep and dreams: the patient was required to hear the sounds his sick body was emitting. He left healed if he had silenced his organs. The primary source of noise is within the body, whose subliminal murmur our proprioceptive ear sometimes strains to hear: billions of cells dedicated to biochemical reactions, the likes of which should have us all fainting from the pressure of their collective hum. As a matter of fact, we do sometimes hear it, and we call that audibility illness. The hubbub spreads across the nested levels of integration that form a black box full of black boxes – molecules, cells, organs, systems – and gradually, over boundaries and through twists and turns, resolves into information. Through this succession of rectifiers

thrown up by the complexity of the black boxes, it ends up as healthy silence, and no doubt also as language. (Serres 2008, 106)

In tinnitus, it is somehow as if I were intercepting my own hearing processes, listening in on the work of my own ears. Reflecting on what he calls the 'black box' of hearing Michel Serres finds that the eardrum is in the middle of a conundrum, or a series of them. If one understands hearing as the conversion of energy into information, of materiality into intelligibility, of the material-mechanical 'hard' into signifying-intelligible 'soft', then hearing must be thought of as a black box, in that we know what goes in and we know what comes out, but do not know precisely what happens in the middle. But if we ask what happens in the brain, which we are content to see as the simple seat of audition, then we are compelled to imagine another black box, for in the brain too, there is specifiable input (electrochemical impulses) and output (the experience of sound), without the process of transformation being visible.

We observers may know and understand information transmitted by the box, its output, just as we might understand its input. How might we understand or know what occurs in the vicinity of that input-threshold? The box does of course receive, but what are we to make of that reception? We must receive it – yet the reception itself is not transmitted. We must therefore be located inside the supposedly closed box, the walls of which must as a consequence be moved. But whenever we talk about reception, the same irrepressible logic reasserts itself. So let us add a small black box, on the threshold of the large one, sitting astride its input side. However this is another of those questions like that of the third man – so we need to suppose a third box astride the side of the second, and so on as far as you like. Boxes upon boxes, proliferating leftwards. (Serres 2008, 139)

This is why Serres can conclude that that 'transmission trumps listening, we are no good at receiving. Whether we are dealing with a black box or the very simple scenario linking a transmitter to a receiver, the pole which perceives or feels is encased in a series of black boxes. Listening is rooted in silence and deafness. (Serres 2008, 139)

Does everybody have their own signature noise? Or are we all plunged in the same susurrus? The external correlative for my tinnitus that makes most sense to me is the electronic fizz of the various forms and flavours of white noise, a sound that very few would have encountered before the twentieth century, Indeed, electronic sound, microphony, recording, broadcasting and amplification have given rise to a panoply of sounds without precedent which nevertheless, for those many people affected by tinnitus may seem oddly familiar. Many of these sounds involve the production of sound by a kind of interruption or manipulation of the apparatus used to gather, amplify or transmit sound and thus seem eminently to earn the designation of 'pseudophonous' given by John Harvey to tinnital sounds (Harvey 1876, 49). The disturbances of the ear that produce tinnitus resemble acousmatic or electronic sounds in being intrinsic to and produced by the sound-producing apparatus. They are sound turned inwards or feeding back on itself, black box proliferating black box. Thomas Edison once suggested that the world of modern communications was ideally suited to the deaf, even suggesting that the deaf might come to have a sort of perceptual advantage in it. Perhaps tinnitus, that is so often the accompaniment of deafness, as if, as Edward Woakes put it, 'to satirise the infirmity' (Woakes 1896, 59), as the sound that is not one, the sound that seems to have

no place to call its own, is the fitter emblem of the condition of ironic or virtual hearing that is ours today.

Meanwhile, my own tinnitus has been hushabying through everything I have been saying. Its minor booming buzzing confusion will never now leave me, nor I ever earn sabbatical remission from it. It is by me now, it is in me, on at me still. Its presence assures me that I am still there, or thereabouts. Can you hear it yet? Ted Hughes seems as though he might have picked it up: 'O littleblood, little boneless little skinless/Ploughing with a linnet's carcass...Sit on my finger, sing in my ear, O littleblood' (Hughes 1972, 94)

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