These are some things that I find I have wanted for some time to be able to say in a collected fashion. Specifically, there are two things, that I would like now to try to say, as plainly and in as elementary a way as I can manage.

The first is that we are right to think of sound as saturated with space, to speak of sound in the same breath as space. For sound demands and procures space. Sound needs room to move, largely because sound is a propagating phenomenon. If sound does not have room to escape, has no space into which to expand and expatiate, to elapse and pass away, it cannot come into being in the first place. Sound has to go beyond itself in order to come into its own. When you stand on a pavement and hear the bass throbbing out of a four-wheel drive that is growling with impatient menace at the traffic lights, allow yourself the irascible consolation that the driver of the car, who has paid so much money for his shuddering speakers, cannot hear the bass-notes which are making your bones rumble, because his car is shorter than their wavelength. And yet, as the (not altogether unlovely) uncanniness of anechoic spaces seems to prove to us, sound also seems to need the limits imposed by space, the baffles, deflections and reverberations provided by solid objects within spaces, or the borders which give spaces their definition. Sound is *haecceity*; it needs to be this sound in this particular space; it needs space because it demands the finitude, the thisness, the hereness, of space.

We can say that sound takes up space, not just in the sense that it can often seem to fill it, but also in the sense that it assumes it, as one assumes a position. Sound is never naked, but must always clothe itself in extension. And, having assumed a space, having entered into composition with space, sound clings to it. If I record a sound in one space and play it back in another – and this is almost always what happens when any sound whatsoever is recorded and played back – the sound recorded refuses to relinquish its hold on the space in which it first resounded, and that space cleaves tightly to it (even as it enters into a new composition with the new space of its occurrence). So sound is not adulterated by the space in which it is occasioned, it is actuated, made possible in the first place, the first and last and only place, of any sound. A sound is the space in which it occurs: sonic essence inheres in spatial accident, and space shows that the essence of sound is to be all existence.

If it is true that sound demands space, is the inverse necessarily true? Not, we should quickly say, invariably. And yet, there is perhaps a kind of hunger in
anything that we might call a space, for sound, for a sound to fill it. Who walking
on to an empty stage, does not want to whistle, or cough, to take the measure of
the place, to sound it out?

Sound is not just supplemented or given body by space: sound seems sometimes
to act as the bodying forth of space itself. It is this principle which I see at work in
the fascination of composers like Varèse, Xenakis and Ligeti with various kinds of
sound-masses, a fascination that flourishes in the work of artists like Yutaka
Makino, working with spacey quasi-substances like mist.

There then. That is the first thing I wanted to set out about sound, that sound and
space are indissoluble. There are mutually necessary accessories, each the other's
hand-in-glove accomplice.

The second thing I want to say about sound and space is the opposite of what I
have just said, or, if not quite the opposite, certainly at a very considerable angle
to it. This is harder for us to grasp, perhaps precisely because of our
apprehension of the reciprocal constitution of space and sound. It is this: that
sound and space, though inseparable, are never coincident. Space is the sine qua
non of sound, which nevertheless goes beyond space, and sets it at naught. Sound
inflects space, sound displaces. Just as sound must occur in and occupy space for
reasons of physics (sound needs room to propagate), so sound must come up
short of space for physiological reasons – human beings are just not good enough
at locational hearing. Your eyes can tell you to move your rifle or bow a smidgeon
of a millimetre to the left or right; your ears have nothing like this degree of
spatial precision. An owl can hear the heartbeat of a mouse at a range of several
yards. But if you approach a T-junction and hear a bus coming, I defy you to be
able to tell whether it is going in the direction you want or not. We are much
better at judging the quality of sound than we are at identifying its source. At the
beginning of film sound, engineers puzzled over where to place the loudspeakers
relative to a cinema screen so that all the changes in point of view could be
faithfully mirrored by the soundtrack – before they realised that it doesn’t matter
where you place the speakers, since the ear will always happily consent to be
instructed by the eye. This is the whole principle of ventriloquism, about which I
once wrote an entire book, that tried to show how little ventriloquism had to do
with sound, and how much it had to do with a fantasy of sound-space. The
relative feebleness of our auditory powers, and the haziness in particular of our
powers of spatial location (at least compared with our eyes, not that they are
much cop either compared with a number of other creatures) may actually be
responsible for a tendency massively to overestimate our capacities to model
auditory space. The spatialisation of sound is often, as in the large range of
ventriloquial effects or false attributions of spatial origin, an attempt to make up
for this deficiency by guesswork and glosing. For humans with such
approximative hearing as we have, space is often the alibi rather than the location
of sound. This is perhaps why sound-space works seem to need such huge
amounts of description and such prodigious orgies of visualisation, to coax and
coach and hoax us into the experiences and responses that our unsupplemented ears can scarcely manage.

The eye construes space as a given; the ear makes it fade and fluctuate, recede and resume, fever and chill. Sound can hurry space and slow it down. Sound ghosts space, makes it shiver. Sound makes space fragile, dubious, turbulent, impermanent, imperilled. Sound pits space against itself, sets it aside from itself. Sound requires space for its completion, but in the process makes space seem deficient. By resonating in a space, sound gives it back to itself, but it also deports it, puts it beyond itself. To call in an English expression I have never really understood, and now less than ever, sound sets space by the ears.

So sound is unthinkable without space and sound and space are indissoluble. But sound is always more (but for that reason also considerably less) than space, Sound and space never exactly correspond. Sound and space are cosubstantial, but never, never quite, coextensive

One of the strangest of the ways in which sound undoes space in the process of actuating it is in giving us the experience of hearing things simultaneously as coming from an outside and as taking place on the inside. I hear something in my ears as coming from over there. I am at a remove from the sounds that are nevertheless inside me. There seems to be a clear difference between the interior sounds that we listen in to, or, as we may say in English, listen in on, and the exterior sounds that we listen to, or, as it may be, listen out for. Yet we are in both cases in the middle of what on another occasion I thought to call ‘ear-room’. We seem always to be in the space where we listen. The space of hearing is the space of the ear, that we may seem to be inside, even as we listen to sounds coming into our ears from the outside. The primal cavity of the ear expands outwards. The sound world is contracted to the dimensions of the ear-world. The ear is on the air.

This is an ordinary enough experience, extraordinary though it may be to try to account for it. But its ordinariness was never sufficiently evident to me until after I had had something like the opposite experience, namely, hearing something on the inside that presented itself inarguably as something heard, that is, something external.

For the last four or five months, I have suffered from tinnitus. Like most forms of tinnitus, it is very unlikely now ever to leave me or to respond to any kind of treatment. 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, 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 tediously unvarying. I can’t say I love it exactly, but
it has already started to become something like 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.

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. 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.

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, is that its sounds interact with real-world sounds.

Tinnitus, which seems at once firmly located and unlocatable, palpable and yet indefinable, does not so much arise in as itself scoop out the imaginary space of the ear. 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?

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. 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’).

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. 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. 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.

Remember that there were two things I wanted to say: that sound is compact with space, and yet sound also complicates and can never coincide with space. What are we to make of this contradiction? One of the things we can do is to derive from it a definition of music, or at least of one of the perturbations that music effects in the relation of sound and space. For music never merely or exclusively happens in a space. And this is because music is space. Music is the spatialised...
excessiveness of sound to space. Music is the space between sound and the space it occupies.

In order to understand this, we might invoke the distinction between space and place. Place is space defined, located, made actual. Space is possibility, place is actuality, *hic et nunc*. Space is place in principle. Space broaches the question to which place supplies the answer. Space is the subjunctive to place’s indicative. Now, I think that the kind of sound we feel minded to call music is sound as space rather than sound in place. What matters in music is not the space that the music is in, but the space and the spacings that the music puts its listener in. In his keynote lecture at Sonic Acts XIII, Derrick de Kerckhove suggested that we are ‘recovering the interval’ through ubiquitous computing; but one of the ways that we are doing that is to create intervals, to create more spacings, gaps, fissures, intermissions. One of the ways in which we are filling up space is by making room in it for more emptiness. (In this, we are therefore not going beyond the alphabetic, we are catching up with it.)

This space has many more dimensions than actual places do. In addition to the three axes of frontwards-behind, up-down and left-right, sound space has the axes of near-far, hot-cold, defined-blurry, dense-attenuated, long-ago-recent, placed-unplaced. In music, these forms of variable intensity seem to be rotated into imaginary forms of extension.

One of the risks of making music in charged or complex space in the way spoken of by Daniel Teruggi in his talk ‘*The Fifth Element*’, is that of literalism – that it forces or fudges the coincidence of sound and space, putting sound in its place. Thereby it dulls and dumbs this interior spacing, this space that is constituted by the syntax of the sounds, which is to say the interior spacings of the music, the spacing that is necessary for any kind of definition. Music is the name for sounds to which no space can ever be equal.

But this is not because music is richer than space, or because music outdoes, enlarges on, or diversifies what would otherwise be dead or inert space. Like everything else, the concept of space is currently subject to maximisation, a rhetoric of simultaneous loosening and densification, diffusion and intensification, a lexicon of the illimitable. Process is one of these saturating words. Complexity is another. Hybridity is yet another. But the failure of sound to coincide with space may also be a form of finitude, of privation, subtraction and exception. The saturating drive leaves something out – subtraction or setting aside itself. Most of Bachelard’s poetic spaces are spaces of reduction, concentration and apartness.

We want space to be everything, we want to be able to do anything and everything to and in it, we want to be able to be anywhere and everywhere. But omnicompetence is inexistence. One thing characterises all living creatures, and the primary structures of which they are all made, cells, namely that they occupy a particular space. And this occupation of a space is a secession within it from the
bleak vacuum of open space, a surcease that can sometimes catch success. Life inheres, not, as Bergson and so many others following him have said, in proliferation, but rather in reservation, the holding back of the ongoing passage of things. Life is flux folded back into form. Space is not something inert that we have to quicken and diversify, but something terrifyingly infinite that we have to make exist, by withdrawing it from the *apeiron*, the indefinite all. We need a language to help us understand the ways in which sound shelters and defends us from the agoraphobia of edgeless enlargement, by giving us definition, finitude, which is to say life, which is also to say, after a while, death.

What? Where? This. This here. That then.