

Déjà Entendu: Sound as Already-Heard

Angus Carlyle.

In Reference to The Heard, Only The Heard

One day, Malunkyaputta implored the Buddha to show him the path to enlightenment. After several attempts to discourage the impatient seeker of knowledge, the Buddha finally relented. Enlightenment could be found through experience without representation: "In reference to the seen, there will be only the seen. In reference to the heard, only the heard. In reference to the sensed, only the sensed. In reference to the cognised, only the cognised".

The notion of an unmediated sensory encounter, direct and pure, is a tempting one. For the auditory realm, however, the notion of a first-hand "only the heard" is difficult to sustain. Difficult because physics, physiology and cultural / personal interpretation get in the way. Rather than the pristine newness of the *jamaïs entendu*, of the never-heard that would be close to the Buddha's inspiration, when our ears and minds are at work, we find ourselves in the world of the *déjà entendu*, of the already-heard. In the notes that follow, a post hoc reconstruction of elements of a presentation given at the Audio Extranauts symposium at the Villa Arson, Nice, I will try to clear some of the undergrowth around the idea of the *déjà entendu*.

Physics Of Hearing

"The primal noise, consequently, is *Murs*. Thus the djinns begin to form their compleat whirlwind, a true cone with two nappes, and those mural murmurings, those wailing walls are there only to tell the noises just prior to the murmurs. *Murs*, the atoms of murmurs, walls, the atoms of wails, wails, the atoms of noise" [Michel Serres, *Genesis* (Ann Arbor: University of Michigan Press, 1998), 62]

The sounds we hear have their origins in some force, somewhere. The force of the breath through my nostrils, for example, pushes out into the air that surrounds it in the form of a pulse that is shaped by some pockets of molecules being squeezed together while their neighbours are stretched apart. This pulse is called a sound wave, the pattern of whose peaks and troughs is described by acousticians in terms of frequency, amplitude and wave shape and by musicians in corresponding terms of pitch, loudness and timbre. The characteristics of the pulse – the sound wave – are sensitively dependent upon a whole host of conditions surrounding the originary force. Whether the nasal exhalation was conscious or unconscious, whether I'm standing or sitting, the health of my lungs and the upper airways, the shape of my nasal cavities and the angle at which my head is held are just a few of the factors that determine the patterns of successive pressure disturbances.

As the wave of my breath rolls away from my nose - each movement a process of one vibrating molecule passing the baton of energy on to the next – the onward journey is guided by the space in which I'm sitting. Are there hard walls to rudely shove the wave back? Are there piles of discarded clothes that will smother the sound by robbing it of its force? How dense is the air? What is its temperature?

The sound wave moves through air at sea level at three hundred and sixty six metres a second. Although we tend to think of sound as a wave that travels through air, sound waves move through other media too, sometimes with greater efficiency. If you were to lie on a beach with one ear to the pebbles beneath you and one air held up to the sky above, you might notice that the sound of the wave crashing on the shore reaches the lower ear a fraction of a second before it reaches the upper one, a function of relative transmission speed of each medium.

The Physiology of Hearing

"Human vision, like that of cinema is partial and directional. Hearing, though, is omnidirectional. We cannot see what is behind us, but we can hear all around" [Michel Chion, *The Voice in Cinema* (New York: Columbia University Press, 1999) p. 17]

The physics of the production and transmission of sound is one of considerable complexity, one that should register a sense of awe when we approach it as thinkers, as artists and as hearing individuals. The complexity of the journey is matched by a parallel richness upon sound's arrival at our body. The vibrating sound wave that had its origins in my exhalation of breath or in something more substantial, spirals down the fleshy pinnae that jut out from the side of my head to tap a tattoo on the taut membrane of my ear drum. From there yet another relay is set in motion, this time one that sees the hammer bone connected to the anvil bone, the anvil bone connected to the stirrup bone, the stirrup bone connected to the cochlea and the cochlea connected to the Organ of Corti. The acoustic energy sound of sound translates as mechanical energy as it moves across skin, bone and tiny hairs, then hydraulic energy as it pushes the liquid in the cochlea this way and that, transforms to electrical energy and finally to chemical energy, with the million and a half hairs in the Organ of Corti each striped with many neurons that deliver information for the brain to interpret.

The ear contains 23,500 vibration sensitive cells.

We can autonomously measure the differences in amplitude between what is heard with the left ear and what is heard with the right and from that disparity judge where sounding objects are located in relation to us, whether they are moving and what their rate of movement is. This is a knowledge that sparkles more brightly in the face of the fact that the smallest detectable interaural-time difference is reckoned to be 20 millionths of a second. To know that in addition to enabling echolocation, the human ears' sensitivity means that the smallest sound we can hear contains a millionth of the energy of the loudest sound we can tolerate does not diminish my awe. To know that when we respond to that smallest sound, the detecting mechanism is moving a distance equivalent to a tenth of the diameter of the smallest atom this, too, doesn't dry things out into brittle banality.

There are atmospheres where sounds are so low in energy that even the hyper-sensitive mechanisms already described cannot register them; or, conversely, atmosphere so full of energy that they place us in perilous proximity to the 210,000 people a year that die from heart disease caused by long-term exposure to 'noise', according to the World Health Organisation. There are sounds whose origins are so close that they come from inside your body – the rumbling stomach, the thumping heart, the crackling cartilage, the whining nervous system – but are masked in all but the most tranquil occasions, like the anechoic chamber whose operation so startled John Cage. And there are sounds whose sources are so far away that the distance they have travelled is not the few centimetres from my nose to my ears but the five million metres of vibrating molecules that extended from the erupting Krakatoa all the way to Mauritius.

The *déjà entendu* seeps into the cracks of both the physics and the physiology of sound. With sound able to travel such distances and able retain a recognisable something of its original morphology, much of what is heard is already-heard. The passengers within a jet plane have heard the sounds of the engines a matter of seconds before the people on the ground below have heard them. For the people on the ground - potentially a considerable number of people, if they have decided to open their ears - those who find themselves at greater distance from the plane will hear its passage slightly later than those on the ground who are nearer to the source. Atmospheric conditions might also conspire to deliver the sound to some people before others.

Although all these listeners in this scenario will be hearing soundwaves that share a single source, perhaps it is more accurate to suggest that all are, in fact, hearing different sounds, each transformed by the complexities of their journeys, in terms of their amplitude, frequency

and texture? Is there an analogy with light here? Do those present at a concert, their views moderated by different angles, different distances and each differently obscured by different intervening bodies or architectural elements, talk about having all seen a different sight?

My inclination would be to retain the sociability of audition, to tell a story of different hearings within a single heard. For those who wish to oppose 'noise pollution' or to preserve a positive soundscape, this makes strategic sense, allowing at least temporary groupings of the positively and negatively affected. The sociability of sound, of the transient societies formed by those exposed to the phenomenon of the already-heard, resonates with sound's character as an immersive phenomena. The photograph of the cinema audience all looking in the same direction that adorns the cover of the AK Press version of Guy Debord's book *The Society of The Spectacle* represents the limit-state of the visual sensory register. Much more common, with sight, is the situation in which the crowd's eyes are all pointed in different directions.

"Auditory space has no point of favoured focus. It's a sphere without fixed boundaries, space made by the thing itself, not space containing the thing. It is not pictorial space, boxed in, but dynamic, always in flux, creating its own dimensions moment by moment. It has no fixed boundaries: it is indifferent to background. The eye focuses, pinpoints, abstracts, locating each object in physical space, against a background. The ear, however, favours sound from any direction. We hear equally well from left or right, front or back, above or below. If we lie down, it makes no difference, whereas in visual space, the entire spectacle is altered. We can shut out the visual field by closing our eyes, but we are always triggered to respond to sound". [Edmund Carpenter and Marshall McLuhan, 'Acoustic Space' in Carpenter and McLuhan, *Explorations in Communication* (London: Jonathon Cape, 1970) p. 67]

Look at a crowded station platform the next time you are standing on one: it is hard enough to find two sets of eyes orientated in the same way. With sound, as Carpenter and McLuhan argued, we enter a different realm, one of a shared sensory spatiality where narrow, selective focus is difficult. On the station platform, the only things that pass as an 'earlid', the only ways out of the shared soundworld, are through headphones, through hearing loss, or through a deeply developed capacity for meditative withdrawal.

Waiting for a train alongside a host of other commuters, the sound of a whistle passes through the crowd, with everyone but the individual closest to the guard who blew it experiencing the sound as an already-heard and everyone hearing the sound in subtly different ways, as the soundwave's energy is dissipated by bodies, turbulent air and solid structures, and as our ears each work their very specific magic.

Our outer ears, which work to amplify and filter incoming sound, are as individual as our finger-prints, and their internal components betray a similar individuality borne of our genes and the contingencies of what has happened to us since birth. That the work of the ears kicks in even before birth is yet another of their marvels, one articulated with peerless elegance by sound designer and editor, Walter Murch:

"We begin to hear before we are born, four and a half months after conception. From then on, we develop in a continuous and luxurious bath of sounds: the song of our mother's voice, the swash of her breathing, the trumpeting of her intestines, the timpani of her heart. Throughout the second four and a half months, Sound rules as solitary queen of our senses: the close and liquid world of uterine darkness makes Sight and Smell impossible, Taste monochromatic, and Touch a dim and generalised hint of what is to come" [Walter Murch, 'Introduction' to Michel Chion, *Audio-Vision: Sound on Screen* (New York: Columbia University, 1994 p. 2)].

With a little bit of an imaginative stretch, the physiological process of hearing can be seen as a miniature model of the already-heard, of the *déjà entendu*. The series of translations the soundwave undergoes in terms of how its energy is made manifest - from mechanical to hydraulic to electrical to chemical and then into our present-mind and our memory-mind - are

like links in a great chain of hearing, each different reflections of the same source, each stage of the energy's transformation taking an already-heard from the previous stage.

Cultures of Hearing

Beyond the physics and physiology of hearing, there is the cultural dimension. It is here that the shared similarities of the *déjà entendu* might begin to fray at the edges. The writer Alphonso Lingis once described a situation where what, on first hearing, might have sound like an already-heard ultimately proved to be something very different. "One day, while trying to drive through the chaotic traffic of Tehran, with each move I tried to make provoking taps on the horns of cars beside, behind and advancing towards me, I remarked to a hitch-hiker I'd picked up, that after five blocks of this, I felt like a road lizard on bad amphetamines. Oh, they are not, like us Westerners, using the horn as a warning or a threat, he said. They are like quails clucking as they feed on a ripe wheat field" [Alphonso Lingis, *The community of those who have nothing in common* (Bloomington, Ind.: Indiana University Press, 1994), p. 97].

What Lingis identifies in his quotation suggests that, at one level at least, talk of the already-heard is mistaken. Although the sound source of beeping horns was the same, the significance attached to it by different people - by Lingis, on the one hand, and the seasoned inhabitants of Teheran and his hitch-hiker, on the other - is not the same. Here it might be better to talk of the almost-heard (by analogy with the psychologists' *presque-vu*). Things get even stickier when we realise that hearing is put one sensory gear and meshes with other sensory systems in variable ways:

"The very relationship of reading to hearing and seeing may vary in important ways that determine the morphology of these different ideoscapes as they shape themselves in different national and transnational contexts. This globally variable synaesthesia has hardly ever been noted, but it demands urgent analysis" [Arjun Appadurai, *Modernity At Large: Cultural Dimensions of Globalization* (Minneapolis: University of Minnesota Press, 2001) p. 37].

As disciplines like social science and anthropology dig deeper into sound with ever fresher ears, the assumption of a shared already-heard might well crumble a little more. Steven Feld's *Sound and Sentiment*, to take one example, is rich with instances of the almost-heard, of moments where the same source elicits dissimilar interpretative responses in the anthropologist and the Bosavi experts Feld is working with in Papua New Guinea. But Feld's writing shows a way back out of any impasse created by the almost-heard towards the sociability identified earlier in these notes. Feld demonstrates in practice how by entering into a communicative relationship with other hearers, one distinguished by patient attentiveness and imagination, we can construct a shared vocabulary and grammar that enables at least makeshift meanings to migrate between us.

Locus Sonus: So Far, So Near

I once installed a microphone out of the window of the thirteenth floor of a 1960s tower block in the Elephant and Castle district of London and connected it to the Locus Sonus network. It was a strange sensation indeed to log on in the middle of the night from my home on the south coast some fifty miles away and hear what was happening in the sky outside my office – a medley of tyres screeching, voices carried up, buses' hydraulic brakes discharging air and different bird calls. It was stranger still to realise that these sounds had been already-heard by those on the ground. On one occasion, I remember emailing Locus Sonus' Jerome Joy early one morning and getting the quick response of someone who was also online. I was simultaneously streaming the sounds from the Elephant and Castle node into my home and Jerome was too, both of us hearing the lashing rain and rattling wind of a fierce storm breaking over South London. We shared the perception of already-heard, transmitted in data packets over fibre optic cables. When I think about it now, Jerome was also hearing the almost-heard, for his interpretation of the storm lacked my personal experience of the office that it was buffeting. And yet, there was nothing to stop Jerome asking me about the office

block and colouring in with closer detail the outline of the space suggested by the telematised stream. This is just one example: to go the Locus Stream map and click onto an active stream is to experience the vertiginous appeal of the already-heard and the almost-heard all around the world.

I can't get to the pure pristine presence of the Buddha's never-heard – “of the heard, only the heard”. For me, sound is something that is always mediated – physically, physiologically and culturally. But the fact that sound is already-heard, and sometimes almost-heard, is not a source of regret or anguish. It is one of the riches of the sounded world that we don't hear the same things. We cannot. We cannot be co-present in the same physical location to catch the sound wave at the same point of its propagation; we cannot share the same physiological structure of our outer and inner ears, even if we were twins; and we cannot share the same interpretative mechanisms, either cultural or personal.

What we can do is try to hear, to try to share our hearing and try to be seek inspiration in mediation.