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Surfing the Gray Line

A sonopoetic exploration of space, sound and radio

The fiery aether, which has no weight, formed the vault of heaven, flashing upwards to take its place in the highest sphere. The air, next to it in lightness, occupied the neighbouring regions. Earth, heavier than these, attracted to itself the grosser elements, and sank down under its own weight...¹

This aether, the upper atmosphere, begins some eighty to a hundred kilometres above the surface of the earth, where the homosphere ends. Here, above the protective ozone layer, the air separates into its individual components; the physical and chemical conditions are dramatically altered by radiation and the reduction in gravitational force.

In the cosmogonies of antiquity order springs from chaos, the weightless is separated from the weighty, upper from lower, light from dark. The separation and differentiation of matter gives rise to the spheres: direction and space. The aether is breathed by the gods; to humans are apportioned the denser layers of air underneath. In the resonance chamber between the earth and the spheres of the fixed stars, the movement of the celestial spheres produces a harmonious sound, *symphōnía*, whose echo through the ages is still discernible in the string and quantum loop theories of today.

Such potent images of the origins of the universe, of creation, metamorphosis and the order of things, have not lost their narrative force. One of the most fascinating

¹ Ovid, *Metamorphoses*.

substances here is the aether. Its history spans thousands of years and it can still be found today in the realms of science and philosophy, appearing in different guises with its multitude of imputed properties and effects: divine breath, animating element, quintessence, the substance filling the universe, light-bearing medium and vehicle for all manner of forces. But the essence of this strange substance is evidently to connect and to transform the threatening void into something close and familiar.

*The world thought to pieces. And space and time
and what humanity wove and weighed,
nothing but a function of infinities –
the myth lied.²*

On 11 November 1886 the physicist Heinrich Hertz conducted an experiment that was to have a profound impact on the real and imaginary space of the future. His proof of the existence of electromagnetic waves was the birth of radio and wireless communication, but something also began to be lost. The eloquent experiment did not go as far as to explain the newly discovered phenomena. Theories abounded. More and more complex aether models were devised to describe the movement of the waves through empty space.

At the beginning of the 20th century, Einstein declared the electromagnetic field to be a property of space itself, thus rendering aether obsolete. Intuition could go no further; reality sequestered itself in mathematical equations. There were major advances in the precision of scientific predictions from this time on, and the formulas' claim to reality also increased dramatically as they were translated into functioning technical devices. The history of the aether, from the perspective of science, had come to a provisional end.

² Gottfried Benn, 'Lost I' (*Verlorenes Ich*), English translation in Theodore Ziolkowski, *Modes of Faith: Secular Surrogates for Lost Religious Belief*. University of Chicago Press, 2007.

*Give me a here that is massively, positively here, a compact topographic relief of here, where you walk and pause to stand, where mountain, valley and plain are reliably named, everything clearly signposted, the directions are known or discernible: the cardinal directions.*³

Berlin, January 2014, a clear and mild winter's day, the setting sun low in the west. The sound from the kitchen radio has begun to change, the composition of sounds more layered, more elastic; a gradual heightening of spectral activity.

The shortwave receiver is tuned to a frequency of 7550 kHz. Here, late in the evening, *All India Radio* broadcasts its international programme. But what can be heard now is an intricate pattern of shifting sounds: a rapid, rhythmic clicking reminiscent of raindrops, echoes of mechanical operations, periodically changing pitches veiling music, distant voices, unintelligible language, disconnected words, often drowned out by an electrical sound of wind, weather associations, thermal activity and redundant signals, fragments of the sound of the world, superimposed on an indeterminate background noise with neither position nor direction.

The frequency to which the radio is tuned is a number and remains abstract. When placed in relation to the speed of the radio waves, however, it gives rise to a more tangible dimension. The signal's wavelength is forty metres. The crests and troughs of the sine wave extend invisibly but at calculable distances through the familiar room: the garden right in front of the kitchen window, across the street to the shop on the other side, along the long shadows and the last rays of the late afternoon sun.

These wavelengths can still be found on the dials of old radio receivers, arranged like the distance scales on maps, next to rows and columns of place names and the green light of the magic eye, which focuses the listener on his journey through the

³ Ernst Meister, 'Here' (*Hier*), German original in *Prosa*. Verlag Lambert Schneider, 1989, p. 107.

electromagnetic spectrum and the sounds made audible along the way. The sound cartographies on the dials of these devices from the heyday of radio attest to the relationship between radio and space.

Radio receiver Ingelen Geographic 39A, 1939

As the evening grows darker, the sound changes once again. Tuning through the 40-metre band, individual stations become clearer, language and music can be distinguished from the static; the acoustic space seems to expand and deepen.

This audible change is caused by processes taking place at the outer edge of the atmosphere, above the air layers. Here, in the electrically charged ionosphere, the space waves emitted by the radio transmitters are repeatedly reflected between the sky and the surface of the earth.

During the day, under the influence of the sun, stronger charges are generated at certain altitudes. These form a protective shield against the vast amount of energy of the solar radiation and cosmic particle streams. At night, in the earth's shadow, these layers completely disappear. But on the threshold of day and night, energetic conditions are created which are conducive to the propagation of the radio waves. There are overshoots. The wave propagates along the twilight line, following the path of least electrical resistance and covering large distances in space.

The *gray line*, this zone between day and night, shifts with the rotation of the planet. Depending on the time of year and the tilt of the earth's axis relative to the sun, it connects the locations along this ephemeral line in the form of a specific radio sound.

In a narrow time window of less than an hour, a combination of space and medium becomes audible. The attentive listener enters into the geography of a radio space whose dimension and geometry are rooted in the physical, concrete reality, but which,

at the moment of perception, also penetrates other regions of the consciousness.

In the ancient notion of aether as a substance filling the universe, it transforms the stifling void of universal space into a continuum of closeness and proximity. In the electromagnetic short circuit along the *gray line*, these qualities become perceptible as the presence and coincidence of distant places, woven into the hissing of the radio.

In the dim light of the familiar living room, the sound of the radio mingles with the muted sounds of the street, producing an acoustic atmosphere that is porous and redolent. The stream of sound on this late afternoon evokes regions beyond direct experience, realms closer to dream than to perception with its need to impose structure and form. Geographical visions, something like the experience of a long and solitary train journey. The landscapes framed by the window continually forming themselves anew, the gaze never coming to rest, roaming over the expanses in the rhythm of the tactile soundtrack of the rails.

And yet the traveller's aimless drifting through the soundscapes between the frequencies is neither a withdrawal from the here and now nor a longed-for subsumption in weightless indeterminacy. The echo of one's own existence, rooted in the present, determines one's position – with the exactitude of poetry, which transcends measurement.

There is nothing presumptuous about wanting to plumb the 'mystery of a landscape'. It is a natural process in search of a land which would then be forever open to you and me.⁴

There is an experience of resonance in this immersed listening to the expanded acoustic

⁴ Peter Handke, *Die Geschichte des Bleistifts* (History of the Pencil). Residenz Verlag, 1982, p. 203-204.

space, which is suspended between medium, imaginary landscapes and specific locations.

In the practice of field recording – specifically, the largely unmodified audio recording of sound atmospheres in a particular environment – this experience corresponds to the technology of the open microphone. It is the attempt to direct one's listening into the air, in no particular direction and uninterested in the specific acoustic effect but open to the totality of an acoustic space that is modulated by the topographic, natural or architectural conditions specific to each location.

The sense of hearing apprehends the direction and depth of the acoustic signals – and the time that passes within these dimensions. It does not have access to the bigger picture in the way that this is revealed in the gaze or the photographic reproduction. The perspective of an image corresponds to the path traversed by sound. Each change perceived by the ear is a progression in time – which is also always one's own subjective time – in that it synchronises itself with the acoustic event; the time of the body in the experienced space. Perhaps this spatiotemporal aspect contains a key to the immediacy and the intense experience of immersion that can arise when listening to recordings or reproductions: an inevitable process of simultaneous interpretation of what is heard into a spatial and temporal context, with oneself at its centre.

And yet the perception of the ego is altered, and the space is no longer purely geographical.

[...] a landscape of consciousness, which contains all experience of real landscapes, with their places and regions, resurfacing on the fields of a poetic map, in the adumbrations of a possible topography.⁵

⁵ Jürgen Becker, *Die Gedichte*. Suhrkamp Taschenbuch, 1995, blurb.

The soundscape is not the sum of the physical signals reaching the ear. As a '*landscape of consciousness*' it does not disclose itself immediately, but develops on attentive listening as a dialogue from the totality of the perceptible sounds of a particular environment and a receptive ear. It is a process of stimulus and attunement, an assimilation and transformation of external reality into a deeper understanding of the reality of the moment at hand.

By listening closely to space we may uncover the potential for a poetic dead reckoning. Here resonance is the opposite of alienation and a loss of the sense of place; it is an active interrelationship with the surrounding world and the happy circumstance of '*being in touch*' with the same.

The *gray line* has shifted further west with the onset of night; the room has grown dark. The window of time has closed and the spectral disturbances in the atmosphere have settled. From the street, the sound of footsteps, voices echoing between the house walls, and the evening hum of the nearby main road, vaguely reminiscent of ocean and wind. On the radio there is nothing now but the indeterminate atmospheric noise of the aether.

*On the radio – the sea.*⁶

⁶ Jürgen Becker, *Im Radio das Meer. Journalsätze*. Suhrkamp, 2009, book title.