

## Acoustic Space Espace acoustique

R. Murray Schafer

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Musique *in situ*

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Article abstract

Starting from McLuhan's concept of acoustic space, the author discusses how the World Soundscape which he undertook at Simon Fraser University in 1970 set out to put this notion into practice by studying how the soundscape influences all aspects of people's lives. In the extract published here, the author finds that the sphere is the geometric shape which best describes acoustic space, and discusses the symbolism of the sphere – and of sound – in the cultures of the world.

# Acoustic Space<sup>1</sup>

R. Murray Schafer

As far as I know, the first scholars to use the term “acoustic space” were Marshall McLuhan and Edmund Carpenter in their magazine *Explorations*, which appeared between 1953 and 1959. There, McLuhan wrote:

Until writing was invented, we lived in acoustic space, where the Eskimo now lives: boundless, directionless, horizonless, the dark of the mind, the world of emotion, primordial intuition, terror. Speech is a social chart of this dark bog.

Speech structures the abyss of mental and acoustic space, shrouding the voice; it is a cosmic, invisible architecture of the human dark. Speak that I may see you.

Writing turned the spotlight on the high, dim Sierras of speech; writing was the visualization of acoustic space. It lit up the dark.<sup>2</sup>

This statement permeates all McLuhan’s writings from *The Gutenberg Galaxy* onwards. For McLuhan, the electric world was aural; it moved us back into the acoustic space of preliterate culture. Carpenter developed the theme in *Eskimo Realities*, where “auditory space” is employed as an interchangeable term:

Auditory space has no 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... I know of no example of an Eskimo describing space primarily in visual terms.<sup>3</sup>

Despite McLuhan and Carpenter’s infatuation with the concept, acoustic space did not attract critical attention until the World Soundscape Project was established at Simon Fraser University in 1970. The project’s intention

1. [Ed. note] The full text of this article is available on the *Circuit* website: <<http://www.revuecircuit.ca/web>>. This article was originally published in: SCHAFFER, R. M. (1993), *Voices of Tyranny, Temples of Silence*, Indian River (Ontario), Arcana Editions, pp. 29-44. This book is available at: <<http://www.patria.org/arcana/arcbooks.html>>

2. CARPENTER, Edmund (1973), *Eskimo Realities*, New York, Holt, Rinehart and Winston pp. 35-37.

3. MCLUHAN, Marshall (1960), “Five Sovereign Fingers Taxed the Breath,” CARPENTER, Edmund and MCLUHAN, Marshall (eds.) (1960), *Explorations in Communication: An Anthology*, Boston, Beacon Press, p. 207.

was to study all aspects of the changing soundscape to determine how these changes might affect people's thinking and social activities. The project's ultimate aim was to create a new art and science of soundscape design complementary to those in other disciplines dealing with aspects of the visual environment.

Anyone who has tried to hone a new concept for delivery to the public knows how essential it is to find the right tag words to describe it. "Acoustic space" is too awkward a term to have conferred fame on its inventor. Perhaps one reason is its hybridity, marking it as transitional, caught between two cultures. The fixity of the noun "space" needs something more than the application of such a restless and vaguely understood modifier as "acoustic" to suggest the transition from visual into aural culture as McLuhan perceived it. Nor is it easy to subject aural culture to the same systematic analysis that has characterized visual thinking. The world of sound is primarily one of sensation rather than reflection. It is a world of activities rather than artifacts, and whenever one writes about sound or tries to graph it, one departs from its essential reality, often in absurd ways. I recall once attending a conference of acoustical engineers where for several days I saw slides and heard papers on various aspects of aircraft noise without ever once hearing the sonic boom that was the object of the conference. This lack of contact is characteristic of much of the research on sound still, and one aim of this essay is to show the extent to which considerations with space, the static element in the title of this essay, have affected the active element, sound.

When one first tries to conceptualize acoustic space, the geometrical figure that most easily comes to mind is the sphere, as Carpenter evoked it above. One would then argue that a sound propagated with equal intensity in all directions simultaneously would more or less fill a volume of this description, weakening towards the perimeter until it disappeared altogether at a point that might be called the acoustic horizon. It is clear at once how many spatial metaphors we must use to fulfill this notion. In every sense it is a hypothetical model. In reality, what happens is that sound, being more mysterious than scientists would like to believe, inhabits space rather erratically and enigmatically. First of all, most sounds are not sent travelling omnidirectionally but unidirectionally, the spill away from the projected direction being more accidental than intentional. Then, since there is normally less concern with the transmission of sounds in solids than with their transmission through air, the model should be corrected to be something more like the hemisphere above ground level. Experience shows that this hemisphere is distorted in numerous ways as a result of refraction, diffraction, drift and

other environmental conditions. Obstructions such as buildings, mountains and trees cause reverberations, echoes and “shadows.” In fact, the profile of any sound under consideration will be quite unique, and acknowledgement of the laws of acoustics is probably less effective in explaining its behaviour than in confounding it. Finally, and most importantly, the sphere described is assumed to be filled by *one sound only*. That is to say, a sound-sphere filled is a dominated space.

The sphere concept may have originated in religion. It is in religions, particularly those stressing a harmonious universe ruled by a benevolent deity, that the circle and the sphere were venerated above all figures. This is evident in Boethius’ *Harmony of the Spheres*, in Dante’s circles of paradise, and in the mandalas that serve as visual *yantras* in numerous Eastern religions. I will not dwell on this symbolism which, as Jung explained, seems to suggest completion, unity or perfection. The sounding devices used in religious ceremonies such as the Keisu or Keezyee of Japan and Burma, the temple gongs of India and Tibet, and the church bells of the Western world all retain something of the circle in their physical forms, and by extension their sound may seem to evoke a similar shape.<sup>4</sup>

This circling is quite literally true of the church bell, which defines the parish by its acoustic profile. The advantage of the bell over visual signs such as clockfaces and towers is that it is not restricted by geographical hindrances and can announce itself during both day and darkness. In one of the studies of the Soundscape Project, it was determined that a village church bell in Sweden could be heard across a diameter of fifteen kilometers and there can be little doubt that in past times, given a much quieter ambient environment in the countryside, this kind of outreach was general throughout Christendom.<sup>5</sup> In the late Middle Ages, the intersecting and circumjacent arcs of parish bells quite literally gripped the entire community by the ears, so that when Martin Luther wrote that every European was born into Christendom, he was merely endorsing a circumstance that was in his time unavoidable. Those who could hear the bells were in the parish; those who could not were in the wilderness.

The same thing happened in Islam, which centered on the minaret, from which the voice of the muezzin, often blind, could be heard giving the call to prayer. To increase the sounding area, or to maintain it against increasing disturbance, Islam eventually adopted the loudspeaker, which can be seen throughout the Middle East today, hanging incongruously from mosaic-studded towers, booming out over perpetual traffic jams. Like Islam, Christianity was a militant religion, and as it grew in strength, its bells became larger and more dominating (the largest of those in Salzburg Cathedral weighs

4. Proust wrote of the sound of the bell as ‘oval.’ A few years ago, when I had a group of students draw spontaneously to sounds played on tape, the bell was one of the sounds evoking the greatest circularity. The other sound was that of the air conditioner. See SCHAFFER, R. M. (1973), *The Music of the Environment* Vienna, Universal Edition, p. 21.

5. See *European Sound Diary*, p. 16.

14,000 kilograms), responding to its imperialistic aspirations for social power. There can be no doubt that bells were the loudest sounds to be heard in European and North American cities until the factory whistles of the Industrial Revolution rose to challenge them. Then a new profile was incised over the community, ringing the workers' cottages with a grimier sound.

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