Shapes, Surfaces, and Interiors

by Don Ihde

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Unaccustomed as we are to the language of hearing shapes and surfaces, we may remain unaware of the full possibilities of listening. But the paradigm of acute listening given in the auditory abilities of the blind man often provides clues for subtle possibilities of the ordinarily sighted listener as well. The blind man through his cane embodies his experience through a feeling and a hearing of the world. As Merleau-Ponty has pointed out, he *feels* the walk at the end of his cane. The grass and the sidewalk reveal their surfaces and textures to him *at the end of the cane.* At the same time his tapping which strikes those surfaces gives him an auditory *surface-aspect.* The concrete sidewalk sounds differently than the boardwalk, and in his hearing he knows he has reached such and such a place on his familiar journey.

To be sure, the surfaces heard by the blind man or the ordinary listener are restricted surfaces. They lack the *expanse* which vision with its secret "Cartesian" prejudice for "extension" presents, because the auditory surface is the revelation of an often small region rather than the spreading forth of a vista. But within its narrowness a surface is heard.

But striking a surface and thereby getting a duet of the surface aspect of two things is not the only way in which the mute object is given voice, nor is it the only way in which sound reveals surfaces. For the blind man's tapping also gives an often slight but nevertheless detectable voice to things in an *echo. With the experience of echo, auditory space is opened up.* With echo the sense of distance as well as surface is present. And again surface significations anticipate the hearing of interiors. Nor, in the phenomena of echo, is the lurking temporality of sound far away. The space of sound is "in" its timefulness.

The depth of the well reveals its auditory distance to me as I call into its mouth. And the mountains and canyons reveal their distances to me auditorily as my voice re-sounds in the time which belongs so essentially to all auditory spatial significations. But these distances are still "poorer" than those of sight, though distances nonetheless. This relativity of "poverty" to "wealth" is apparent in the occasional *syncopation* of the visual and the auditory appearances of the thing. Such a common experience today may be located in the visual and auditory presentation of a high-flying jet airplane. When I hear the jet I may locate its direction quite accurately by its sound, but when I look I find no jet-plane. The sound of the jet trails behind its visual appearance and, by now accustomed to this syncopation, I learn to follow the sound and then look ahead to find the visual presence of the jet.

But as I come to smaller distances the syncopation lessens, and the sight and sounds converge so that ordinarily the sight and sound of the things seem to synthesize in the same place. Yet with careful attention as I stand in the park and listen to the automobiles and trucks rush past, I find that even here there is a slight trailing effect. I close my eyes and follow the sound which, upon opening my eyes, I find only slightly trails the source as seen. Soon I can detect this trailing with my eyes open. Again in this distance the temporality of sound is implicated.

This often unpracticed and unnoticed form of human echolocation which is spatially significant may also be heightened. For the echo in giving voice to things returns to us with vague shapes and surfaces. The ancient theory of vision which conceived of a ray proceeding from the eye to the object and back again is more literally true for the sounding echo's ability to give voice to shapes and surfaces. The blind man, who has learned and listened more acutely than we, produces this auditory "ray" with his clicking cane. Yet anyone who listens well may hear the same.

I repeat the experience of the blind man, carrying with me a clicking device. As I move from the bedroom to the hall a dramatic difference in sounding occurs, and soon, as I navigate blindfolded, I learn to hear the narrowing of the stairs and the approaching closeness of the wall. Like the blind man I learn to perceive auditorily the gross presences of things. But in the relative poverty of human auditory spatiality I miss the presence of the less gross things. I cannot hear the echo which returns from the open-backed Windsor chair, but I do discern the solid wall as a vague presence. Yet in the distance not too far from human experience, I know that the porpoise can auditorily detect the difference of size between two balls through his directed echo abilities, a difference which often escapes even the casual glance of a human.

I listen more intently still. The echo gives me an extremely vague surface presence. I strike it and its surface resounds more fully. Yet even in the weakness of the echo I begin to hear the surface aspects of things. I walk between the Earth Sciences building with its concrete walls along the narrow pathway bounded on the other side by the tall plywood walls fencing off the construction of the new Physics building. In the winter the frozen ground echos the click of my heels, and I soon know when I have entered the narrowness of the pathway. Once at the other end the sound "opens up" into the more distant echoing of the frozen ground which stretches to the parking lot. But as the day goes by and I listen, I soon learn that not only is there a surface presence, not only is there the "opening" and the "narrowing," but there is also a distinctly different echo from the concrete wall and the ply-

wood fence. The surface-aspect only gradually becomes less vague in the sharpening of our listening abilities. In the echo and in the striking of the thing, I hear surfaces as existential possibilities of listening.

While there is no question here of exhausting even the relative and often vague "poverty" of shape and surface aspects, the march towards the "richness" within sound must continue. It is with a third spatial signification that this "richness" begins to appear, for, stronger than shapes and more distinct than surfaces, I *hear interiors.* Moreover, it is with the hearing of interiors that the possibilities of listening begin to open the way to those aspects which lie at the horizon of all visualist thinking, because with the hearing of interiors the auditory capacity of making present the *invisible* begins to stand out dramatically. To vision in its ordinary contexts and particularly within the confines of the vicinity of mute and opaque objects, things present themselves with their interiors *hidden.* To see the interior I may have to break up the thing, do violence to it. Yet even these ordinary things often reveal something of their interior being through sound.

A series of painted balls is placed before me. Their lacquer shines, but it conceals the nature of their interiors. I tap first this one, and its dull and unresounding noise reveals it to be of lead or some similar heavy and soft metal. I strike that one, and there is no mistaking the sound of its wooden interior. The third resounds almost like a bell, for its interior is steel or brass. In each case the auditory texture is more than a surface presentation - it is also a threshold to the interior.

I am asked to hang a picture in the living room. Knowing that its weight requires a solid backing, I thump the wall until the hollowness sounding behind the lathed plaster gives way to the thud which marks the location of the stringer into which I may drive my nail. What remained hidden from my eyes is revealed to my ears. The melon reveals its ripeness; the ice its thinness; the cup its half-full contents; the water reservoir, though enclosed, reveals exactly the level of the water inside in the sounding of interiors. Hearing interiors is part of the ordinary signification of sound presence and is ordinarily employed when one wishes to penetrate the invisible. But one may not pay specific attention to this signification as the *hearing* of interiors unless one turns to a listening "to the things themselves."

In the movement from shape-aspects to surfaces to interiors there is a continuum of significations in which the "weakest" existential possibilities of auditory spatial significations emerge.

In all of this listening there is a learning. But that learning is like that of the blind man first being given sight; he does not at first know what he sees. Neither do we know what we hear, although in this case what is to be heard lies within the very familiarity with things in their present but often undiscovered richness. But once we learn to hear spatial significations, the endless ways in which we hear interiors comes to mind. We hear hollows and solids as the interior spatiality of things. We hear the *penetration* of sound into the very depths of things, and we hear again the wisdom of Heraclitus, "The hidden harmony is better than the obvious."—Philip Wheelwright, *The Presocratics* (New York: Odyssey Press, 1966), p. 79.

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Ode To Light

Sound Sculpture for the Blind

Completed in 1968 *Ode to Light* was created by sculptor Arnold Haukeland and composer Arne Nordheim for the Storedal Centre for the Blind, south-east of Frederikstad, Norway, in Storedal near the Swedish border. It rises almost twenty meters above the flat, cultivated landscape and symbolizes limbs that reach out towards the light. A multi-channel musical composition emanates from 28 loudspeakers integrated throughout the sculpture. The visual contrasts between black and glistening, reflective surfaces complement the sonic changes between dark and light sounds. These symbolize the struggle between light and dark, good and bad in human emotions. Its optimistic message is that "movement always occurs in one way: from darkness towards the light. This was a sculpture for both the seeing and for the blind."

For its 25th anniversary celebration on August 12, 1995 all of the sound technology was replaced with modern digital means. Now the sound is controlled by a computer program which was created specifically for the hundreds of small music bytes originally composed by Arne Nordheim. It selects new sound bytes continuously, layers them with each other or organizes them sequentially one after another in such a way that there are no repetitions and the sound mixes are random. As a result the listener experiences a never ending "piece". Original sound triggers were from photo-electric cells & relays. Measurements of the daylight, shade, or darkness are now sent to the computer continously, which in turn uses this data to place limitations on the sound combinations. Simply said, more light will create more activity. Therefore, when it is dark, the sculpture is completely quiet.

Of the 28 loudspeakers 4 are located in large bass cabinets in the base of the sculpture. The other 24 are divided among the spire and the large halo. The program disperses the sound over all of these loudspeakers. Some sequences build themselves up from the top of the sculpture and progress downwards, some circle around the halo, others remain in the base, and so on. In this way one can hear the sculpture's shape through sound and tone.

Also see:
http://storedal.hiof.no/norsk/senteret/lydskulptur.html
(For an interactive replica of the *Ode to Light* click on the blue link entitled in Norwegian: En rekonstruksjon av Lydskulpturen).

Text translated from the Norwegian and adapted by Harold Clark. Photograph by Pål Brugge.