

## *Visual and Acoustic Space*

MARSHALL McLUHAN

A profoundly influential theorist of late 20th century media, Marshall McLuhan (1911–1980) examined the ways in which communication and information technologies transform human subjectivity and community. His conception of “the global village”—the retribalization of the human race via a world network of electronic media—anticipated the Internet by nearly two decades. Throughout his career, McLuhan argued that radio, television, computers, and other electronic technologies are essentially prosthetic devices that vastly extend the human nervous system.

Indeed, throughout his work, McLuhan was interested in the human perceptual apparatus, the ways in which our senses (and their technological extensions) shape and are shaped by their environment. In this essay, written in the late 1970s, McLuhan contrasts the different worlds proper to sight and hearing. He argues that, while visual culture has dominated Western thought, perception, and imagination since ancient Greece, the late 20th century witnessed a rapid shift toward a very different mode of perception, that of the acoustic or auditory.

While in elementary school, Jacques Lusseyran was accidentally blinded. He found himself in another world of collision and pressure points. No longer could he pick his way through the ordinary “neutral” world of reflected light. It was the same environment that we are all born into but now it came to him demanding exploration:

Sounds had the same individuality as light. They were neither inside nor outside, but were passing through me. They gave me my bearings in space and put me in touch with things. It was not like signals that they functioned but like replies . . .

But most surprising of all was the discovery that sounds never came from one point in space and never retreated into themselves. There was the sound,

its echo, and another sound into which the first sound melted and to which it had given birth, altogether an endless procession of sounds . . .

Blindness works like dope, a fact we have to reckon with. I don't believe there is a blind man alive who has not felt the danger of intoxication. Like drugs, blindness heightens certain sensations, giving sudden and often disturbing sharpness to the senses of hearing and touch. But, most of all, like a drug, it develops inner as against outer experience, and sometimes to excess . . .<sup>1</sup>

We, who live in the world of reflected light, in visual space, may also be said to be in a state of hypnosis. Ever since the collapse of the oral tradition in early Greece, before the age of Parmenides, Western civilization has been mesmerized by a picture of the universe as a limited container in which all things are arranged according to the vanishing point, in linear geometric order. The intensity of this conception is such that it actually leads to the abnormal suppression of hearing and touch in some individuals. (We like to call them "bookworms.") Most of the information we rely upon comes through our eyes; our technology is arranged to heighten that effect. Such is the power of Euclidean or visual space that we can't live with a circle unless we square it.<sup>2</sup>

But this was not always the expected order of things. For hundreds of thousands of years, mankind lived without a straight line in nature. Objects in this world resonated with each other. For the caveman, the mountain Greek, the Indian hunter (indeed, even for the latter-day Manchu Chinese), the world was multicentered and reverberating. It was gyroscopic. Life was like being inside a sphere, 360 degrees without margins; swimming underwater; or balancing on a bicycle. Tribal life was, and still is, conducted like a three-dimensional chess game; not with pyramidal priorities. The order of ancient or prehistoric time was circular, not progressive. Acoustic imagination dwelt in the realm of ebb and flow, the *logos*. For one day to repeat itself at sunrise was an overwhelming boon. As this world began to fill itself out for the early primitive, the mind's ear gradually dominated the mind's eye. Speech, before the age of Plato, was the glorious depository of memory.

Acoustic space is a dwelling place for anyone who has not been conquered by the one-at-a-time, uniform ethos of the alphabet. It exists in the Third World and vast areas of the Middle East, Russia, and the South Pacific. It is the India to which Gandhi returned after twenty years in South Africa, bringing with him the knowledge that Western man's penchant for fragmentation would be his undoing. There are no boundaries to sound. We hear from all directions at once. But the balance between inner and outer experience can be precise. If our eardrums were tuned any higher we would hear molecules colliding in the air or the roaring rush of our own blood. Sound comes to us from above, below, and the sides. As Lusseyran says, it passes through us and is rarely limited by the density of physical objects. Most natural materials act as a tuning fork. The human baby cannot move out into the environment until sound teaches depth—which the child adapts to the demands of Euclidean or visual space later on.

Each of these modalities is a sensory preference of the culture. For the society that accepts it, that modality, whether acoustic or visual, is the foundation on which it recognizes its own perception of sanity. But we wish to advance an idea that you, the reader, won't in all probability, initially accept. And that is for several thousand

years, at least, man's sensorium, or his sense of plumb.

The term *sensus communis* in Cicero's sense is as seeing, hearing, tasting, smelling, and touching. It was the Latin definition of man in terms of his senses. Sensory energy were constant and distributed in all directions.<sup>3</sup> In such a condition it is rather difficult to maintain an arrangement, trouble always occurs when a large range of energy and receives more stimulus than the ordinary man that would be the visual state.

As psychologists understand sense perception, a strong sensory input can cause thought and feeling to separate. A steady dimming down of one or two sensory inputs, or a steady assault on one sense, like a tribal method of breaking down prisoners by putting them in cell blocks, or window covers—is painted white. This method was discovered (as police interrogators everywhere know) that random electric shocks create sharp peaks of sensory input ready uncritical conviction.

Without being aware of it, North American man has done violence for themselves. Western man thinks of himself as starving the rest of it. By neglecting ear culture and the natural hierarchies of the left side of the brain, the right side, where only linear conceptualization is accepted.

Euclid and Newton fixed Western man's gaze toward the horizon.<sup>4</sup> As neurosurgeon Josep Penfield's mode of the left hemisphere underlies language, the right hemisphere of the brain, which is principally of an artistic and holistic quality, grasps the relationship between things and is not bound up with a rigid sequence of operations. Euclid and Newton therefore is a substitution of a linear sequence which is always composed of multi-sensual elements.

Everything in life after the Greeks was reduced to a single point of view, as in Swift's island of Laputa. Thought had an end. No thesis was acceptable unless all its parts were seen from an e-x-t-e-n-d-e-d point of view, which is the point of view that might add.

If you think of every human sense as creating a space where there can only be one point of view, like a camera. Light focused on the objects will not occupy the same place at the same time. To see an object right side up, on a plane, is to see it from a perspective (or the vanishing point) that is an inch or two in front of the page—we learn to see the object from a point of view since it promotes the object.

It would almost seem that the very physical nature of things is in sequence—that is, in its present

years, at least, man's sensorium, or his seat of perceptive balance, has been out of plumb.

The term *sensus communis* in Cicero's time meant that all the senses, such as seeing, hearing, tasting, smelling, and touch, were translated equally into each other. It was the Latin definition of man in a healthy natural state, when physical and psychic energy were constant and distributed in a balanced way to all sense areas.<sup>3</sup> In such a condition it is rather difficult to hallucinate. In any cultural arrangement, trouble always occurs when only one sense is subjected to a barrage of energy and receives more stimulus than all the others. For modern Western man that would be the visual state.

As psychologists understand sense ratios, overstimulation and understimulation can cause thought and feeling to separate. Sleeping may be regarded as a dimming down of one or two sensory inputs. Hypnosis, on the other hand, is a steady assault on one sense, like a tribal drumbeat. Modern torturers in Chile break down prisoners by putting them in cells where everything—walls, furniture, utensils, window covers—is painted white. In Vietnam, Communist interrogators discovered (as police interrogators everywhere) that unexpected beatings and random electric shocks create sharp peaks of floating anxiety and subsequently a ready uncritical conviction.

Without being aware of it, North Americans have created the same kind of violence for themselves. Western man thinks with only one part of his brain and starves the rest of it. By neglecting ear culture, which is too diffuse for the categorical hierarchies of the left side of the brain, he has locked himself into a position where only linear conceptualization is acceptable.

Euclid and Newton fixed Western man's body in rigid space and oriented him toward the horizon.<sup>4</sup> As neurosurgeon Joseph Bogen puts it, the linear sequential mode of the left hemisphere underlies language and analytical thought. The right hemisphere of the brain, which is principally concerned with pattern recognition of an artistic and holistic quality, grasps the relationship between diverse parts readily and is not bound up with a rigid sequence of deductions. The intellectual legacy of Euclid and Newton therefore is a substitution of perspective for qualitative thinking, which is always composed of multi-sensual elements.

Everything in life after the Greeks was reduced to the uniform and the homogeneous, Swift's island of Laputa. Thought had to have a beginning, a middle, and an end. No thesis was acceptable unless all ideas were interconnected to project an e-x-t-e-n-d-e-d point of view, which is the interior structure of the essay, we might add.

If you think of every human sense as creating its own space, then the eye creates a space where there can only be one thing at a time. The eye acts as a machine—like a camera. Light focused on the back of the eye ensures that two objects will not occupy the same place at the same time. The mind teaches the eye to see an object right side up, on a plane and in perspective space. As children, when perspective (or the vanishing point) arrives—when we learn to focus an inch or two in front of the page—we learn to read and write. The phonetic alphabet gives us a point of view since it promotes the illusion of removing oneself from the object.

It would almost seem that the very physiology of the eye promotes the idea that everything is in sequence—that is, in its proper place, at the proper time, and

in linear relationship. The kind of mentality that prompted Shakespeare's King Lear to divide his kingdom among his daughters, to abstract himself from the medieval perception that England was contained in himself is more modern than tribal. What we are saying is that the human eye appears to be the father of linear logic. Its very nature encourages reasoning by exclusion: something is either in that space or it isn't.

The constraints of Western logic are tied to our sense of sequential relationships—logic made visual. The middle ground, however accounted for initially, is eventually excluded. It is either-or. If your culture nurtures you to favor the eye, your brain has difficulty giving equal weight to any other sense bias. You are trapped by visual only assumptions. For centuries, the Japanese, unlike Westerners, have treasured the pictorial space between objects in a painting, the *ma*; and have viewed such space as more dominant than all objects portrayed. Like the yin/yang complementarity of wave/particle in atomic physics.

Anyone who has been involved in gestalt, or studied primitive societies—once he or she gets over the impulse to measure these societies with Western templates—is aware that either-or is not the only possibility. Both-and can also exist. People who have not been exposed to the phonetic alphabet, that is, the “uncivilized,” can easily entertain two diametric possibilities at once. Edmund Carpenter pointed out to us that the Inuits, or the Eskimos, cannot visualize in two dimensions. If they are asked to draw the animals they hunt on a flat surface, the result—to our eyes—is often grotesque. But ask them to draw the same figure on, let us say, the rounded surface of a walrus tusk, and the etched drawing will take on three-dimensional life as you roll the tusk in your fingers.

[. . . H]ere we have a clue to the mentality of the pre-literate, that world of oral tradition that we eventually left behind about the end of the Hellenic period. It is the mentality of the multitude, or as Yeats put it: everything happening at once, in a state of constant flux. For the genuinely tribal man there is no causality, nothing occurring in a straight line. He turns aside from the habit of construing things chronologically—not because he can't, but as Edmund Carpenter says, because he doesn't want to.

Carpenter advises us that the Trobriander Islanders only recognize now, the eternal present. Bronislaw Malinowski and Dorothy Lee, who studied these people, discovered that they disdained the concept of *why*. European man to them was hung up on the idea of setting priorities, of making past and future distinctions. “To the Trobriander, events do not fall of themselves into a pattern of cause and effect as they do for us. We in our culture automatically see and seek relationships, not essence. We express relationship mainly in terms of cause or purpose . . . .”<sup>5</sup> The Trobriander is only interested in experiencing the current essence of a person or object. He is interested in his yams, his stone knife, his boat, as those objects are today. There is no such thing as a “new” or an “old” boat, a blooming yam or a decayed one. There is no past or future, only the essence of being that exists now. The Trobriander, like the Inuit, directly experiences a sense of timelessness, so he is never bothered by such questions as “who created the creator.” The English language, in fact most Western languages, suggests through its tense structure that reality can only be contained in the concept of a past, a present, and a future which rather incongruously implies that man is capable, like a god, of

standing outside the time continuum. They lie in the priority-setting propensity for quantified or abstracted from all other sense continuous, which is to say that it is infinite, what the early Greek geometers referred to as *apeiron* (abstract figures with fixed boundaries, lines with no visible grounds), homogeneous (uniformly unchangeable). It is like the “mind's eye” of the thinking of literate Western people, so existence itself.

Acoustic space structure is the natural mode of thinking by non-literate people. It is like the “mind's eye” of the thinking of pre-literate and post-literate people as much acoustic power as a Watusi mating call. It is nonhomogeneous. Its resonant and interpenetratingly related with centers everywhere and everywhere. A communications engineer Barrington Nevitt has shown that proof nor explanation but is made manifest in the thinking and visual space structures may be seen as a kind of eternity, yet, at the same time, as completeness and wholeness.

Occasionally, certain persons in history have been able to be truly bicultural. When we say bicultural we mean someone placed, as it were, in both visual and acoustic space. The village hideaway or Tocqueville in America, the Phoenicians, the earliest cultural brokers between the East and the West, a cuneiform method of accounting to the Egyptians, the Greeks, were likewise blessed.

The phonetic alphabet underlies all of Western culture. At the time it had gone through the Greeks and Romans, it was the literature of the Renaissance, Western sense of space. The Greeks gave a new birth to the alphabet as a means of relating the visual nor semantic meaning. Egyptian ideograms related to particular sensuous sounds and actions. On the other hand, the matrix of the Greek alphabet was related to languages back and forth without changing the original alphabetic characters. It became a means of knowledge from one culture to another. The resonance of the original speaker and the participation of the early Greek dramatists, of the pre-Socratic philosophers, very gradually to the written Pan-European tradition of the intellectual posture of the West in concrete, as well as from the resonating magic of the tribal word and the oral tradition.

The history of the Western world since the invention of increasing linguistic specialism produced the written presentation of print. Orality wound down slowly.

standing outside the time continuum. The hubris of Western man might very well lie in the priority-setting propensity for quantitative reasoning [ . . . ]

To summarize, visual space structure is an artifact of Western civilization created by Greek phonetic literacy. It is a space perceived by the eyes when separated or abstracted from all other senses. As a construct of the mind, it is continuous, which is to say that it is infinite, divisible, extensible, and featureless—what the early Greek geometers referred to as *physis*. It is also connected (abstract figures with fixed boundaries, linked logically and sequentially but having no visible grounds), homogeneous (uniform everywhere), and static (qualitatively unchangeable). It is like the “mind’s eye” or visual imagination which dominates the thinking of literate Western people, some of whom demand ocular proof for existence itself.

Acoustic space structure is the natural space of nature-in-the-raw inhabited by non-literate people. It is like the “mind’s ear” or acoustic imagination that dominates the thinking of pre-literate and post-literate humans alike (rock video has as much acoustic power as a Watusi mating dance). It is both discontinuous and nonhomogeneous. Its resonant and interpenetrating processes are simultaneously related with centers everywhere and boundaries nowhere. Like music, as communications engineer Barrington Nevitt puts it, acoustic space requires neither proof nor explanation but is made manifest through its cultural content. Acoustic and visual space structures may be seen as incommensurable, like history and eternity, yet, at the same time, as complementary, like art and science or biculturalism.

Occasionally, certain persons in history have been in the right place and time to be truly bicultural. When we say bicultural we mean the fortune to have a foot placed, as it were, in both visual and acoustic space, like Hemingway in his Cuban village hideaway or Tocqueville in America. Marco Polo was such a one. The Phoenicians, the earliest cultural brokers between East and West, having brought a cuneiform method of accounting to the Egyptians and the phonetic alphabet to the Greeks, were likewise blessed.

The phonetic alphabet underlies all of Western linguistic development.<sup>6</sup> By the time it had gone through the Greeks and Romans and reasserted itself in the print literature of the Renaissance, Western sense ratios had been firmly altered. The Greeks gave a new birth to the alphabet as a mode of representation having neither visual nor semantic meaning. Egyptian ideographs, for instance, were directly related to particular sensuous sounds and actions, with unique graphic signs. On the other hand, the matrix of the Greek alphabet could be used to translate alien languages back and forth without changing the form and number (twenty-four) of the original alphabetic characters. It became the first means of translation of knowledge from one culture to another. The reader in the process became separated from the original speaker and the particular sensuous event. The oral tradition of the early Greek dramatists, of the pre-Socratics, and Sophocles, gave way very gradually to the written Pan-European tradition and set the emotional and intellectual posture of the West in concrete, as it were. We were “liberated” forever from the resonating magic of the tribal word and the web of kinship.

The history of the Western world since the time of Aristotle has been a story of increasing linguistic specialism produced by the flat, uniform, homogeneous presentation of print. Orality wound down slowly. The scribal (or manuscript) cul-

ture of the Middle Ages was inherently oral/aural in character. Manuscripts were meant to be read aloud. Church chantry schools were set up to ensure oral fidelity. The Gutenberg technology siphoned off the aural-tactile quality of the Ancients, systemized language, and established heretofore unknown standards for pronunciation and meaning. Before typography there was no such thing as bad grammar.

After the public began to accept the book on a mass basis in the fourteenth and fifteenth centuries—and on a scale where literacy mattered—all knowledge that could not be so classified was tucked away into the new “unconscious” of the folk tale and the myth, there to be resurrected later as the Romantic Reaction.

But since World War I and the advent of those technical wavesurfers Marconi and Edison, the rumbles of aural-tactility, the power of the spoken word, have been heard. James Joyce in *Finnegans Wake*, celebrated the tearing apart of the ethos of print by radio, film (television), and recording. He could easily see that Goebbels and his radio loudspeakers were a new tribal echo. And you may be sure that emerging mediums such as the satellite, the computer, the data base, teletext-videotext, and the international multi-carrier corporations, such as ITT, GTE, and AT&T, will intensify the attack on the printed word as the “sole” container of the public mentality, without being aware of it of course. By the twenty-first century, most printed matter will have been transferred to something like an ideographic microfiche as only part of a number of data sources available in acoustic and visual modes. This new interplay between word and image can be understood if we realize that our skulls really contain two brains straining to be psychically united [ . . . ]

### NOTES

1. Lusseyran, *And There Was Light*, tr. Elizabeth Cameron (Boston: Little, Brown, 1963), pp. 23–24, 48–49.

2. F. M. Cornford, “The Invention of Space,” *Essays in Honour of Gilbert Murray* (London: Allen and Unwin, 1936), pp. 215–235.

3. Cicero's training, through Plato's disciples, was influenced by an earlier religious usage that *logos* (a primitive utterance of the word) structured the *kosmos* and infused man's being with a wise concept of world order or common sense. *Heraclitus: The Cosmic Fragments*, ed. Geoffrey S. Kirk (London: Cambridge University Press, 1954), pp. 70, 396, 403. Also, Harold Innis in *Empire and Communications* (London: Oxford University Press, 1951), p. 76, says “The structure of man's speech was an embodiment of the structure of the world.” Cicero's rhetorical theory, as an interchange of both thought and feeling (*inventio*, *dispositio*, *elocutio*, *memoria* and *pronuntiatio*) became the academic anchor for the medieval trivium; for a form of summation consult Marcus Tullius Cicero, *De Oratore*, trs. E. W. Sutton and H. Rackham (Cambridge: Harvard University Press, 1967), pp. 97–109.

4. Cornford, “The Invention of Space,” p. 219.

5. The eternal present: Summarized from an extended exchange between Edmund Carpenter and Marshall McLuhan during a student discussion of Carpenter's first draft essay “Thinking Through Language,” at the Centre for Culture and Technology, University of Toronto. Also, cf. Dorothy Lee, “Lineal and Nonlineal Codifications of Reality,” *Explorations in Communication: An Anthology*, pp. 136–154.

6. Eric Havelock, “Origins of Western Literacy,” in *Ontario Institute for Studies in Education*, Monograph Series no. 14 (Toronto: 1971), p. 43.

## The Politics

HANNS EISLER AND

Theodor Adorno (1903–1969) was among the most influential German philosophers of the 20th century. He was a member of the Frankfurt School for Social Research, Adorno's intellectual home. His work on contemporary culture and society aimed to reveal the irrationality. With the rise of Hitler, Adorno and his colleagues were exiled in the United States. Adorno's peculiar position of living in Hollywood, a city of mass culture industry, which he came to see as a form of social control. Music figures centrally in Adorno's work. As a pianist and accomplished pianist, Adorno studied composition with a lifelong advocate for Schoenberg's music.

Hanns Eisler (1898–1962) studied composition and rejected contemporary classical music. He was a proponent of populist worker's songs, and was a close collaborator of Bertolt Brecht. Like Adorno, Eisler fled Hitler's Germany. During his ten years there, he composed music for the film industry. In 1947, Eisler became the first Hollywood composer to be named to the Committee on Un-American Activities. He spent the rest of his life in East Germany.

*Composing for the Films* was first published in 1955. It was written alone, due to Adorno's fear of political repression. In the film, cinema, sound and music should play a role in action. In this short excerpt, the author discusses the differences between auditory and visual perception about the politics of hearing and listening.

The function of music in the cinema is one of its general functions under conditions

hanns eisler & theodor