

## The Sound of One Line Scanning

Bill Viola

Our greatest blessings come to us by way of madness.

Socrates

The ancient Greeks heard voices. The Homeric epics are full of instances of people guided in their thoughts and actions by an internal voice to which they respond automatically. This suggests as people, as Julian Jaynes has pointed out, not fully exercising what we would consider free will or rational judgment. <sup>1</sup> As with most of us, there is a conversation going on in their heads, but it is not with themselves. Jaynes calls this distant mental landscape the 'bicameral mind,' and claims that, prior to the transition period of the Greeks, all ancient cultures were not fully conscious as we know it. In other words, they possessed many gods. Today we are suspicious of persons exhibiting such behaviors, forgetting that the term hearing refers to a kind of 'obedience' (the Latin roots of the word are *ob* plus *audire*, or 'to hear facing someone'). So rooted is our need for the concept of the independent mind, that we categorize those hearing the voices as: a) mildly amusing, b) a pet, or c) confined to a mental institution. A possible fourth category might be 'watching television.' The prophets and gods have departed our world and the confused chatter in their wake must now be exorcized by someone called a "therapist."

A woman named Be was alone in the bush one day in Namibia, when she saw a herd of giraffes running before an approaching thunderstorm. The rolling beat of their hooves grew louder and mingles in her head with the sound of sudden rain. Suddenly a song she had never heard before came to her and she began to sing. Gauwa (the great god) told her it was a medicine song. Be went home and taught the song to her husband Tike. They sang and danced it together. And it was, indeed, a song for trancing, a medicine song. Tike taught it to others who passed it on.

!Kung Bushman story from Botswana,  
as told to Marguerite Anne Biesele. <sup>2</sup>

Consciously or unconsciously, most people assume the existence of some sort of space when discussing mental functioning. Concepts and terms for manipulation of solid objects are constantly used to describe thoughts, as in "the *back* of my mind," "*grasp* an idea," "*over* my head," "*cling* to beliefs," "a mental *block*," and so on. This mental space is directly analogous to the "data space" in our first brain child, the computer, being the field in which calculations occur and where the virtual objects of digital graphics are created, manipulated and destroyed. Like a fundamental ontology, this given space is perpetually before or after what is done, an *a priori* existence from birth in the flip of a switch until the lights finally go out. If there is a space of thinking, either real or virtual, then within it there must also be sound, for

all sound seeks its expression as vibration in the medium of space. The acoustic properties of this space, then, becomes the subject of this article.

To the European mind, the reverberant characteristics of the interior of the Gothic cathedral are inextricably linked with a deep sense of the sacred, and tend to evoke strong associations with both the internal private space of contemplation and the larger realm of the ineffable. Dream image or flashback sequences in cinema have often utilized reverberation effects in the sound track to signify subjectivity and detachment. Cathedrals such as Chartres in France embody concepts derived from the rediscovery of the ancient Greeks, particularly Plato and Pythagoras, and their theories of the correspondence between the macrocosm and the microcosm, expressed in the language of sacred number, proportion, harmony, and manifested in the science of sound and music. These design concepts were not considered to be the work of man or merely functions of architectural practice, but represented the divine underlying principles of the universe itself. By incorporating them into the body of the church it was intended to establish a harmonic reflection of their form here on earth.

Chartres and other edifices like it have been describes as “music frozen in stone.” References to sound and acoustics here are twofold. Not only are there the actual sonic characteristics of the cavernous interior, but the form and structure of the building itself reflects the principles of sacred proportion and universal harmony – a sort of “acoustics within acoustic.” When one enters a Gothic sanctuary, it is immediately noticeable that sound commands the space. This is not just a simple echo effect at work, but rather all sounds, no matter how near, far, or loud, appear to be originating at the same distant place. They seem detached form the immediate scene, floating somewhere where the point of view has become the entire space.

Ancient architecture abounds with examples of remarkable acoustic design – whispering galleries where a bare murmur of a voice materializes at a point hundreds of feet away across the hall or the perfect clarity of the Greek amphitheatres where a speaker, standing at a focal point created by the surrounding walls, is heard distinctly by all members of the audience. Modern techniques of architectural acoustics pioneered by people like Wallace Sabine at the turn of the century were derived in response to severe unintelligibility and lack of clarity in room reverberation. This is doubly ironic, both in terms of the two thousand year old Greek theater and the fact that the acute reverberation in the Gothic cathedral, although a result of construction and not specific intention, was considered and essential part of its overall form and function.

The science of acoustics is the study of sound in space. It assumes strong architectural associations because, although it can be described as simply the study of the behavior of sound waves, sound, like light without a surface to fall on, manifests itself at its most complex an interesting when bouncing off solid forms, most noticeably those of man-made interior spaces. In the rural world of the Middle Ages, it is doubtful that the awesome reverberations inside the cathedral had ever

been heard before by the members of the clergy. A partial list of some of the most basic physical phenomena studied by the acousticians reads like a set of mystical visions of nature.

**Refraction:** The bending of sound waves due to a change in speed as they pass through different media, such as two layers of air of different temperatures. At Queen Victoria's funeral in London in 1901, rounds of artillery were fired and although not heard in the surrounding countryside, the loud roar of cannons suddenly materialized in a village ninety miles away.

**Diffraction:** Sound turning a corner, when the edge of a barrier generates a new series of waves. We hear invisible persons talking on the other side of a high wall.

**Reflection:** The rebounding of sound waves off a surface, the angle at which they bounce off being equal to the angle at which they arrive. With multiple surfaces this becomes an echo, and it is then possible to hear one's own voice, possibly multiple times, as it existed at a previous point in time. One can sing with oneself. Multiple regular reflections produce the condition of reverberation, where a sound can be repeated over and over on top of itself, the past becoming indistinguishable from the present.

**Interference:** Two sounds collide with each other, the wavefronts of each alternately reinforcing and inhabiting themselves. In a large hall the sound of a loud instrument suddenly drops to a barely audible whisper at a certain location in the room.

**Resonance:** Soundwaves reinforce themselves, either by the addition of an identical sound or when the material properties or spatial dimensions match the physical shape of the soundwaves themselves. A singer's voice becomes louder, gaining energy when released into a small enclosure, or an object produces a specific tone when struck. The shape and materials of an object represent a frozen sound potential.

**Sympathetic Vibration,** related to resonance, and possibly the most evocative of all: When a bell is struck, another identical one across the room begins vibrating, giving off the same sound.

Each of these phenomena evoke wonder, even after their scientific representations have been rationally understood. There is something of the immortal in an echo, for example; we can easily imagine an ultimate state of reverberation – a space where everything that has ever happened continues to exist – the end of time, where everything is live, perpetually present. If we sense that the description of the sympathetic vibration bears some resemblance to radio broadcast, it is no coincidence, the same principle at work. The processes of contemporary media systems are latent in the laws of nature – they have existed in various forms since the beginning of history.

We can also see, in resonance, that all objects have a sound component, a second shadow existence as a configuration of frequencies. In 1896 Nikola Tesla, one of the great geniuses of the electrical age, strapped a small oscillating motor to the central beam in his Manhattan laboratory, and built up a powerful physical resonance that quickly conducted through the building and into the earth to cause an earthquake in which buildings shook, panes of glass broke and steam pipes ruptures over a twelve block area. He was forced to stop it with a blow from a sledge hammer. Tesla stated that he could calculate the resonant frequency of the earth and send it into strong vibration with a properly tuned driver of adequate size and specific placement.<sup>3</sup>

“Palongawhoya, travelling throughout the earth, sounded out his call as he was bidden. All the vibratory centers along the earth’s axis from pole to pole resounded his call; the whole earth trembled; the universe quivered in tone. Thus, he made the whole world an instrument of sound, and sound an instrument for carrying messages, resounding praise to the creator of all.”

Hopi myth of the creation of the First World.<sup>4</sup>

“In the beginning was the Word...” provokes on to ask, where was the image? But like the Biblical creation myth, Indian religion (for example Yoga and Tantra) and later Oriental religions (for example Buddhism) also describe the origin of the world in sound, with the original creative potency still accessible to the individual in the forms of sacred speech and chanting (sympathetic vibrations). This idea of the origin of images in sound is mirrored in the invention and development of communication technology. In the age of the electronic image, it is easy to forget that the earliest electrical communication systems were designed to carry the word. For example, Edison initially tried to market the phonograph to the business community as an automated replacement for the stenographer in the office. If speech is the genesis of the media body electric – the telegraph and the subsequent systems of the telephone, radio and television – the acoustics (or general wave theory) is the basic structural principle of its many manifestations.

The video image is a standing wave pattern of electrical energy, a vibrating system composed of specific frequencies as one would expect to find in any resonating object. As has been described many times, the image we see on the surface of the cathode ray tube is the trace of a single moving focused point of light from a stream of electrons striking the screen from behind, causing its phosphor coated surface to glow. In video, a still image does not exist, in fact at any given moment a complete image does not exist at all. The fabric of all video images, moving or still, is the activated constantly sweeping electron beam – the steady stream of electrical impulses coming from the camera or video recorder driving it. The divisions into lines and frames are solely divisions in time, the opening and closing of temporal windows that demarcate periods of activity within the flowing stream of electrons. Thus, the video image is a living dynamic energy field, a vibration appearing solid only because it exceeds our ability to discern such fine slices of time.

All video has its roots in the live. This vibrational acoustic character of video as a virtual image is the essence of its "liveness." Technologically, video has evolved out of sound (the electromagnetic) and its close association with cinema is misleading since film and its grandparent the photographic process are members of a completely different branch of the genealogical tree (the mechanical/chemical). The video camera, being an electronic transducer of physical energy into electrical impulses, bears a closer original relation to the microphone than it does to the film camera.

The original television studio was a hybrid of radio, theatre and cinema. Its images existed in the present tense. Its construction was based on the radio studio with the isolated control room behind glass, "on air" signs, and cameras placed out on the floor to pick up the action. The structure of the elements in the studio can also be viewed as the physical embodiment of the aesthetics of cinema, an ingenious solution to the "limitation" of having to exist live. Multiple cameras, usually three (representing film's classic long, medium, and close-up shots), view the action from their individual points of view. Unlike cinema, where activity within a given scene must give the illusion of simultaneity and sequential time flow, with the action often shot out of order, video presents a point of view that is literally shifted around the space in the present tense, parallel to the action. The illusion which video had to work very hard to create was one of reordered time, doing so only where necessary by using different parts of the studio in combination with lighting effects. Direct translations of a sister art form of present-tense time, the theater, were used to format early television dramas and many of the burlesque-like variety shows. They were almost always performed in the theatrical setting of the live audience, who functioned as surrogate home viewers until later replaced by the laugh track and applause machine.

The fundamental aspect of cinema, the montage (and articulation in time), was interpreted by the fundamental aspect of early television, the live) an articulation in space), in a key piece of equipment in the studio, the video switcher. This was the central creative device for organizing what was to finally be seen by the viewer at home. The basic elements of cinematic language were hard-wired into its design. A simple switch button represented Eisenstein's paramount montage, the cut, and with a switch on each camera, cuts could be made to any point of view desired. Griffith's fade to black became a gradual reduction in signal voltage with a variable potentiometer. Wipes and split-screens were translated by engineers into circuit designs to electronically interfere with and offset the regular voltages in the signal flow, the most symmetrical stationary wipe patterns being harmonic overtones of the fundamental frequencies of the basic video signal. Thus, without the ability to record, a simulation of cinematic edited time was constructed by a live electronic instrument.

It wasn't until the late 1960's that this emulation of cinema was broken, when artists began poking beneath the surface to uncover the basic characteristics of the medium and release the unique visual potentials of the electronic image, now taken

for granted with a yawn and oftentimes a grimace as standard TV fare. The video switcher was redesigned into the first video synthesizer. Its principles were acoustic and musical, a further evolution of the early electronic music systems like the Moog. The videotape recorder was the last link in the chain to be developed, coming more than a decade after the arrival of television and only fully integrated into video's image processing system with the introduction of the time based corrector in the early 1970's. With the seamless incorporation of recorded material into the image stream and the advancements of electronic editing, the past began to be confused with the present, a need arose to specifically identify remote feeds as "live". Not only did video begin to look and act like cinema, but it began to look and act like everything else – fashion, conversation, politics, visual art, and music.

A single neuron operates on the power of about a thousandth-millionth of a watt. Hence, the entire brain operates on about ten watts.

Sir John Eccles<sup>5</sup>

Musically speaking, the physics of a broadcast is a type of drone. The video image perpetually repeats itself without rest at the same set of frequencies. This new common condition of the drone represents a significant shift in our culturally derived thought patterns. It can be evidenced by contrasting another drone-based system, traditional Indian music, with our own European classical music.

Western music builds things up, piles notes on top of notes, forms on top of forms in the way one would construct a building, until at last the piece is complete. It is additive: its base is silence, all musical sounds proceed from this point. Indian music, on the other hand, begins from sound. It is subtractive. All the notes and possible notes to be played are present before the main musicians even start playing, stated by the presence and function of the tambura. A tambura is a drone instrument, usually of four or five strings, which, due to the particular construction of its bridge, amplifies the overtone or harmonic series of the individual notes in each tuned string. It is most distinctly heard at the start and end of the performance, but is continually present throughout. The series of overtones describes the scale of the music to be played. Therefore, when the primary musicians play, they are considered to be pulling notes out of an already ongoing sound field, the drone.

This music structure reflects the Hindu philosophical concept of the origin of all things in sound, represented by the essential vibration Om, which is believed to be always present, going on without beginning or end everywhere in the universe, generating all of the forms of the phenomenal world. In the music, there is great emphasis on tuning, while the philosophers speak of "tuning the individual" as a means to contact and replenish these fundamental energies. The idea of a sound field that is always present shifts the emphasis away from the objects of perception to the field on which the perception is occurring, a non-specific viewpoint.

As a drone, video's significant aspect is that its images exist everywhere at once, the receiver is free to pull the signal out of the line at any given point along the path, or

at any location out in the broadcast field. Children have been known to pick up radio signals in their dental braces, a contemporary manifestation of “speaking in tongues.” The “space” of broadcast recalls the acoustic space of the Gothic cathedral, all sounds, no matter how near, far, or loud, appear to be originating at the same distant place. They seem detached from the immediate scene, floating somewhere where the point of view has become the entire space. In technology, the current shift from analog’s sequential waves to digital’s recombinant codes further accelerates the diffusion of the point of view. Like the transformation of matter, there is a movement from the tangibility of the solid and liquid states into the gaseous. There is less coherency, but previously solid barriers become porous, and the perspective is that of the whole space, the point of view of the air.

Within several weeks of launching its satellite, Brazil established communication links to all corners of the country, and mapped every square mile of one of the largest uncharted territories left on the planet, the Amazon basin. One can now theoretically make a phone call relaying one’s position from anywhere in the jungle, and even see *Dynasty* if a TV set and generator are on hand. A system is already in place in the U.S. for news cars where the vehicle’s position and direction are relayed to a navigational satellite that pinpoints its location and displays it on an electronic map on a dashboard screen. On the map, every street in the country is selectable in varying scales down to a few square blocks, with all the individual street names notated. It is now impossible to get lost, a disturbingly boring thought, not to mention a paranoid one.

In the late 20<sup>th</sup> century, the Unknown, the “other side of the mountain, so central to the structure of our thoughts, has ceased to exist in geographic spatial terms. By the early 1980’s, the entire surface of the earth had been satellite-mapped down to a resolution of 30 feet or more. This “Known” of everything creates some bizarre new models of consciousness, like the military’s computer navigation system where there is no direct sensory link to the outside world. Here, a jet rocket can travel at high velocities hugging the landscape while relying solely on information of the precise terrain and features ahead stored in the on-board computer memory, data gathered again from satellite remote sensing. Memory replaces sensory experience; a Proustian nightmare.

Space without a container is the mental world of thoughts and images. Many of the techniques of the shaman rely on gaining a masterful, uncanny control over one’s “point of view,” a realization that point of view is not necessarily synonymous with physical position. Mircea Eliade, tracing the origins of religious thought, suggests that the emergence of upright posture reorganized consciousness along the vertical axis, initiating the existence of the four cardinal directions of space (front, back, left, right, with the possible addition of two, up and down), and along with it, the privileged center, the self ego Ptolemaic focal point which it implies.<sup>6</sup> The four-walled, six-faceted room is the archetypal distillation of this mental foundation, and Brunelleschi’s perspective, an urban fabrication, further articulates it. The mind is not only confined by three-dimensional space, it creates it.

Hard walls, with their recursive enclosing reflections, are dissolving into the transparent spaces of information architecture. The same mathematics that describe an acoustically flat non-reverberant space, a “neutral” room completely void of echoes or reverberation, also describe a large expansive plain. The term “flat” is used for both situations. For Native Americans who inhabited the open plains, or the Aboriginal peoples of the Australian desert outback, there are no *acoustics* as such. Their acoustic spaces are internal.

When a man is far away down on the plain and I am on the hill, I look towards him while I am quietly talking to myself. He sees me and turns toward me. I say, “Do you hear?” I move my head from side to side glaring at him, and at last I stare at him, and then turning I say, “Come on, quickly.” As I stare at him fixedly, I see him turn as he feels my stare. He then turns and looks about while I continue staring at him. So I say, “Walk this way, right along here, where I am sitting.” Then he walks right up to me where I am sitting behind a bush. I draw him with my power (miwi). You do not see any hand signs or hear any shouting. At last he comes up and nearly falls over me, I call out so that he will see me. He says, “You talked to me and I felt it. How did you talk so?” I explain, and he adds: “I felt your words while you were talking to me, and then I feel that you are there.” I answer, “True, it was in that way that I talked to you, and you felt those words and also that power.”

Australian Aboriginal medicine man,  
as told to Ronald M. Berndt, Lower Murray River, Australia.<sup>7</sup>

As the telegraph and subsequent “wireless” communication technologies were provoked by a response to the separation of individuals over the vast spaces of the New World, so thought transference and “seeing at a distance” for the Aborigines are a manifestation of the vastness and stillness of the Australian desert. Desert solitude is an early form of visionary technology. It figures strongly in the history of religion. Individuals have used it to hear the voices of the past and future, to become “prophets,” to receive images, or for hosting the “vision quests” of the native North Americans. It seems that when all the clutter and noise of everyday life is reduced to such brutal minimalism, the usual control valves are released and images well up from within. The boundary between the software of the private interior and the hardware of the exterior landscape is blurred; their forms intermingle and converse.

Evidence of synaesthesia, the crossover between and interchangeability of the senses, had been reported in individuals since the earliest civilizations. It has been particularly evocative for artists who have dreamed of the unification of the senses, and there are many examples on art history, more recently ranging from the Russian composer Scriabin’s chromatic piano which played colors from a keyboard, to the nausea of the *son et lumiere* shows of public tourism. Visual artists have often described hearing music or sounds when they work, as composers have mentioned perceiving their music in imagistic form.



My whole imagination thrilled with images; long lost forms for which I had sought so eagerly shaped themselves ever more and more clearly into realities that lived again. There rose up soon before my mind, a whole world of figured, which revealed themselves so strangely and plastic and primitive, that, when I saw them clearly before me and heard their voices in my heart, I could not account for the almost tangible familiarity and assurance in their demeanor.

Richard Wagner<sup>8</sup>

Synaesthesia is the natural inclination of the structure of contemporary media. The material that produces music from a stereo sound system, translates the voice over the telephone, and materializes the image on a television set is, at the base level, the same. With the further implementation of digital codes to bring personal checking, buying gas, cooking with the microwave and other functions into this same domain, there will be an even more extensive common linguistic root. Efforts with artificial technology have made it necessary to distinguish between synaesthesia as an artistic theory and practice, and synaesthesia as a genuine subjective ability or involuntary condition for certain individuals. There is a natural propensity in all of us to relate sound and image. The beauty of these experiences is in their fluid language of personal imagination and in their ties to mood and moment. As long as their individual subjective nature is understood, that is, that they can never become conventional, we will be spared the tedium of the dogma and proprietary theorizing of the practitioners, from the visual musicians to the music videoists.

The free-translation between all sensory modalities however, is only the first stage towards a transcendence of the barrier between the domains of the physical body and the luminous mind. In extreme cases, this physical threshold has been crossed. E. Lucas Bridges, son of a late 19<sup>th</sup> century Christian missionary, living with an indigenous people of Tierra del Fuego, the Ona, described a vivid demonstration:

Houshken... broke into a chant and seemed to go into a trance, possessed by some spirit not his own. Drawing himself up to his full height, he took a step toward me and let his robe, his only garment, fall to the ground. He put his hands to his mouth with a most impressive gesture and brought them away again with his fists clenched and thumbs close together. He held them up to the height of my eyes, and when they were less than two feet from my face, drew them apart. I saw that there was now a small, almost opaque object between them. It was about an inch in diameter in the middle and tapered away into his hands. It might have been a piece of semitransparent dough or elastic, but whatever it was it seemed to be alive, revolving at great speed, while Houshken, apparently from muscular tension was trembling violently.

The moon was bright enough to read by as I gazed at this strange object. Houshken brought his hands further apart and the object grew more and more transparent, until, when some three inches separated his hands, I realized that it was not there any more. It did not break or burst like a bubble; it simply disappeared, having been visible to me for less than five seconds. Houshken made

no sudden movement, but slowly opened his hands and turned them over for my inspection. They looked clean and dry. He was stark naked and there was no confederate beside him. I glanced down at the snow, and, in spite of his stoicism, Houshken could not resist a chuckle, for nothing was to be seen there.<sup>9</sup>

When the first technologies of image and sound codified the functioning of the human senses into a surrogate artificial form, a tremendous and unpredictable understanding was gained of the operations of human perception. Similarly, as the implementation of the computer becomes an embodiment of mind, the new links to the “mind stuff” of digital data processing will certainly provide even more potent translation possibilities beyond basic sensory inputs. Although it is tempting to ponder a possible synaesthetic “putting back together” of science’s discrete perceptual and cognitive compartments inspired by these electronic free and fluid interchanges of our ways of seeing, what seems to be emerging at the moment is the amnesia and anaesthesia of a vast cluttered and confused landscape of image fragments, the semiotician’s field day of delights.

This condition of our contemporary media culture is hauntingly embodied in a single individual of the early 20<sup>th</sup> century, a remarkable mnemonist to whom all sensory modalities were fluidly and uncontrollably connected; who was assaulted by a barrage of images and associations remaining for hours, days, or even years; who constantly found that the distinctions between the past (memory), the present (sensate experience), and the future (fantasy) were blurred or non-existent. The great Russian brain researcher A.R. Luria conducted a thirty year study of this disturbingly prophetic character, who he simply called S.

Luria described S. as he flawlessly recited dozens of pages of text filled with everything from a narrative story to a foreign language he did not speak, complex scientific terms, or even nonsense syllables. His memory was also spatial – he could remember the positions of the individual elements on the page or blackboard in any order presented, and did so even when asked to repeat them years after the original tests. When he was a child, the imagery of school was so real that he sometimes failed to get out of bed to get ready to go. A characteristic of S.’ inner world that greatly impressed Luria was his effortless ability at synaesthesia, a fact that Luria realized was precisely the reason that he was able to perform such amazing feats of recall. S. described his procession of thoughts:

I heard a bell ringing. A small round object rolled right before my eyes... my fingers sensed something like a rope... Then I experienced a taste of salt water... and something white.

I’m sitting still in a restaurant – there’s music. You know why they have music in restaurants? Because it changes the taste of everything. If you select the right kind of music, everything tastes good. Surely people who work in restaurants know this.<sup>10</sup>

Gradually, it became impossible for S. to function:

I always experience sensations like these. When I ride in a trolley I can feel the clanging it makes in my teeth. So one time I went to buy some ice cream, thinking I'd sit there and eat it and not have this clanging. I walked over to the vendor and asked her what kind of ice cream she had. "Fruit ice cream," she said. But she answered in such a tone that a whole pile of coals, of black cinders, came bursting out of her mouth, and I couldn't bring myself to buy an ice cream after she'd answered that way.... Another thing... if I read when I eat, I have a hard time understanding what I'm reading – the taste of the food drowns out the sense.<sup>11</sup>

As he grew older, S.' inability to forget began to seriously affect his life, and he eventually quit his job and began a life of exhibiting himself as a public attraction. Luria commented on the difficulty of compiling a final report on this subject, since during sessions images would come into S.' mind that constantly slipped him out of control and he would begin to "operate automatically", becoming verbose, his mind cluttered with details and irrelevancies as he digressed endlessly. S. lived with an image stream that he couldn't turn off. Out of his possession of a super-human indelible memory he developed an overwhelming disturbing sense of everything being temporary.

If S. was ancient Geek, he might have been one of the most extraordinary individuals that the culture had ever produces. Instead, he ended up as a contemporary tragic hero, immortalized in the pages of scientific journals, his experiences sometimes reading as the vengeful curse of a bad music video director. Today, our self-created media environment offers us creative potentials previously only available to individuals with special powers. The synaesthetic possibilities in the sensory and conceptual domains are inspirational, but instead, as victims of "sane" communicators with equally "sane" imaginations, we are becoming Luria's mnemonist – overwhelmed and incapacitated by rootless images and amplified voices. It is the village "seer" we sense the absence of, not the formal structures of more efficient information management systems and professional communicators.

Artists, poets, composers, and scientists who have heard the voices know they are not mad – their work testifies to that fact. However, severe mental breakdown can be a type of occupational hazard for persons working at the boundary of commonly accepted consensus reality, a space culturally fabricated by perceptual conventions imposed by the structuring devices of language, customary behavior, and forgotten histories. Creative "madness" might simply be a disorder of history, "cured" by the passage of time, as visionary insights become the commonplace facts of culture. In all of their sessions, S. never once said that he thought himself possessed by madness. He once told Luria that until he became an adult and got his first job, he just assumed that everyone's mind functioned in exactly the same way his did.

All men are capable of having dreams and seeing visions.

William Blake

This essay was first published, in a shorter form, in the catalogue for the National Video Festival, published by The American Film Institute, Los Angeles, 1986.

It appeared as above in *Sound by Artists*, edited by Dan Lander and Micah Lexier, published by Art Metropole and Walter Phillips Gallery, 1990.

---

<sup>1</sup> Jaynes, Julian. The Origin of Consciousness in the Breakdown of the Bicameral Mind (Boston: Houghton Mifflin, Co., 1976.)

<sup>2</sup> Quoted in Campbell, Joseph, The Way of the Animal Powers (San Francisco: Harper and Row, Alfred Van Der Marck Editions, 1983.) p.163

<sup>3</sup> Described in O'Neill, John J. Prodigal Genius: The Life of Nikola Tesla (New York: Ives Washburn, Inc, 1944) pp. 159-62.

<sup>4</sup> Waters, Frank. Book of the Hopi (New York: Ballantine Books, 1963.) p.5

<sup>5</sup> Eccles, Sir John. "The Physiology of the Imagination" Scientific American, 1958.

<sup>6</sup> Eliade Mircea, A History of Religious Ideas, Vol. 1 (Chicago: University of Chicago Press, 1978.) p. 3

<sup>7</sup> Quoted in Elkin, A.P. Aboriginal Men of High Degree (St. Lucia, Australia: University of Queensland Press, 1977.) p. 45

<sup>8</sup> From Wagner, Richard. My Life (New York: Dodd and Mead, 1911.) quoted in Seashore, C.E. Psychology of Music (New York: Dover Publications, Inc., 1967 reprint of 1938 original) pp. 166-7

<sup>9</sup> Bridges, E. Lucas. The Uttermost Ends of the Earth (New York: E.P. Dutton, 1946.), quoted in Campbell, Joseph. The Way of the Animal Powers (San Francisco: Harper and Row, Alfred Ven Der March Editions, 1983.) p. 163

<sup>10</sup> Luria, A.R. The Mind of a Mnemonist (New York: Basic Books, 1968.) pp. 81-82

<sup>11</sup> *ibid*, p.159