

**From the Cyberglobal Chaosmos to the Gutenberg Galaxy: The Prehistory of
Cyberelectronic Language(s)**

Donald Theall

In the 1970s a distinguished Québécois author, multimedia artist, broadcaster, and dramatist produced a short book on the cover of which was an illustration of a figure dressed in the jersey of a Montréal Canadien hockey star, the head of which was a famous bust of Pythagoras. The author, Jacques Languirand, entitled his little book *De McLuhan à Pythagore* – (i.e., *From McLuhan to Pythagoras*). I begin at this point, for two reasons – both of which will play roles in my remarks: first, Languirand had designed one of the multi-media productions within the Man and Community theme pavilions at Expo `67 (Montreal) which has been dubbed “McLuhan’s Fair”; second and more significantly he was one of the few Québécois cultural figures of the moment who commented in a playful, offbeat book that emphasized McLuhan’s leading us back through the complex traditions of the past in order to understand “the tradition of the new”. Probably Jacques did so, because existing in the relatively small cultural complex of Montreal oriented to the past of France and Romance Europe as well as to the future of the United States and North America, he was acutely aware of the coming together of the distant past, the immediate past and the future-oriented transformations of the present at the moment when McLuhan emerged.

My title plays against the same motifs which interested Languirand in McLuhan’s work, for it points to the historical connections of the understanding of modern media with the long march from the birth of civilization in the Near East, Egypt and Greece to the period of McLuhan’s *Gutenberg Galaxy* (from the Renaissance until the twentieth century), a work which

contemporizes the medley of science, art and the occult in the world of Pythagorean virtuality.

By 1950 with the inception of electric media the *Galaxy* signals a present in which the cybernetic global theatre could be partly anticipated. It also weaves together the ways that the arts, philosophy, theology, occult traditions as proto-science and poetry contributed to understandings that were crucial to the early development of humanistically oriented studies of human communication. Two historic intellectual cultures were central as the historical work of Friedrich Kittler and James Peters confirm: first, liberal scholarship with its emphases on the arts, drama, literature, poetry and the historical and archeological study of the past; second, the near immediate history of the arts and literature from the inception of electric media in the nineteenth century to major radical and avant-garde movements of the twentieth. I will examine the second of these clusters, the avant-garde, within the context of the first, the classical and ancient as its ground.

While both of these clusters are intrinsic to those fundamental, yet implicit intuitions of McLuhan, which subsequently became a foundation of media ecology as he understood it, that which relates to the immediate past history is crucial. He never fully articulated his fleeting intuitive sense that the long term drift of electric media, from their inception in the mid-nineteenth century on through to the conclusion of the twentieth century, would be to create a totally new integrated language (oral, visual, verbal, tactile, gestural, digital) which might become more primary than speech and certainly would become more primary than print, since he never felt he could confront all its implications and he also knew that his major audiences in business and conservative academia (as distinct from the avant-garde arts and cultural production) would not understand, even if he provided a comprehensive interpretation and critique. Consequently such paradoxes as his appearing to be concerned about the death of the

book, while also appearing to speak of new roles for the printed book, realizing that there would come to be new automated intermedia productions which would constitute a new kind of book. Nevertheless his intuition was possible because he and many others intuited that the thrust of the past century and a half related to connections between electricity, telegraphy and telepathy pointed towards such integration of modes of expression, as had been hinted at late in the nineteenth century by artists such as Wagner in his conception of the “total work of art”, which has been seen in retrospect as a kind of proto-virtual reality.

The rise of the so-called avant-garde, directly connected to these theoretical, mathematical, scientific and technological phenomena, is really a coming to terms with the evolutionary (and therefore also devolutionary) aspects of the growth of cities, the taking command of mechanization, the impact of electricity and photography and the “shrinking” of the globe. To understand turbulent transformation it was necessary for those creative minds living through the experience to revisit and re-examine the modes of expression and communication. Walter Benjamin, reviewing the development of the history of modernism from Baudelaire through Dadaism and Surrealism and the emergence of “technological modes of reproducibility”, dramatized their intense interest in extending the sense of what language meant, while simultaneously associating it with the esoteric traditions of the occult, particularly the Kaballah. His ability to bridge the work of Baudelaire, of Brecht, of Kafka, of the surrealists and of new modes of technological production, reproducibility and dissemination arose from his awareness that there existed a spectrum of languages rather than any relatively limited sense of what constituted language.

While Benjamin respected the “language of man” with its propensity towards naming, he still asserted the importance of the language of things which could reach its realization through

painting, sculpture, architecture, design or the new modes of production:

There is a language of sculpture, of painting, of poetry. Just as the language of poetry is partly, if not solely, founded on the name language of man, it is very conceivable that the language of sculpture or painting is founded on certain kinds of thing language, that in them we find a translation of the language of things into an infinitely higher language, which may still be of the same sphere. We are concerned here with nameless, nonacoustic languages, languages issuing from matter; here we should recall the material community of things in their communication

Moreover, the communication of things is certainly communal in a way that grasps the world as such an unidentified whole.¹

In this essay “On Language as Such and On the Language of Man”, Benjamin notes the future importance of the convergence of languages – the blending of modes of discourse – and points out that the artists of the later nineteenth century and of the early twentieth century are the early stages of a dramatic interface with this – an anticipation of the emergence of cyberspace.

This theme of the blending of modes of discourse runs throughout the history of Dadaism and Surrealism and their aftermath, and represents a major unanticipated contribution which Marcel Duchamp and his associates made to the evolution of digital art – a contribution noted early in his career by McLuhan, who entitled his first book, *The Mechanical Bride* after Duchamp’s *Large Glass, or the Bride Stripp’d Bare by Her Bachelors*. Duchamp and other avant-garde figures became part of the pantheon of McLuhanesque media ecology, partly because they provided him with such techniques as the collage, the visual punning on cultural icons, the use of headlines and telegraphic comic aphorisms and many of his basic strategies in *The Bride*, and works like *The Medium is the Massage*, *Counterblast*, *Culture is Our Business* and *Take Today*. But even more because they were offering comic poetic insights in a variety of modes into the directions in which techno-culture was developing. It is probably through these avant-garde artists and poets that McLuhan was able to first intuit a real role for his classical education in understanding the drift of contemporary culture towards a transformation of the

book

To digress for a moment, many media ecologists, such as Walter Ong or McLuhan (even Eric Havelock) have obtained initial insights from the work of poets, and artists which fascinated them. Ong's sensitivity to orality and its complex conflicts with literacy were certainly enhanced by his fascination with Gerard Manley Hopkins, just as Shakespeare's *Lear* and Pope's *Dunciad* provided McLuhan with insights. From *Lear*, as he points out, a sense of "the anguish of the third dimension" as well as "the shift from people being translated from their having roles to having jobs"; from Pope he gleaned how "the mass distributed, printed book [was] leading to a primitivistic and Romantic revival" and how the new emerging collective unconscious was a backwash of private self-expression. From such sources also came insights about the interplay of the visual and the auditory in altering the ratio of the senses.

But the most relevant poetic insights in understanding the processes of change of the actual moment are those of contemporary or near contemporary artists, since their impact extended beyond Ong and McLuhan to other critics and historians of media. The Dadaists and other avant-gardiste, including Mallarmé mentioned earlier, became involved with the fluidity of language as manifested in its polysmy. A little known figure in this history of the pun, Jean-Pierre Brisset, who until recent years was a barely remembered figure of French intellectual life, was adopted by Jarry, Duchamp, Apollinaire and others.

Duchamp included Brisset in his "ideal library" with authors such as Mallarmé. As Hans Richter, one of the early Dadaists points out Brisset "attributed to language a sort of divine consciousness From the sound of speech and from affinities of sound he deduced a deeper divine meaning and on it based his 'Great Law, Key to Words'". In Brisset's vision and its echoes in Apollinaire, Breton, Duchamp and other Dadaists and Surrealists resides one aspect of

the roots of Joyce's *Finnegans Wake*, which became not only a text-book for McLuhan, but for writers on hypertext and VR such as J. David Bolter, Michael Joyce and Darren Tofts as well as my essays on hypermedia especially "Beyond the Orality/Literacy Dichotomy: James Joyce and the Pre-history of Cyberspace". The entire movement of the avant-garde during this period is directed towards the creation of "new languages" which could be various blends of multiplicity of different modes – gestures, sounds, images, words and their movement.

This is certainly part of what was implicit in the symboliste and avant-garde interest in Rimbaud's "alchemy of the word" – an alchemy which about five decades later has been partly co-opted by the post World War II advertising industry. This motif of "alchemy" is specifically linked by Antonin Artaud to his conceptions about the theatre, for in 1938 he links the theatre to multi-modal language and the creation of virtual realities. "The theater, which is in *no thing*, [Artaud says], but makes use of everything – gestures, sounds, words, screams, light, darkness – rediscovers itself at precisely the point where the mind requires a language to express its manifestations."² Later he points out that the theatre is "a mirage" just as the alchemical symbol is and he continues noting the perpetual allusion to the materials and principle of the theater found in alchemical books, concluding that this expresses an identity between "the purely fictitious and illusory world in which the symbols of alchemy are evolved" and "the world in which the characters, objects, images, and in a general way all that constitutes the *virtual reality* of the theater develops."³ With the coming of age of VR in the digital world during the closing decades of the second millennium, it is intriguing, to note such an anticipation of the affiliation of the "theater" as an inclusive form – a convergence of modes of communication and expression. Furthermore, Artaud concludes his essay by putting the "essential drama" at the "root of all Great Mysteries."⁴

Artaud's corroborating the twentieth century thrust towards the goal of an all encompassing language integrating a wide spectrum of modes of expression, also stresses the poetic as intrinsic to the complexities of cognition and neurology that constitute the realities of mind and the external world. In the first half of the twentieth century avant-garde movements in all of the arts were moving in the same direction – a direction which not too surprisingly anticipated the evolution of a digital world and of cognitive science that would re-establish some new links between the arts, science and technology: Artaud's "Theatre of Alchemy"; Duchamp's envisioning the "alchemy" of Rutherford's theories on radiation and later the splitting of the atom; and Joyce's making Shem the poet in and of *Finnegans Wake*, an "alchemist", whose dream vision plays with complex paronomasia and with scientific and mathematical theories from Helmholtz, Rutherford and Poincaré to Heisenberg, Planck and Gödel.

The simultaneous inter-relationship of all these writers with such motifs as linguistic ambivalence, engineering, science, the occult (such as alchemy) and the intuitive modes of daydream and vision are in many ways rooted in the histories of science itself and its connections with the histories of memory, expression and the occult. If Duchamp regarded his activity as a mode of engineering, as many other avant-garde artists did, Joyce spoke of himself as "the greatest engineer" – something he found easy to put into juxtaposition with being a musicmaker and a philosophe. Joyce, like Duchamp, regarded himself as enmeshed in the alchemy of the word, which leads to the splitting of the atom and the "etym". Linking language through etymology with atomic science, Joyce predicts the explosions and detonations of the coming world war, simultaneously noting the transformation of language itself in this new world of Rutherford's alchemy.

This linguistic alchemy – a language-oriented modality of chaos – simultaneously lays

the groundwork for the ongoing transformations of media, since it underlines the fluidity of modes of communication, linking them with transitions in science and technology. It leads to Joyce's speaking in the *Wake* of "chaomos" – the world as cosmos transformed in a multi-dimensional earth – which became a key word in later discussions in Eco, Deleuze, Guattari, Baudrillard and many others since complexity and chaos emerged as ruling theoretical principles – a phenomenon reflected throughout popular culture. Simultaneously it lays the groundwork for a growing acceptance of the quest for hypermedia, since it presents the probes which provide the linguistic fluidity and the synaesthetic consciousness that are requisite to understand the accelerating convergence of modes of expression that had earlier been intuited by film makers, photographers, typographers and many others. All of this is grounded within the satiric exposure of the ecological problems of media that permeated the work of avant-gardistes, especially Marcel Duchamp, Wyndham Lewis and James Joyce.

I am primarily using the insight gained from such associations as an exemplum of how all the arts – the traditional fine arts; what were then in the 1930s called by Gilbert Seldes the newer "lively arts"; and subsequent pop arts and media – were with varying degrees of consciousness developing a vision of newly transformed *paraoral* and *paraverbal* languages. (I am coining these terms to indicate that the new, potentially primary language would exist beyond, beside and above existing oral languages.)

A key document in this pre-history is Laszlo Moholy-Nagy's *Vision in Motion*. Along with Wyndham Lewis he was a strong influence on the early McLuhan. Moholy-Nagy invited to the U.S. to become director of the New Bauhaus ultimately became director of the Chicago Institute of Art. Within his own creative work he had explored a variety of approaches and media: photograms, painting, sculpture, design, industrial design, experimental film and writing.

He also articulated the importance of the growing inter-relation of art, technology and science in developing contemporary solutions to living in a global society.

Moholy_Nagy's basis for this project is his assertion that the primary discovery contemporary artists and poets had made is the significance of "vision in motion". In his writings he demonstrated repeatedly that painting, sculpture, architecture, music, film and contemporary poetry and creative writing along with many other artistic developments were all becoming more conscious of the ancient awareness of the arts as aspiring to reproduce "vision in motion". He also stressed that "vision in motion" had a particular relationship with the new space-time world in which everyone in the twentieth century had become immersed, and consequently with the increasing importance of electricity and electronics, all of which he specifically mentions. In this respect, Moholy-Nagy is building on the work of the Dadaists and the Cubists, but particularly Duchamp, whose *Large Glass* was so intrinsically involved with electricity, with new technologies, with the new space-time continuum and the fourth dimension. *Vision in Motion*, is, therefore, an exploration of the possibilities of an assemblage of new languages, which partly reflect his own lifelong practice as an artist, designer and teacher.

Moholy-Nagy in many ways is the pioneering founder of what led through his successors, particularly his student Gyorgy Kepes, to the M.I.T visual arts program and then to the M.I.T. Media lab with its exploration of cyberspace and the World Wide Web. He stressed the importance of linking Joyce's work to the new directions of vision in motion as well as indicating the intimate association of advertising, comics and industrial art with the avant-garde critique of media. As McLuhan realized through his study of and association with Wyndham Lewis, the early avant-garde were involved in an ecologically oriented satiric critique of the rise of new electric modes of communication. Such a critique is not intended to be purely negative,

since there is always within it a positive element of what might come to be along with a powerful comic critique. It is from this critique by the early avant-garde as well as from the perceptions of modernist poets and artists that there arose the intellectual satire of media ecology which vitiated the work of McLuhan, and then moved in differing ways into that of such successors Ong, Kroker, Baudrillard, Neil Postman, Bob Dobbs and John Cage. Beyond McLuhan and in his wake there came the pragmatic practices and critical discussions of the exploration of hypertextuality and cyberspace. These practices and discussions are beginning to provide a new ecological perspective to what Ong called “secondary orality” and what McLuhan and later Baudrillard, could see as the next transformation of the idea of the *libris*, which has moved through history from stone and papyrus to manuscripts, printed words, illustrated words and the like. As Baudrillard pointed out in a recent interview,⁵ tactility (and the ratio of all the senses) was always more crucial in the McLuhanesque understanding of media than specific biases toward the acoustic sphere or the visual range. Implicit in that transformation was an acceptance of the “chaosmic” nature of our complex cosmos, which is the context in which the new cyber-electronic language(s) is taking form. Understanding the cyberglobal chaosmos takes us back to the Gutenberg Galaxy (just as McLuhan’s work naturally led back to Pythagoras). This enables us to appreciate the complexities involved in exploring the transformations of the modes of expression and their dissemination, while also demonstrating that we have always already been moving towards our parahuman – not *posthuman* – vision of virtuality.

The reason it is important to appreciate the roots of this in the avant-garde movements and the roots of such artistic movements in the poetics and rhetoric of the ancient world is both to return to them for a deeper understanding of the problems of media ecology (or in a play on McLuhan’s ratio of the senses – an ecology of sense) and to appreciate the need to attend to and

study the mature contemporary artists and poets (particularly playing with the new hypermedia) as a guide to understanding the ecological implications of the future of the Twenty-first century. The examples of anticipation and illumination are legion, arising in visions such as Jean Luis Borges's parabolic stories on "The Library of Babel" and "The Garden of the Forking Paths" or in the cultural productions of Rauschenberg, Cunningham and Cage – but that is a tale for another time and place. What we have looked at today is the importance of realizing that there is a musical, choregraphic, visual art and poetic presence side by side with the techno-scientific in the emergence of our new cyber-electronic languages (our contemporary thrust for the para-oral and para-verbal) and that the history and current immediacy of that presence is an important aid to media ecologists.

¹ Walter Benjamin, *Reflections*, 330.

² Antonin Artaud, *The Theater and its Double*. Tr. Mary Caroline Richards. (NY: Grove Press, 1958, 12. Originally published in France in 1938.

³ Artaud, 49.

⁴ Artaud 51.

⁵ Jean Baudrillard