While McLuhan's theories can be applied to the computer in its manipulations of different media or in its appearance as a new medium, the shift he described from book culture to a culture of electronic media, has certainly taken place already. Looking at McLuhan's explorations, although they are directed at earlier types of "new media," to some extent, in understanding our future transitions from analog to digital media. Even if McLuhan's extrapolations to accept such complete is not persuasive, it certainly makes sense at times to consider the medium in its own. Besides reminding us of the excitement of transitional times and providing us with useful and powerful ideas for thinking about our media environment. McLuhan also shows us, by example, another significant point: it is important to have fun and to explore new ways of thinking, a bit richer than always asserting, arguing, and setting the new into old categories—and it helps to not take yourself too seriously.

—NM

McLuhan's influence remains strong in today's media writing, among enthusiasts of new media and those who are less likely about his pros and cons. Neil Postman, for instance, writes in "Amazing Ourselves to Death," that he is "amusingly and bitterly about the most significant American cultural fact of the second half of the twentieth century: the decline of the Age of Typography and the ascendency of the Age of Television." This change-over has dramatically shifted the content and meaning of public discourse, since new media so vastly different cannot accommodate the same (old school)… If all of this sounds suspiciously like Marshall McLuhan's aphorism, the medium is the message, I will not dismiss the accusation…. As Neil Postman in his book "Amusing Ourselves to Death," that is, as a proposition, or I have realized nonetheless his teaching that the clearest way to see through a culture is to attend to its tools for communication." By

Further Reading

Original Publication

The Galaxy
Reconfigured or the Plight of Mass Man in an Individualistic Society
Marshall McLuhan

The present volume has employed a mosaic pattern of reference and observation up till now. William Blake can provide the explanation and justification of this procedure. Jerusalem, like so much of his other poetry, is concerned with the changing patterns of human perception. Book II chapter 34, of the poem contains the pervasive theme.

If Perpetuity were ever, Objects of Perception seem to vary.
If the Perceptual Organ close, their Objects seem to close also.

Determined as he was to explain the causes and effects of psychic change, both personal and social, he arrived long before the theme of The Gutenberg Galaxy.

The Seven Virtues fall before him, they became what they beheld.
Blake makes quite explicit that when space ratio changes, then change. Sense ratios change when any one sense or bodily mental function is externalized in technological form.

The Spectrum is the Reasoning Power in Man, & when separated.
From Imagination and closing itself as in wind in a Rain
Of The things of Memory, it then frames Laws & Moods
To destroy Imagination, the Divine Body by

Martyrdoms & Wars.
Imagination is that ratio among the perceptions and facilities which exists when they are not embedded or cornered in material technologies. When no outer, such sense and faculty becomes a closed system. Prior to such outering there is an entire interplay among experiences. This interplay or synthesis is a kind of facility such as Blake sought in the bending line of sculptural form and in engraving.

When the perverse ingenuity of man has outered some part of his being in material technology, his entire sense ratio is altered. He is then suspended to behold this fragment of himself "clothing itself as in steel." In beholding this new thing, man is compelled to become it. Such was the origin of lineal, fragmented analysis with its somnolent power of homogenization.

The Reincarnation Spectre Stands between the Vegetative Man & the Immortal Imagination.

Blake's diagnosis of the problem of his age was, his Popes in 1790 a direct confrontation of the forces shaping human perception. That he sought mythical form by which to under his vision was both necessary and intellectual. For myth is the mode of simultaneous awareness of a complex group of causes and effects. In an age of fragmented, local awareness, such a produced and was in turn greatly exaggerated by Gutenberg technology, mythological vision remains quite opaque. The Romantic poets fell far short of Blake's mythical vision. They were faithful to Newton's single vision and perfected the picturesque outer landscape as a mask of isolating single states of the inner life.

It is instructive for the history of human sensibility to note how the popular vogue of the Gothic romance in Blake's time later unfolded into a serious esthetic with Ruskin and the French Symbolists. This Gothic taste, tincture and ridiculous as it first appeared to serious people was yet a confirmation of Blake's diagnosis of the defects and needs of his age. It was itself a pre-Raphaelite or pre-Gutenburian quest for a unified mode of perception. In Modern Painters (vol. III, p. 91) Ruskin states the matter in a way which entirely dissociates Gothic mediocrity from any historical concern about the Middle Ages. He states the matter in a way that won him the serious interest of Rimbaud and Dostoevsky.

A fine grotesque is the expression, in a moment, by a series of symbols thrown together in bold and fearless connection, of truth which it would have taken a long time to express in any verbal way, and of which the connection is left for the beholder to work out for himself: the gaps left or overlapped by the haste of the imagination forming the grotesque character.

For Ruskin, Gothic appeared as an indispensable means of breaking open the closed system of perception that Blake spent his life describing and fighting. Ruskin proceeds (p. 96) to explain Gothic grotesque as the best way of ending the regime of Renaissance perspective and single vision or realism: it is with a view (not the least important among many others being shown upon art) to the rekindling of that great field of human intelligence, long esteemed closed, that I am straining to introduce Gothic architecture into daily domestic use and to revive that of illumination, properly so called, not the art of miniature painting in books, or on vellum, which has ridiculously been confused with it, but of making writing, simple writing, beautiful to the eye, by associating it with the gray cloud of perfect colour, blue, purple, scarlet, white, and gold, and as that cloud of colour, permitting the continual play of the fancy of the writer in every species of grotesque imagination, carefully excluding shadow, the distinctive difference between illumination and painting proper, being, that illumination admits no shadow, has only gradations of pure colour.

The student of Rimbaud will find that it was while reading this part of Ruskin that Rimbaud found his title for Illuminations. The technique of vision in the illuminations or painted slides, (as Ruskin called them, in English, on his title page) is exactly as Ruskin delineates the grotesque. But even Joyce's Ulysses finds anticipatory designation in the same context:

Hence it is an infinite good to mankind when there is full acceptance of the grotesque, slightly scratched or expressed, and if for such expression be frankly granted, an enormous strain of intellectual power is turned to everlasting use, which, in the present century of ours, experiences in inventions of skillful, or in daily talk, (like foam on wine), which in the thirteenth and fourteenth centuries had a permanent and useful expression in the arts of sculpture and illumination, like foam fixed into chalices.

Joyce, that is to say, also accepted the grotesque as a mode of broken or syncopated manipulation to permit idiomatic or simultaneous perception of a total and diversified field. Such, indeed, is symbolism by definition—a collocation, a rearrangement of components representing insight by carefully established
13. Two by McLuhan

typo, but without a point of view or linear connection or sequential order.

Nothing, therefore, could be more remote from Joyce's natures than the aim of pictorial realism. Indeed, he uses such realism and such Gutenberg technology as part of his symbolism. For example, in the seventh or Andalus episode of Gatsby the technology of the newspaper is made the occasion for introducing all of the nine hundred and more rhetorical figures specified by Quintilian in his Institutes of Oratory. The figures of classical rhetoric are archetypes or postures of individual minds. Joyce by means of the modern press translates them into archetypes or postures of collective consciousness. He breaches the closed system of classical rhetoric at the same time that he cuts into the closed system of newspaper communciation. Symbolism is a kind of witty jolt, a consummation of Ruskin's aspirations for the grotesque that would shock him a good deal. But it proved to be the only way out of "single vision and Newton's sleep."

Blake had the insight but not the technical resources for rendering his vision. Pictorially, it was not through the book but through the development of the mass press, especially the telegraphic press, that these found the artistic keys to the world of simultaneity, or of modern myth. It was in the format of the daily press that Rimbaud and Mallarmé discovered the means of rendering the interplay of all the functions of what Coleridge called the "exemplaristic" imagination. For the popular press offered an single vision, no point of view, but a mosaic, of the postures of the collective consciousness, as Mallarmé proclaimed. Yet these models of collective or tribal consciousness proliferating in the telegraphic (simultaneous) press, remain uncongenial and opaque to the bookmen locked in "single vision and Newton's sleep."

The principal ideas of the eighteenth century were so crude as to seem confined to the ways of the time. The great chain of being was its way as comical as the chains which Rousseau proclaimed in his Social Contract. Equally inadquate is an idea of order was the merely visual notion of goodness as a sublime: "The beauty of all possible worlds" was merely a quantitative idea of a bag crammed to the utmost with goodies—an idea which hunked still in the infancy world of R. 1. Stevenson. ("The world is so full of a number of things.") But in J. S. Mill's Liberty the quantitative idea of truth as an Ideal container packed with every possible opinion and point of view created mental anguish. For the suppression of any possible impact of truth, any valid angle might weaken the whole structure. In fact, the situation the abstract visual mask as standards of truth the mere matching of object with object. So unconscious were people of this matching theory as being dominant, that when a Pope or a Blake pointed out that truth is a ratio between the mind and things, a ratio made by the shaping imagination, there was nobody to note or comprehend. Mechanical matching, not imaginative making, will rule in the arts and sciences, in politics and education, until our own time. Earlier, in presenting Pope's prophetic vision of the return of tribal or collective consciousness, the relation to Joyce's Finnegan's Wake had been indicated. Joyce had devised for Western man individual pieces keys to the collective consciousness, as he declared on the last page of the Wake. He knew that he had solved the dilemma of Western individual man faced with the collective or tribal consequences of first his Gutenberg, and next his Mickey, technologies. Pope had seen the tribal consciousness keys in the new mass media of the book-trade. Language and the arts would cease to be private agents of critical perception and become more packaging devices for relaying a spate of verbal commodities. Blake and the Romanticists and the Victorians alike become obsessed with the act of translation of Pope's vision in the new organization of an individual economy embedded in a self-regulating system of land labor, and capital. The Newtonian laws of mechanics, latent in Gutenberg typography, were translated by Adam Smith to govern the laws of production and consumption. In accordance with Pope's prediction of automatic center or "Robots center., Smith declared that the mechanized laws of the economy apply equally to the things of the mind. In opaque and commercial societies to think or to reason comes to be like every other employment, a particular business, which is carried on by a very few people, who furnish the public with all the thought and reason possessed by the vast multitude that labour."

Adam Smith is always faithful to the fixed visual point of view and its corresponding division of labor and functions. But in this passage Smith does not seem to sense that the new role of the intellectual is to tap the collective consciousness of "the vast multitude that labour." That is to say, the intellectual is no longer to direct individual perception and judgments but to explore and to commmunicate
the sense of consciousness—of collective man. The
intellectual is nearly lost in the role of a primitive seer, sage, 
or even ignorantly peddling his discoveries in a commercial market. If Adam Smith was reluctant to push his view to the point of the transcendental imagination, Blake and the Romantics felt no qualms but turned literature over to the transcendental arm. Henceforth, literature will be at
itself and with the social mechanics of conscious
good and motivation. For the matter of literary vision will
be imitative and mythical while the forms of literary
expression and communication will be individualist,
segmental, and mechanical. The vision will be tribal and
collective, the expression private and marketable. This
dilemma continues to the present to rend the individual
Western consciousness. Western man knows that his values and
principles are the product of literacy. Yet the very means of
producing those values, technologically, seem to deny and
remake them. Whereas Pope fully faced up to this dilemma in
The Dunciad, Blake and the Romantics tended to devote
themselves to one side of it, the mythic and collective. J. S.
Hill, Matthew Arnold, and a great many others denounced
them in the other side of the dilemma, the problem of
individual culture and liberty in an age of mass culture. But
another side has its meaning alone, nor can the causes of the
dilemma be found anywhere but in the total galaxy of events
consistent with literature and Gutenberg technology. Our
liberation from the dilemma may, as Joyce felt, come from
the new electric technology with its profound organic
damage. For electricity puts the mythic or collective
dimension of human experience fully into the conscious
race-a-day world. Such is the meaning of the title Pioneers
Here. While the old Finn cycles had been trivially entrenched
in the collective might of the unconscious, the new Finn cycle
didly interpenetrated must be lived in the daylight
dreams of consciousness.
In this point, The Great Transformation by Karl Polanyi, on
“the political and economic origins of war time,” assumes
complete relevance in the milieu of The Gutenberg Galaxy.
Poisedly concerned with the stages by which the
Newtonian mechanics invaded and transformed society in
the eighteenth and nineteenth centuries, only to encounter a
new dynamic from within. His analysis of how prior to
the eighteenth century the economic system was absorbed in
the social system is exactly parallel by the situation of
man and the arts up till that time. This was true till the
time of Droysen, Pope, and Swift, who tried to detect the
great transformation. Polanyi enables us (p. 60) to face the
familiar Gutenberg principle of practical advance and utility
by separation of forms and functions:
As a rule, the economic system was absorbed in the
social system, and whatever principle of behavior
proliferated in the economy, the prevent of the
market pattern was found to be comparable with it. The
principle of barter or exchange, which underlies the
pattern, revealed no tendency to expand at the expense of the
text. Where markets were most highly developed, as under the
mercantile system, they threw under the control of a centralized administration which fostered
immensely in the households of the peasantry and in
respect to national life. Regulation and markets, in effect, grew up together. The self-regulating market was
unknown; indeed the emergence of the idea of self-regulation was a complete reversal of the trend of
development.
The principle of self-regulation repeating by reverberation
from the Newtonian sphere swiftly entered all the social
spheres. It is in the principle that Pope mocked in “whatever is
in sight” and that Swift ridiculed in “the mechanical
operation of the Spirit.” It derives from a merely visionary image
of an uninterrupted chain of Being or a visual phenom of the
good as “the best of all possible worlds.” Granted the merely
visual assumptions of linear causality or of sequential
dependence, the principle of man-interference in the natural
order becomes the paradoxical conclusion of applied
knowledge.
Through the sixteenth and seventeenth centuries the
transformation of mechanism by crafts by the application of visual method had proceeded slowly. But it was
a procedure of minimal interference with existing non-
visual modes. By the eighteenth century the pressure of
applied knowledge had reached such a momentum that it
became accepted as a natural process which must not be
impeded save at the peril of greater evil “all partial evil
universally good.” Polanyi notes (p. 69) this automation of consciousness as follows:
A further group of assumptions follows in respect to the
laws and its policy. Nothing must be allowed to interfere
the formation of markets, nor must incomes be permitted to be
formed otherwise than through sales. Neither must there be any interference with the
enforcement of prices to changed market conditions—
whether the prizes are those of goods, labor, land, or money. Hence there must not only be markets for all elements of industry, but no measure of policy must be consonant which would influence the action of these markets. Neither price, nor supply, nor demand must be fixed or regular; only such policies and measures are in order which help to ensure the self-regulation of the market by creating conditions which make the market the only organizing power in the economic sphere.

The assumptions latent in typographic segmentation, and in applied knowledge by the method of fragmenting of crafts and the specializing of social tasks, these assumptions were the most acceptable in the degree that typography enlarged its markets. The same assumptions provided over the formation of Newtonian space and time and mechanics. So literature, industry, and economics were easily accommodated within the Newtonian sphere. Those who questioned these assumptions were simply denying the facts of science. Now that Newton is no longer synonymous with science, we can meditate on the dilemmas of the self-regulating economy and the bedoiocentric calculus with light hearts and clear heads. But eighteenth century man was locked into a closed visual system that had enveloped him he knew not how. So he proceeded, robot-centred, to carry out the heuristics of the new vision.

However, in 1799 Bishop Berkeley had published A New Theory of Vision, which revealed the top-sides assumptions of Newtonian optics. Blake, at least, had understood the Berkeleyan critique and had restored faciity to its prime role as agent of unified perception. Today artists and scientists alike concur in praising Berkeley. But his wisdom was lost on his age that was wrapped in "single vision and Newton's sleep." The hypnotized patient carried out the heuristics of the abstract visual control. Polanyi observes (p. 71):

A self-regulating market demands nothing less than the institutional separation of society into an economic and political sphere. Such a dichotomy is, in effect, merely the restatement, from the point of view of society as a whole, of the existence of a self-regulating market. It might be argued that the separateness of the two spheres obtains in every type of society at all times. Such an inference, however, would be based on a fallacy. That no society can exist without a system of some kind which ensures order in the production and distribution of goods. But that does not imply the existence of separate economic institutions; normally, the economic order is merely a function of the social, in which it is contained. Neither under tribal, nor feudal, nor modern productive conditions was there as we have shown, a separate economic system in society. Nineteenth century society, in which economic activity was isolated and impinged on by a distinctive economic motive, was, indeed, a singular departure.

Such an institutional pattern could not function unless society was somehow subordinated to its requirements. A market economy can exist only in a market society. We reach this conclusion on a ground on the analysis of the market pattern. We can now specify the reasons for this assertion. A market economy must comprise all elements of industry, including labor, land and money. (In a market economy the last also is an essential element of industrial life, and its inclusion in the market mechanism has, as we will see, far-reaching institutional consequences.) But labor and land are no other than the human beings themselves of which every society consists and the social institutions in which it exists. To include them in the market mechanism means to subordinate the substance of society itself to the laws of the market.

A market economy "can exist only in a market society." But to exist, a market society requires centuries of transformation by Gutenberg technology, hence the absurdity in the present time of trying to institute market economies in countries like Russia or Hungary, where feudal conditions endured until the twentieth century. It is possible to set up modern productive in such areas, but to create a market economy that can handle what comes off the assembly lines presupposes a long period of psychic transformation, which is to say, a period of altering perception and sense ratios.

When a society is enclosed within a particular fixed sense ratios, it is quite unable to envisage another state of affairs. Thus, the advent of nationalism was quite unforeseen in the Renaissance, although its causes arrived earlier. The Industrial Revolution was well on the way in 1795, yet, as Polanyi points out (p. 89):

. . . the generation of Speedhamland was unaccustomed of what was on its way. On the eve of the greatest industrial revolution in history, no signs and portents were forthcoming. Capitalism arrived unannounced. No one had forecast the development of a machine industry. It came as a complete surprise. For some time England had been actually expecting a permanent recession of foreign trade when the dam burst, and the
old world was swept away in one indomitable surge towards a planetary economy.

That every generation poised on the edge of massive change should later seem oblivious of the issues and the imminent event would seem to be natural enough. It is necessary to understand the power and threat of technologies to isolate the senses and thus to hypotize society. The formula for hypotizing is “one sense at a time.” New technology possesses the power to hypotize because it isolates the senses. Then, as McLuhan notes, “They became what they beheld.” Every new technology thus diminishes sense interplay and consciousness, precisely in the new area of novelty where a kind of identification of viewer and object occurs. This simultaneity conferring of behavior to the new form or structure renders those most deeply immersed in a revolution the least aware of its dynamics. What McLuhan observes about the invention of those involved in the expediting of the new machine industry is typical of all the local and contemporary attitudes toward revolution. It is felt, at those times, that the future will be larger or greatly improved versions of the immediate past. And before revolutions the image of the immediate past is stark and form, perhaps because it is the only area of sense interplay free from obsessional identification with new technological form.

No more extreme instance of this delusion could be mentioned than our present image of TV as a current extension of the mechanical, movie pattern of processing experience by repetition. A few decades hence it will be easy to describe the revolution in human perception and behavior that resulted from the birth of the new medium of the TV image. Today it is futile to discuss it at all. Looking back to the revolution in literary forms in the late eighteenth century, Raymond Williams writes in Culture and Society 1780–1950 (p. 42) that “changes in convention only occur when there are radical changes in the general structure of feeling.” Again, “while in one sense the market were simply the artist, artists themselves were seeking to generalize their skill into the common property of imaginative truth.” (p. 43) This can be seen in the Romantics discovering their ability to talk to conscious men, begin by myth and symbol to address the unconscious levels of dream life. The imaginative reunion with tribal man was simply a voluntary strategy of culture.

One of the most radical of new literary conventions of the modern society of the eighteenth century was the novel. It had been preceded by the discovery of “equation prose.” Addison and Steele, as much as anybody else, had devised this newfangled of maintaining a single consistent tone to the reader. It was the rhetorical equivalent of the mechanically fixed view in vision. Mysteriously, it is this break-through into equational prose which suddenly enabled the more author to become a ‘man of letters.’ He could abandon his patron and approach the large homogenized public of a market society in a consistent and compliant role. So that with both sight and sound given homogenious treatment, the writer was able to approach the mass public. What he had to offer the public was equally a homogeniated body of common experience such as the movie finally took over from the novel. Dr. Johnson devoted his Rambler no. 4 (March 31, 1750) to this theme:

The works of fiction, with which the present generation seems more particularly delighted, are such as exhibit life in its true state, diversified only by accidents that daily happen in the world, and influenced by passions and qualities which are really to be found in conversing with mankind.

Johnson shrewdly notes the consequences of this new form of social realism, indicating its basic deviation from the forms of book learning:

The task of our present writers is very different; it requires, together with that learning which is to be gained from books, that experience which can never be attained by solitary diligence, but must arise from general converse and accurate observation of the living world. Their performances have, as Horace expresses it, plus societatis sententiae visum, little indifference, and therefore more difficulty. They are engaged in portraits of which every one knows the original, and can detect any deviation from exactness of resemblance. Other writings are sense, except from the malice of learning, but these are in danger from every common reader, as the deeper ill excused was convicted by a shoemaker who happened to step in his way at the Urnas of Apelles.

Johnson continues in this vein, pointing out further rivalries between the new novel and the older modes of book-learning.

In the romances formerly written, every transaction and sentiment was so remote from all that passed among...
man, that the reader was in very little danger of making any applications to himself: the virtues and crimes were equally beyond the sphere of activity and the author himself with heroes and with villains, delibera and per-
secution, as with beings of another species, whose actions were regulated upon motives of their own, and who had neither faults nor exorcisms in common with himself.

But when an adventurer is levelled with the rest of the world, and acts in such scenes of the universal drama, as may be the lot of any other man, young spectators fix their eyes upon him with closer attention, and hope, by observing his behaviour and success, to regulate their own practices, when they shall be engaged in the like part.

For this reason these familiar histories may perhaps be made of greater use than the sublimities of profound morality, and convey the knowledge of vice and virtue with more efficacy than axioms and definitions.

Quite parallel with this extension of the book-page into the form of a talking picture of ordinary life, was what Leo Lowenthal mentions in Popular Culture and Society (p. 75) as "the crucial shift from Patron to Public," citing the testimony of Oliver Goldsmith's 1759 Enquiry into the Present State of Polite Learning in Europe:

"At present the few parts of England no longer depend on the Great for subsistence, they have none no other patrons but the public, and the public, collectively considered, is a good and generous master. A writer of real merit now may easily be rich if his heart be set only on fortune, and for those who have no merit, it is but fit that such should remain in mental obscurity.

Leo Lowenthal's study of popular literary culture is not only concerned with the eighteenth century and after, but studies the dilemma of diction and salvation through art from Montaigne and Pascal to modern magazine iconology. In pointing out how Goldsmith made a great change in criticism by shifting attention to the experience of the reader, Lowenthal has broken rich new ground (pp. 107-8).

But perhaps the most far-reaching change which took place in the concept of the critic was that a two-way function was presumed for him. Not only was he to reveal the beauties of literary works to the general public, by means of which, in Goldsmith's terms, "even the philosopher may acquire popular applause," he must also interpret the public back to the writer. In brief, the critic not only "teaches the vulgar on what part of a character to lay the emphasis of praise," but must also "show the scholar where to plant his applications so as to deserve it." Goldsmith believed that the absence of such critical mediators explained why wealth rather than true literary fame was the goal of so many writers. The result, he feared, might be that nothing would be remembered of the literary works of his time.

We have observed that Goldsmith, in his endeavors to come to grips with the dilemma of the writer, represented a variety of sometimes conflicting views. We have seen, however, that it was likely to be Goldsmith in his optimistic rather than in his pessimistic vein who set the tone for what was to come. So, too, his "ideal critic," of his function as "guide and mediator between the author and the writer, so as to reveal the work, writers, and philosophers..." is still adopted Goldsmith's premise as they began to analyze the experience of the reader.

As the market society defined itself, literature moved into the role of consumer commodity. The public became patron.

Art reversed its role from guide for perception into convenient amenity or package. But the producer or artist was compelled, as never before, to study the effect of his art. This in turn revealed to human attention new dimensions of the function of art. As manipulators of the mass market tyrannized over the artist, the artist in isolation achieved new clarity concerning the crucial role of design and of art as a means to human order and fulfillment. Art has become as total in its mandate for human order as the mass markets that created the plateau from which all can now share the awareness of new scope and potential for everyday beauty and order in all aspects of life at once. Respectively, it may well prove necessary to conceive of the period of mass marketing the creation of the means of a world order in beauty as much as in commodities.

It is quite easy to establish the fact that the same means that served to create the world of consumer abundance by mass production served also to put the highest level of artistic production on a new basis of mass-produced, continuously controlled basis. And, as usual, when some previously opaque area becomes translucent, it is because we have moved into another phase from which we can contemplate the contours of the preceding situation with ease and clarity. It is the fact that makes it feasible to write The Gutenberg Galaxy at all, as
we experience the new electronic and organic age with ever
more significant indications of its main outlines, the preceding
mechanical age becomes quite intelligible. Now that the
information age prevails over the new patterns of
communication, synchronised by electric tape, the miracles of
mass production assume entire intelligibility. But the
number of automations, creating weakness and propertyless
communities, envelop us in new unconsciousness.

A most fascinating passage of A. N. Whitehead's classic
'Someone the Modern World' (p. 141) is one that was
discussed previously in another connection.

The great invention of the nineteenth century was the
invention of the method of invention. A new
method spread into life. In order to understand our
myth, we can neglect all the details of change, such as
railways, telegraphic codes, signing machines, synthetic
dyes. We must concentrate on the method in itself, that
is the mid-century, which has broken up the foundations
of the old tradition. The prophecy of Francis Bacon
has been fulfilled, and man, who in serious distress of
himself is a little lower than the angels, has submitted to
become the suspect and the minister of nature. It still
remains to be seen whether the same way can play
both parts.

Whitehead is right in insisting that 'we must concentrate
on the method itself.' It was the Gutenberg method of
heterogeneous invention, for which centuries of
phenomenal literacy had prepared the psychological ground,
that evaded the truth of the modern world. The numerous
glory of events and products of that method of
mechanization of handicrafts, are merely incidental to the
method itself. It is the method of the fixed or specialist
point of view that insist on repetition as the criterion of
truth and practicality. Today our science and method strive
not towards a point of view but to discover how not to have
a point of view, the method not of closure and perspective
but of the open 'field' and the suspended judgment. Such is
now the only viable method under electric conditions of
unintelligent information movement and total human
interdependence.

Whitehead does not elaborate on the great nineteenth-
century discovery of the method of invention. But it is
quite aptly the technique of beginning at the end of any
operation whatever, and of working backwards from that
point to the beginning. It is the method inherent in the
Gutenberg technique of homogeneous segmentation, but not
till the nineteenth century was the method extended from
production to consumption. Planned production means that
the total process must be worked out in its exact stages,
backwards, like a detective story. The first great age of
mass production of commodities, and of literature as a commodity
for the market, it became necessary to study the consumer's
experience. In a way it became necessary to examine the
effect of art and literature before producing anything at all.
This is the literal entrance to the world of myth.

It was Edgar Allan Poe who first worked out the rationale
of this alternate awareness of the poetic process and who saw
that instead of directing the work to the reader, it was
necessary to incorporate the reader in the work. Such was his
plan in 'the philosophy of composition.' And Baudelaire and
Valery, at least, recognized in Poe a man of the Leonardo da
Vinci stature. Poe saw plainly that the anticipation of effect
was the only way to achieve organic control for the creative
process. T. S. Eliot, like Baudelaire and Valery, gave his entire
attention to Paris's discovery. In a celebrated passage of his
essay on 'Hamlet,' he writes:

The only way of expressing emotion in the fifth, of art is
by finding an 'objective correlative'; in other words, a set
of objects, a situation, a chain of events which shall be
the formula of that particular emotion; such that when
the external facts, which must themselves in memory
experience, are given, the emotion is immediately
repreciated. If you examine any of Shakespeare's more
successful tragedies, you will find that the signs of mind of Lady Macbeth
walking in her sleep has been communicated to you by a
skilled incantation of fragmented impressions, the words of Murder on hearing of her son's death
strike us as if, given the intensity of these events, these
words were automatically achieved by the last event in the
verse.

For Poe this method to work in many of his poems and
stories. But it is most obvious in his invention of the
detective story in which Dupin, his sleuth, is an artist-esthete
who solves crimes by a method of artistic perception. Not
only is the detective story the great popular instance of
working backwards from effect to cause, it is also the form
in which the reader is deeply involved as co-author. Such is also
the case in symbolist poetry whose completion of effect from
moment to moment requires the reader to participate in the
poetic process itself.
It is a characteristic chiasmus that waits upon the utmost development of any process that the last phase shall show characteristics opposite to the early phases. A typical example of massive psychic chiasmus or reversal occurred when Western man fought the hardline for individuality as he reassembled the idea of unique personal existence. The nineteenth century artists made a man surrender of that unique selfhood, that had been taken for granted in the eighteenth century, as the new mass pressios made the hardness of selfhood too heavy. Just as Mill fought for individuality even though he had given up the self, the poets and artists moved towards the idea of impersonal process in art production in proportion as they berated the new masses for impersonal process in the consumption of art products. A similar and related reversal or chiasmus occurred when the consumer of popular art was invited by new art forms to become a participant in the art process itself.

This was the moment of transcendence of the Gutenberg technology. The centuries-old separation of senses and functions ended in a quite unsuspected unity. The revival by which the presence of the new markets and the new masses encouraged the artist to surrender the unique self might have seemed a final consummation for art and technology alike. It was a surrender made almost inevitable when the symbolists began to work backwards from effect to cause in the shaping of the art product. Yet it was not at this extreme moment that a new reversal occurred. The art process had no sooner approached the rigorous, impersonal routine of the industrial process, in the period from Poe to Valery, than the assembly line of symbolist art was transformed into the new "stream of consciousness" mode of presentation. And the stream of consciousness is an open, "fluid" perception that reverses all aspects of the nineteenth-century discovery of the assembly-line or of the "technique" of invention. As G. H. Bantock writes of it:

"In a world of increasing socialization, standardization, and uniformity, the art was to assert uniqueness, the purely personal in experience in one of "mechanical" rationality or "assert other meaning through which human beings can express themselves, to use life as a series of emotional intensities involving a logic different from the new media of this world, not even in the form of differentiated images or streams of consciousness meetings."

Thus the technique of the suspended judgment, the great discovery of the twentieth century in art and physics alike, is a recall and transformation of the impersonal assembly line of nineteenth-century art and science. And to speak of the stream of consciousness as unlike the rational world is merely to insist upon visual sense as the rational norm, handling art sense to the unconscious quite gratuitously. For what is meant by the irrational and the non-rational in much modern discussion is merely the rediscovery of the ordinary transactions between the self and the world, or between subject and object. Such transactions had seemed to end with the effects of phonetic literacy in the Greek world. Literacy had made of the enlightened individual a closed system, and set up a gap between appearance and reality which ended with such discoveries as the stream of consciousness. As Joyce expressed it in the Wake, "My consumers are they not my producers?" Consistently the twentieth century has worked to free itself from the conditions of passivity, which is to say, from the Gutenberg heritage itself. And this dramatic struggle of viable models of human insight and outlook has resulted in the greatest of all human arts, whether in the arts or in the sciences. We are living in a period richer and more terrible than the "Shakespearean Moment" so well described by Nelson Glascott in his book of the same title. But it has been the business of The Gutenberg Galaxy to examine only the mechanical technology emergent from our alphabet and the printing press. What will be the new configurations of mechanisms and of literary as these older forms of perception and judgment are reinterpreted by the new electric age? The new electric galaxy of events has already moved deeply into the Gutenberg galaxy. Even without collision, each co-evolution of technologies and awareness brings trauma and tension to every being person. Our most ordinary and conventional attitudes seem suddenly twisted into gargoyles and grotesques. Familiar institutions and associations seem a times menacing and malignant. These multiple transformations which are the normal consequence of introducing new media into any society whatever, need special study and will be the subject of another volume on Understanding Media in the world of our time.
II. Collective Media, Personal Media

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