

2/Media Hot and Cold

"The rise of the waltz," explained Curt Sachs in the *World History of the Dance*, "was a result of that longing for truth, simplicity, closeness to nature, and primitivism, which the last two-thirds of the eighteenth century fulfilled." In the century of jazz we are likely to overlook the emergence of the waltz as a hot and explosive human expression that broke through the formal feudal barriers of courtly and choral dance styles.

There is a basic principle that distinguishes a hot medium like radio from a cool one like the telephone, or a hot medium like the movie from a cool one like TV. A hot medium is one that extends one single sense in "high definition." High definition is the state of being well filled with data. A photograph is, visually, "high definition." A cartoon is "low definition," simply because very little visual information is provided. Telephone is a cool medium, or one of low definition, because the ear is given a meager amount of information. And speech is a cool medium of low definition, because so little is given and so much has to be filled in by the listener. On the other hand, hot media do not leave so much to be filled in or completed by the audience. Hot media are, therefore, low in participation, and cool media are high in participation or completion by the audience. Naturally, therefore, a hot medium like radio has very different effects on the user from a cool medium like the telephone.

A cool medium like hieroglyphic or ideogrammic written characters has very different effects from the hot and explosive medium of the phonetic alphabet. The alphabet, when pushed to a high degree of abstract visual intensity, became typography. The printed word with its specialist intensity burst the bonds of medieval corporate guilds and monasteries, creating extreme individualist patterns of enterprise and monopoly. But the typical reversal occurred when extremes of monopoly brought back the corporation, with its impersonal

empire over many lives. The hotting-up of the medium of writing to repeatable print intensity led to nationalism and the religious wars of the sixteenth century. The heavy and unwieldy media, such as stone, are time binders. Used for writing, they are very cool indeed, and serve to unify the ages; whereas paper is a hot medium that serves to unify spaces horizontally, both in political and entertainment empires.

Any hot medium allows of less participation than a cool one, as a lecture makes for less participation than a seminar, and a book for less than dialogue. With print many earlier forms were excluded from life and art, and many were given strange new intensity. But our own time is crowded with examples of the principle that the hot form excludes, and the cool one includes. When ballerinas began to dance on their toes a century ago, it was felt that the art of the ballet had acquired a new "spirituality." With this new intensity, male figures were excluded from ballet. The role of women had also become fragmented with the advent of industrial specialism and the explosion of home functions into laundries, bakeries, and hospitals on the periphery of the community. Intensity or high definition engenders specialism and fragmentation in living as in entertainment, which explains why any intense experience must be "forgotten," "censored," and reduced to a very cool state before it can be "learned" or assimilated. The Freudian "censor" is less of a moral function than an indispensable condition of learning. Were we to accept fully and directly every shock to our various structures of awareness, we would soon be nervous wrecks, doing double-takes and pressing panic buttons every minute. The "censor" protects our central system of values, as it does our physical nervous system by simply cooling off the onset of experience a great deal. For many people, this cooling system brings on a life-long state of psychic *rigor mortis*, or of somnambulism, particularly observable in periods of new technology.

An example of the disruptive impact of a hot technology succeeding a cool one is given by Robert Theobald in *The Rich and the Poor*. When Australian natives were given steel axes by the missionaries, their culture, based on the stone axe, collapsed. The stone axe had not only been scarce but had always been a basic status symbol of male importance. The missionaries provided quantities of sharp steel axes and gave them to women and children. The men had even to borrow these from the women, causing a collapse of male dignity. A tribal and feudal hierarchy of traditional kind collapses quickly when it meets any hot medium of the mechanical, uniform,

and repetitive kind. The medium of money or wheel or writing, or any other form of specialist speedup of exchange and information, will serve to fragment a tribal structure. Similarly, a very much greater speed-up, such as occurs with electricity, may serve to restore a tribal pattern of intense involvement such as took place with the introduction of radio in Europe, and is now tending to happen as a result of TV in America. Specialist technologies detribalize. The nonspecialist electric technology retribalizes. The process of upset resulting from a new distribution of skills is accompanied by much culture lag in which people feel compelled to look at new situations as if they were old ones, and come up with ideas of "population explosion" in an age of implosion. Newton, in an age of clocks, managed to present the physical universe in the image of a clock. But poets like Blake were far ahead of Newton in their response to the challenge of the clock. Blake spoke of the need to be delivered "from single vision and Newton's sleep," knowing very well that Newton's response to the challenge of the new mechanism was itself merely a mechanical repetition of the challenge. Blake saw Newton and Locke and others as hypnotized Narcissus types quite unable to meet the challenge of mechanism. W. B. Yeats gave the full Blakean version of Newton and Locke in a famous epigram:

Locke sank into a swoon;
The garden died;
God took the spinning jenny
Out of his side.

Yeats presents Locke, the philosopher of mechanical and lineal associationism, as hypnotized by his own image. The "garden," or unified consciousness, ended. Eighteenth-century man got an extension of himself in the form of the spinning machine that Yeats endows with its full sexual significance. Woman, herself, is thus seen as a technological extension of man's being.

Blake's counterstrategy for his age was to meet mechanism with organic myth. Today, deep in the electric age, organic myth is itself a simple and automatic response capable of mathematical formulation and expression, without any of the imaginative perception of Blake about it. Had he encountered the electric age, Blake would not have met its challenge with a mere repetition of electric form. For myth *is* the instant vision of a complex process that ordinarily extends over a long period. Myth is contraction or implosion of any process,

and the instant speed of electricity confers the mythic dimension on ordinary industrial and social action today. We live mythically but continue to think fragmentarily and on single planes.

Scholars today are acutely aware of a discrepancy between their ways of treating subjects and the subject itself. Scriptural scholars of both the Old and New Testaments frequently say that while their treatment must be linear, the subject is not. The subject treats of the relations between God and man, and between God and the world, and of the relations between man and his neighbor—all these subsist together, and act and react upon one another at the same time. The Hebrew and Eastern mode of thought tackles problem and resolution, at the outset of a discussion, in a way typical of oral societies in general. The entire message is then traced and retraced, again and again, on the rounds of a concentric spiral with seeming redundancy. One can stop anywhere after the first few sentences and have the full message, if one is prepared to "dig" it. This kind of plan seems to have inspired Frank Lloyd Wright in designing the Guggenheim Art Gallery on a spiral, concentric basis. It is a redundant form inevitable to the electric age, in which the concentric pattern is imposed by the instant quality, and overlay in depth, of electric speed. But the concentric with its endless intersection of planes is necessary for insight. In fact, it is the technique of insight, and as such is necessary for media study, since no medium has its meaning or existence alone, but only in constant interplay with other media.

The new electric structuring and configuring of life more and more encounters the old lineal and fragmentary procedures and tools of analysis from the mechanical age. More and more we turn from the content of messages to study total effect. Kenneth Boulding put this matter in *The Image* by saying, "The meaning of a message is the change which it produces in the image." Concern with *effect* rather than *meaning* is a basic change of our electric time, for effect involves the total situation, and not a single level of information movement. Strangely, there is recognition of this matter of effect rather than information in the British idea of libel: "The greater the truth, the greater the libel."

The effect of electric technology had at first been anxiety. Now it appears to create boredom. We have been through the three stages of alarm, resistance, and exhaustion that occur in every disease or stress of life, whether individual or collective. At least, our exhausted slump after the first encounter with the electric has inclined us to expect new problems. However,

backward countries that have experienced little permeation with our own mechanical and specialist culture are much better able to confront and to understand electric technology. Not only have backward and nonindustrial cultures no specialist habits to overcome in their encounter with electromagnetism, but they have still much of their traditional oral culture that has the total, unified "field" character of our new electromagnetism. Our old industrialized areas, having eroded their oral traditions automatically, are in the position of having to rediscover them in order to cope with the electric age.

In terms of the theme of media hot and cold, backward countries are cool, and we are hot. The "city slicker" is hot, and the rustic is cool. But in terms of the reversal of procedures and values in the electric age, the past mechanical time was hot, and we of the TV age are cool. The waltz was a hot, fast mechanical dance suited to the industrial time in its moods of pomp and circumstance. In contrast, the Twist is a cool, involved and chatty form of improvised gesture. The jazz of the period of the hot new media of movie and radio was hot jazz. Yet jazz of itself tends to be a casual dialogue form of dance quite lacking in the repetitive and mechanical forms of the waltz. Cool jazz came in quite naturally after the first impact of radio and movie had been absorbed.

In the special Russian issue of *Life* magazine for September 13, 1963, it is mentioned that in Russian restaurants and night clubs, "though the Charleston is tolerated, the Twist is taboo." All this is to say that a country in the process of industrialization is inclined to regard hot jazz as consistent with its developing programs. The cool and involved form of the Twist, on the other hand, would strike such a culture at once as retrograde and incompatible with its new mechanical stress. The Charleston, with its aspect of a mechanical doll agitated by strings, appears in Russia as an *avant-garde* form. We, on the other hand, find the *avant-garde* in the cool and the primitive, with its promise of depth involvement and integral expression.

The "hard" sell and the "hot" line become mere comedy in the TV age, and the death of all the salesmen at one stroke of the TV axe has turned the hot American culture into a cool one that is quite unacquainted with itself. America, in fact, would seem to be living through the reverse process that Margaret Mead described in *Time* magazine (September 4, 1954): "There are too many complaints about society having to move too fast to keep up with the machine. There is great advantage in moving fast if you move completely, if

social, educational, and recreational changes keep pace. You must change the whole pattern at once and the whole group together—and the people themselves must decide to move.”

Margaret Mead is thinking here of change as uniform speed-up of motion or a uniform hotting-up of temperatures in backward societies. We are certainly coming within conceivable range of a world automatically controlled to the point where we could say, “Six hours less radio in Indonesia next week or there will be a great falling off in literary attention.” Or, “We can program twenty more hours of TV in South Africa next week to cool down the tribal temperature raised by radio last week. Whole cultures could now be programmed to keep their emotional climate stable in the same way that we have begun to know something about maintaining equilibrium in the commercial economies of the world.

In the merely personal and private sphere we are often reminded of how changes of tone and attitude are demanded of different times and seasons in order to keep situations in hand. British clubmen, for the sake of companionship and amiability, have long excluded the hot topics of religion and politics from mention inside the highly participational club. In the same vein, W. H. Auden wrote, “. . . this season the man of goodwill will wear his heart up his sleeve, not on it. . . . the honest manly style is today suited only to Iago” (Introduction to John Betjeman’s *Slick But Not Streamlined*). In the Renaissance, as print technology hotted up the social milieu to a very high point, the gentleman and the courtier (Hamlet–Mercutio style) adopted, in contrast, the casual and cool nonchalance of the playful and superior being. The Iago allusion of Auden reminds us that Iago was the *alter ego* and assistant of the intensely earnest and very non-nonchalant General Othello. In imitation of the earnest and forthright general, Iago hotted up his own image and wore his heart on his sleeve, until General Othello read him loud and clear as “honest Iago,” a man after his own grimly earnest heart.

Throughout *The City in History*, Lewis Mumford favors the cool or casually structured towns over the hot and intensely filled-in cities. The great period of Athens, he feels, was one during which most of the democratic habits of village life and participation still obtained. Then burst forth the full variety of human expression and exploration such as was later impossible in highly developed urban centers. For the highly developed situation is, by definition, low in opportunities of participation, and rigorous in its demands of specialist fragmentation from those who would control it. For example,

what is known as "job enlargement" today in business and in management consists in allowing the employee more freedom to discover and define his function. Likewise, in reading a detective story the reader participates as co-author simply because so much has been left out of the narrative. The open-mesh silk stocking is far more sensuous than the smooth nylon, just because the eye must act as hand in filling in and completing the image, exactly as in the mosaic of the TV image.

Douglas Cater in *The Fourth Branch of Government* tells how the men of the Washington press bureaus delighted to complete or fill in the blank of Calvin Coolidge's personality. Because he was so like a mere cartoon, they felt the urge to complete his image for him and his public. It is instructive that the press applied the word "cool" to Cal. In the very sense of a cool medium, Calvin Coolidge was so lacking in any articulation of data in his public image that there was only one word for him. He was real cool. In the hot 1920s, the hot press medium found Cal very cool and rejoiced in his lack of image, since it compelled the participation of the press in filling in an image of him for the public. By contrast, F.D.R. was a hot press agent, himself a rival of the newspaper medium and one who delighted in scoring off the press on the rival hot medium of radio. Quite in contrast, Jack Paar ran a cool show for the cool TV medium, and became a rival for the patrons of the night spots and their allies in the gossip columns. Jack Paar's war with the gossip columnists was a weird example of clash between a hot and cold medium such as had occurred with the "scandal of the rigged TV quiz shows." The rivalry between the hot press and radio media, on one hand, and TV on the other, for the hot ad buck, served to confuse and to overheat the issues in the affair that pointlessly involved Charles Van Doren.

An Associated Press story from Santa Monica, California, August 9, 1962, reported how

Nearly 100 traffic violators watched a police traffic accident film today to atone for their violations. Two had to be treated for nausea and shock. . . .

Viewers were offered a \$5.00 reduction in fines if they agreed to see the movie, *Signal 30*, made by Ohio State police.

It showed twisted wreckage and mangled bodies and recorded the screams of accident victims.

Whether the hot film medium using hot content would cool off the hot drivers is a moot point. But it does concern any

understanding of media. The effect of hot media treatment cannot include much empathy or participation at any time. In this connection an insurance ad that featured Dad in an iron lung surrounded by a joyful family group did more to strike terror into the reader than all the warning wisdom in the world. It is a question that arises in connection with capital punishment. Is a severe penalty the best deterrent to serious crime? With regard to the bomb and the cold war, is the threat of massive retaliation the most effective means to peace? Is it not evident in every human situation that is pushed to a point of saturation that some precipitation occurs? When all the available resources and energies have been played up in an organism or in any structure there is some kind of reversal of pattern. The spectacle of brutality used as deterrent can brutalize. Brutality used in sports may humanize under some conditions, at least. But with regard to the bomb and retaliation as deterrent, it is obvious that numbness is the result of any prolonged terror, a fact that was discovered when the fallout shelter program was broached. The price of eternal vigilance is indifference.

Nevertheless, it makes all the difference whether a hot medium is used in a hot or a cool culture. The hot radio medium used in cool or nonliterate cultures has a violent effect, quite unlike its effect, say in England or America, where radio is felt as entertainment. A cool or low literacy culture cannot accept hot media like movies or radio as entertainment. They are, at least, as radically upsetting for them as the cool TV medium has proved to be for our high literacy world.

And as for the cool war and the hot bomb scare, the cultural strategy that is desperately needed is humor and play. It is play that cools off the hot situations of actual life by miming them. Competitive sports between Russia and the West will hardly serve that purpose of relaxation. Such sports are inflammatory, it is plain. And what we consider entertainment or fun in our media inevitably appears as violent political agitation to a cool culture.

One way to spot the basic difference between hot and cold media uses is to compare and contrast a broadcast of a symphony performance with a broadcast of a symphony rehearsal. Two of the finest shows ever released by the CBC were of Glenn Gould's procedure in recording piano recitals, and Igor Stravinsky's rehearsing the Toronto symphony in some of his new work. A cool medium like TV, when really used, demands this involvement in process. The neat tight package

is suited to hot media, like radio and gramophone. Francis Bacon never tired of contrasting hot and cool prose. Writing in "methods" or complete packages, he contrasted with writing in aphorisms, or single observations such as "Revenge is a kind of wild justice." The passive consumer wants packages, but those, he suggested, who are concerned in pursuing knowledge and in seeking causes will resort to aphorisms, just because they are incomplete and require participation in depth.

The principle that distinguishes hot and cold media is perfectly embodied in the folk wisdom: "Men seldom make passes at girls who wear glasses." Glasses intensify the outward-going vision, and fill in the feminine image exceedingly, Marion the Librarian notwithstanding. Dark glasses, on the other hand, create the inscrutable and inaccessible image that invites a great deal of participation and completion.

Again, in a visual and highly literate culture, when we meet a person for the first time his visual appearance dims out the sound of the name, so that in self-defense we add: "How do you spell your name?" Whereas, in an ear culture, the *sound* of a man's name is the overwhelming fact, as Joyce knew when he said in *Finnegans Wake*, "Who gave you that numb?" For the name of a man is a numbing blow from which he never recovers.

Another vantage point from which to test the difference between hot and cold media is the practical joke. The hot literary medium excludes the practical and participant aspect of the joke so completely that Constance Rourke, in her *American Humor*, considers it as no joke at all. To literary people, the practical joke with its total physical involvement is as distasteful as the pun that derails us from the smooth and uniform progress that is typographic order. Indeed, to the literary person who is quite unaware of the intensely abstract nature of the typographic medium, it is the grosser and participant forms of art that seem "hot," and the abstract and intensely literary form that seems "cool." "You may perceive, Madam," said Dr. Johnson, with a pugilistic smile, "that I am well-bred to a degree of needless scrupulosity." And Dr. Johnson was right in supposing that "well-bred" had come to mean a white-shirted stress on attire that rivaled the rigor of the printed page. "Comfort" consists in abandoning a visual arrangement in favor of one that permits casual participation of the senses, a state that is excluded when any one sense, but especially the visual sense, is hotted up to the point of dominant command of a situation.

On the other hand, in experiments in which all outer sensa-

tion is withdrawn, the subject begins a furious fill-in or completion of senses that is sheer hallucination. So the hotting-up of one sense tends to result in hallucination.

3/Reversal of the Overheated Medium

A headline for June 21, 1963, read:

WASHINGTON-MOSCOW HOT LINE
TO OPEN IN 60 DAYS

The *Times* of London Service, Geneva:

The agreement to establish a direct communication link between Washington and Moscow for emergencies was signed here yesterday by Charles Stelle of the United States and Semyon Tsarapkin of the Soviet Union. . . .

The link, known as the hot line, will be opened within sixty days, according to U.S. officials. It will make use of leased commercial circuits, one cable and the other wireless, using teleprinter equipment.

The decision to use the hot printed medium in place of the cool, participational, telephone medium is unfortunate in the extreme. No doubt the decision was prompted by the literary bias of the West for the printed form, on the ground that it is more impersonal than the telephone. The printed form has quite different implications in Moscow from what it has in Washington. So with the telephone. The Russians' love of this instrument, so congenial to their oral traditions, is owing to the rich nonvisual involvement it affords. The Russian uses the telephone for the sort of effects we associate with the eager conversation of the lapel-gripper whose face is twelve inches away.

Both telephone and teleprinter as amplifications of the unconscious cultural bias of Moscow, on one hand, and of Washington, on the other, are invitations to monstrous misunder-

standings. The Russian bugs rooms and spies by ear, finding this quite natural. He is outraged by our visual spying, however, finding this quite unnatural.

The principle that during the stages of their development all things appear under forms opposite to those that they finally present is an ancient doctrine. Interest in the power of things to reverse themselves by evolution is evident in a great diversity of observations, sage and jocular. Alexander Pope wrote

Vice is a monster of such frightful mien
As to be hated needs but to be seen;
But seen too oft, familiar with its face,
We first endure, then pity, then embrace.

A caterpillar gazing at the butterfly is supposed to have remarked. "Waal, you'll never catch me in one of those durn things."

At another level we have seen in this century the change-over from the debunking of traditional myths and legends to their reverent study. As we begin to react in depth to the social life and problems of our global village, we become reactionaries. Involvement that goes with our instant technologies transforms the most "socially conscious" people into conservatives. When Sputnik had first gone into orbit a schoolteacher asked her second-graders to write some verse on the subject. One child wrote:

The stars are so big,
The earth is so small,
Stay as you are.

With man his knowledge and the process of obtaining knowledge are of equal magnitude. Our ability to apprehend galaxies and subatomic structures, as well, is a movement of faculties that includes and transcends them. The second-grader who wrote the words above *lives* in a world much vaster than any which a scientist today has instruments to measure, or concepts to describe. As W. B. Yeats wrote of this reversal, "The visible world is no longer a reality and the unseen world is no longer a dream."

Associated with this transformation of the real world into science fiction is the reversal now proceeding apace, by which the Western world is going Eastern, even as the East goes Western. Joyce encoded this reciprocal reverse in his cryptic phrase:

The West shall shake the East awake
While ye have the night for morn.

The title of his *Finnegans Wake* is a set of multi-leveled puns on the reversal by which Western man enters his tribal, or Finn, cycle once more, following the track of the old Finn, but wide awake this time as we re-enter the tribal night. It is like our contemporary consciousness of the Unconscious.

The stepping-up of speed from the mechanical to the instant electric form reverses explosion into implosion. In our present electric age the imploding or contracting energies of our world now clash with the old expansionist and traditional patterns of organization. Until recently our institutions and arrangements, social, political, and economic, had shared a one-way pattern. We still think of it as "explosive," or expansive; and though it no longer obtains, we still talk about the population explosion and the explosion in learning. In fact, it is not the increase of numbers in the world that creates our concern with population. Rather, it is the fact that everybody in the world has to live in the utmost proximity created by our electric involvement in one another's lives. In education, likewise, it is not the increase in numbers of those seeking to learn that creates the crisis. Our new concern with education follows upon the changeover to an interrelation in knowledge, where before the separate subjects of the curriculum had stood apart from each other. Departmental sovereignties have melted away as rapidly as national sovereignties under conditions of electric speed. Obsession with the older patterns of mechanical, one-way expansion from centers to margins is no longer relevant to our electric world. Electricity does not centralize, but decentralizes. It is like the difference between a railway system and an electric grid system: the one requires railheads and big urban centers. Electric power, equally available in the farmhouse and the Executive Suite, permits any place to be a center, and does not require large aggregations. This reverse pattern appeared quite early in electrical "labor-saving" devices, whether a toaster or washing machine or vacuum cleaner. Instead of saving work, these devices permit everybody to do his own work. What the nineteenth century had delegated to servants and housemaids we now do for ourselves. This principle applies *in toto* in the electric age. In politics, it permits Castro to exist as independent nucleus or center. It would permit Quebec to leave the Canadian union in a way quite inconceivable under the regime of the railways. The railways require a uniform political and economic space.

On the other hand, airplane and radio permit the utmost discontinuity and diversity in spatial organization.

Today the great principle of classical physics and economics and political science, namely that of the divisibility of each process, has reversed itself by sheer extension into the unified field theory; and automation in industry replaces the divisibility of process with the organic interlacing of all functions in the complex. The electric tape succeeds the assembly line.

In the new electric Age of Information and programmed production, commodities themselves assume more and more the character of information, although this trend appears mainly in the increasing advertising budget. Significantly, it is those commodities that are most used in social communication, cigarettes, cosmetics, and soap (cosmetic removers), that bear much of the burden of the upkeep of the media in general. As electric information levels rise, almost any kind of material will serve any kind of need or function, forcing the intellectual more and more into the role of social command and into the service of production.

It was Julien Benda's *Great Betrayal* that helped to clarify the new situation in which the intellectual suddenly holds the whip hand in society. Benda saw that the artists and intellectuals who had long been alienated from power, and who since Voltaire had been in opposition, had now been drafted for service in the highest echelons of decision-making. Their great betrayal was that they had surrendered their autonomy and had become the flunkies of power, as the atomic physicist at the present moment is the flunky of the war lords.

Had Benda known his history, he would have been less angry and less surprised. For it has always been the role of intelligentsia to act as liaison and as mediators between old and new power groups. Most familiar of such groups is the case of the Greek slaves, who were for long the educators and confidential clerks of the Roman power. And it is precisely this servile role of the confidential clerk to the tycoon—commercial, military, or political—that the educator has continued to play in the Western world until the present moment. In England "the Angries" were a group of such clerks who had suddenly emerged from the lower echelons by the educational escape hatch. As they emerged into the upper world of power, they found that the air was not at all fresh or bracing. But they lost their nerve even quicker than Bernard Shaw lost his. Like Shaw, they quickly settled down to whimsy and to the cultivation of entertainment values.

In his *Study of History*, Toynbee notes a great many rever-

sals of form and dynamic, as when, in the middle of the fourth century A.D., the Germans in the Roman service began abruptly to be proud of their tribal names and to retain them. Such a moment marked new confidence born of saturation with Roman values, and it was a moment marked by the complementary Roman swing toward primitive values. (As Americans saturate with European values, especially since TV, they begin to insist upon American coach lamps, hitching posts, and colonial kitchenware as cultural objects.) Just as the barbarians got to the top of the Roman social ladder, the Romans themselves were disposed to assume the dress and manners of tribesmen out of the same frivolous and snobbish spirit that attached the French court of Louis XVI to the world of shepherds and shepherdesses. It would have seemed a natural moment for the intellectuals to have taken over while the governing class was touring Disneyland, as it were. So it must have appeared to Marx and his followers. But they reckoned without understanding the dynamics of the new media of communication. Marx based his analysis most untimely on the machine, just as the telegraph and other implosive forms began to reverse the mechanical dynamic.

The present chapter is concerned with showing that in any medium or structure there is what Kenneth Boulding calls a "break boundary at which the system suddenly changes into another or passes some point of no return in its dynamic processes." Several such "break boundaries" will be discussed later, including the one from stasis to motion, and from the mechanical to the organic in the pictorial world. One effect of the static photo had been to suppress the conspicuous consumption of the rich, but the effect of the speed-up of the photo had been to provide fantasy riches for the poor of the entire globe.

Today the road beyond its break boundary turns cities into highways, and the highway proper takes on a continuous urban character. Another characteristic reversal after passing a road break boundary is that the country ceases to be the center of all work, and the city ceases to be the center of leisure. In fact, improved roads and transport have reversed the ancient pattern and made cities the centers of work and the country the place of leisure and of recreation.

Earlier, the increase of traffic that came with money and roads had ended the static tribal state (as Toynbee calls the nomadic food-gathering culture). Typical of the reversing that occurs at break boundaries is the paradox that nomadic mobile man, the hunter and food-gatherer, is socially static.

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On the other hand, sedentary, specialist man is dynamic, explosive, progressive. The new magnetic or world city will be static and iconic or inclusive.

In the ancient world the intuitive awareness of break boundaries as points of reversal and of no return was embodied in the Greek idea of *hubris*, which Toynbee presents in his *Study of History*, under the head of "The Nemesis of Creativity" and "The Reversal of Roles." The Greek dramatists presented the idea of creativity as creating, also, its own kind of blindness, as in the case of Oedipus Rex, who solves the riddle of the Sphinx. It was as if the Greeks felt that the penalty for one break-through was a general sealing-off of awareness to the total field. In a Chinese work—*The Way and Its Power* (A. Waley translation)—there is a series of instances of the overheated medium, the overextended man or culture, and the peripety or reversal that inevitably follows:

He who stands on tiptoe does not stand firm;
He who takes the longest strides does not walk the fastest . . .
He who boasts of what he will do succeeds in nothing;
He who is proud of his work achieves nothing that endures.

One of the most common causes of breaks in any system is the cross-fertilization with another system, such as happened to print with the steam press, or with radio and movies (that yielded the talkies). Today with microfilm and micro-cards, not to mention electric memories, the printed word assumes again much of the handicraft character of a manuscript. But printing from movable type was, itself, the major break boundary in the history of phonetic literacy, just as the phonetic alphabet had been the break boundary between tribal and individualist man.

The endless reversals or break boundaries passed in the interplay of the structures of bureaucracy and enterprise include the point at which individuals began to be held responsible and accountable for their "private actions." That was the moment of the collapse of tribal collective authority. Centuries later, when further explosion and expansion had exhausted the powers of private action, corporate enterprise invented the idea of Public Debt, making the individual privately accountable for group action.

As the nineteenth century heated up the mechanical and dissociative procedures of technical fragmentation, the entire attention of men turned to the associative and the corporate.

In the first great age of the substitution of machine for human toil Carlyle and the Pre-Raphaelites promulgated the doctrine of *Work* as a mystical social communion, and millionaires like Ruskin and Morris toiled like navvies for esthetic reasons. Marx was an impressionable recipient of these doctrines. Most bizarre of all the reversals in the great Victorian age of mechanization and high moral tone is the counter-strategy of Lewis Carroll and Edward Lear, whose nonsense has proved exceedingly durable. While the Lord Cardigans were taking their blood baths in the Valley of Death, Gilbert and Sullivan were announcing that the boundary break had been passed.

4/The Gadget Lover

Narcissus as Narcosis

The Greek myth of Narcissus is directly concerned with a fact of human experience, as the word *Narcissus* indicates. It is from the Greek word *narcosis*, or numbness. The youth Narcissus mistook his own reflection in the water for another person. This extension of himself by mirror numbed his perceptions until he became the servomechanism of his own extended or repeated image. The nymph Echo tried to win his love with fragments of his own speech, but in vain. He was numb. He had adapted to his extension of himself and had become a closed system.

Now the point of this myth is the fact that men at once become fascinated by any extension of themselves in any material other than themselves. There have been cynics who insisted that men fall deepest in love with women who give them back their own image. Be that as it may, the wisdom of the Narcissus myth does not convey any idea that Narcissus fell in love with anything he regarded as himself. Obviously he would have had very different feelings about the image had he known it was an extension or repetition of himself. It is, perhaps, indicative of the bias of our intensely technological