

EUROPEAN PERSPECTIVES

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Transmitting Culture

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COLUMBIA UNIVERSITY PRESS NEW YORK

The Medium's Two Bodies

Tedious quarrels over semantics can often be avoided, and time gained, by securing argument to a few working definitions at the outset. I differentiate the material act of transmitting from communication, the latter term having by now lost some concreteness as the sanctified hallmark of language theoreticians and university programs or departments. To the degree that units of relatively stable meaning can be made fast from words of such voluminous carrying capacity and guaranteed currency, the semantics of *communication* do appear, in every detail, to be set squarely against the material objects and forces intelligible to mediological inquiry. Instead, *transmission* can serve as a regulatory and classificatory term in view of its tripartite signification: material, diachronic, and political.

THE MATERIAL DIMENSION

Commonly understood, "communicating" is simply making familiar, making known. Its bias of meaning links us immediately with the immaterial, with conventions and codes, with the more narrowly linguistic. One speaks, on the other hand, of "transmitting" physical property as well as ideas. Commercial bills, assets and real estate, a child's balloon can all be transmitted in the sense of handed over or down, as can orders and instructions or papal power. What is said of forms is also said of forces: in mechanics, the term *transmission* is applied to power and movement that are carried across—transmitted—by mechanical means, dynamically converted to different forms of motion.

This alloy of material agencies and human actors is well suited to the vast and bustling agitation of infinite motive forces that, in a succession of historical instances, characterizes what used to be called "an idea that stirs the

masses." *Idea* connotes that convocation, mobilization, *jumble* of engines and persons, passwords and icons, vehicles, sacred rites and sites. To this day, for example, the gospel's message makes its appeal to followers via canticles and holy days, the church's swell of organ notes and glitter of gold, the colors of its stained glass and altarpieces, the perfumes of its incense, the soaring spires of its cathedral and shrines, the wafer's placement on the tongue and the foot's tread on the road to Calvary. These materializations and exertions, rather than individual or group exegesis of sacred texts, bodily *transmit* the holy Word. The same holds for civil religion. The idea of the nation is perpetuated by flags and solemn commemorations of the dead, by the entombment of soldiers and monuments to the fallen on the village square, by lists of their names on walls and plaques and pediments, by the domes of pantheons, and not merely by reading textbook summations or preambles of constitutions. Memory's reinforcements cannot be reduced to sayings and writings. The adventure of lived ideas is hurly-burly and kaleidoscopic.

No tradition has come about without being an invention or recirculation of expressive marks and gestures. No movement of ideas has occurred that did not imply the corresponding movement of human bodies, whether pilgrims, merchants, settlers, soldiers, or ambassadors. And no new dimension of subjectivity has formed without using new material objects (books or scrolls, hymns and emblems, insignia and monuments). The sites where associations are generated weld together the heaven and earth of faiths and doctrines by plotting the dizzying vertical of their sacred allusions along the horizontal axis of collective consolidations. As Christian or Jew or Arab, I affirm my ties to the community of fellow celebrants by traversing the space separating me from Santiago de Compostela, Jerusalem, or Mecca. A Marxist in the 1960s, I further my ideological adhesion with pilgrimages to Havana or Hanoi, just as, more prosaically, I might attend the Festival of Humanity sponsored by the French Communist daily newspaper. A committed neoliberal, I'm off to communion at Westminster or Wall Street because reading articles by Milton Friedman or works by Karl Popper hardly suffices. The chain of effects that transform mentalities mingles together elements both symbolic and economic, immaterial and concrete, such that a mediologist's interest will be repaid as much by the minutiae of foreign missionaries as by theologies, the Wall of Jerusalem as by the Kabbalah, humble modes of transport as by sublime myths of origin, the highways department as by schools of philosophical thought; by networks of transmission as much as by doctrines,

and the material bases of inscriptions as much as by the etymologies of words. In short, the trivial, peripheral, or basely material incidentals of how any given message, doctrine, or idea is put across mean as much to the mediologist as (Plutarchian) "exemplary lives" or "great books." Far from inviting disciplinary confusion, this muddle of mediating agencies calls for theoretical clarification that must first demolish some arbitrary walls between established fields.

THE DIACHRONIC DIMENSION

If communication transports essentially through space, transmission essentially transports through time. Communication prompts an instantaneous response between parties, by synchronizing and connecting them like a thread: a communicative network runs its course between contemporaries (sender and receiver present to one another simultaneously at either end of the line). Transmission takes its course *through* time (diachronically), developing and changing as it goes. A thread *plus* a drama, it links the living to the dead, most often when the senders are physically absent. Whether configuring the present to a luminous past or to a salvific future, mythical or not, a transmission arranges the effective force of the actual with reference to the virtual. As far as communications are concerned, time is external to them in the sense of its being only their parameter (even though by overcoming distances, telecommunications do have an effect necessarily on the amount of time by which delays and speeds are determined). But with transmission, time is appreciable internally. Communication excels by cutting short; transmission by prolonging, even if it must condense its ample forms of expression into the emblematic currencies of the motto, the logo, the apologue, the parable, and so on. Religion, art, ideology: these variegated categories of transmission all aim to thwart the ephemeral by the ploy of drawing out, particularly in the Western context, with its grand undertakings of constructions built to last.¹

The two terms thus require a shift in scale and units of time: for the operation of communication, a calculation of days, minutes, and seconds; for transmission, decades if not centuries and millennia. We transmit meanings so that the things we live, believe, and think do not perish with *us* (as opposed to *me*). To accomplish this, we have license (depending on the historical period) to invent the means of oral epic poetry, with its rhythms and ritornellos conducive to memorization; or the arts of drawing or writing; or

printing, audiocassettes, CD-ROMs, or the World Wide Web, as the search for target user audiences or technological developments dictates.

The content of the message is guided by the requisites of its deliverance, as is the organ by its function. Though measurably temporal, transmission does have a geography. Its advancement occupies space, but it conducts its crossings and bids for influence in order to make inroads toward permanence, to *make history* (the pervasive desire to pervade time by turning any means it can to account). While a communication society will value the disposable, mutable, and instantaneously accessible, the depth of time rounds out the things that are transmissible and gives them relief and dimension. In the one case, continuance is only an accident; in the other, it is crucial. The evanescence of a message will compromise an act of transmission, but it will not disqualify a communication. Within the nascent discipline of mediology one has the habit of distinguishing among messages according to their material natures as sounds, sights, written words, audiovisual sequences, and so on. From the vantage of cultural significance, however, the fact that a given sense perception is objectified and safeguarded in durable form matters more than the particular faculty in question (hearing, vision, etc.). The information's recovery and repetition counts for more than the channel carrying it or its specific material nature.

THE POLITICAL DIMENSION

Human beings *communicate*; more rarely do they *transmit* lasting meanings. Communication's horizon is individualistic. Its one-on-one matrix of sender to receiver has marked for a good while now the study of the more industrialized, general diffusion of messages (circulation, broadcasting, the wide dissemination of language and ideas) based on a one-to-all relation. (Widespread cultural diffusion by technological media really began with Gutenberg and not McLuhan and with the practice of engraving before that of photography.)

The contrast is thus stark, to my way of thinking, between the warmer and fuzzier notion of communication and the militant, suffering nature of the struggle to transmit. Here the communicational fiction of the lone individual producing and receiving meaning gives way to people establishing membership in a group (even if only one they seek to found) and to coded procedures signaling that group's distinction from others. There is a sense in which the natural environment *communicates* information about itself to

me through visual, tactile, olfactory, and other senses. Even more can I say that animals give off or send out messages: the science of zoological semiotics makes them an object of study. But I cannot speak of animals, nor of my physical surroundings, as *transmitting* per se. *Everything* is a message, if you will—from natural to social stimuli or from signals to signs—but these messages do not necessarily constitute an inheritance. Legacies are never the effect of pure chance. Similarly, there are *communication* machines but not *transmission* machines. At most, one can define an act of transmitting as a *telecommunication* in time, where the machine is a necessary but not sufficient interface and in which the network will always mean two things. For the pathway or channel linking senders and receivers can be reduced to neither a physical mechanism (sound waves or electric circuit) nor an industrial operating system (radio, television, computer) as it can be in the case of diffused mass information. The act of transmitting adds the series of steps in a kind of organizational flowchart to the mere materiality of the tool or system. The technical device is matched by a corporate agent. If raw life is perpetuated by instinct, the transmitted heritage cannot be effective without a project, a projection whose essence is not biological. Transmission is duty, mission, obligation: in a word, culture.

Communication and transmission must both contend with the problem of *noise*. Yet here, on top of the physical universe acting as backdrop, must be overlaid the social universe in all its adversity. A cost is borne by every communication because no message-producing condition or device can wrest the meaning of a signal from its ambient background noise without an expenditure of energy to neutralize the natural and accidental static that afflicts all signals. But putting across a symbolic, transmissive meaning must also deal, beyond the loudspeaker's metallic coughs and reverbs, with the splutters and crackle of one's adversaries and competitors. More than an incidental flawing of the system or unintended disorder, this latter form of noise arises from human conflict at the heart of the mediasphere's acoustic space of deliberation. As in the Darwinian biosphere, place is not available to all. This is what makes each transmission work itself out polemically, and it requires a strategic competency bent on striking up alliances, filtering out and excluding the extraneous, hierarchizing and co-opting, drawing boundaries, and so on. The process can be apprehended as a struggle for survival in the midst of a system of rival forces either canceling one another out by disqualification or swallowing each other up.

In the *social* arena, other things being equal, the act of communicating anything and everything is natural. Transmitting durable meanings, howev-

er, belongs to the *political* arena, as do all functions serving to transmute an undifferentiated mass into an organized whole. Through transmission, a collective organization is immunized against disorder and aggression. A protector of the coherence of an *us*, it ensures the group's survival by apportioning what individuals hold in common. What survives moreover does not fall under the class of the most basic biological group programming, such as the automatic processes of eating and reproducing, but rather under all things having to do with the collective personality granted the group by its own history. If communication takes place between persons, transmission uses collegial methods and collective settings, frameworks, and management. It is one of the stakes of civilization. It brings about unification into corporate entities such as professional guilds, mystical corpuscles, or the teaching corps of sorcerers, bards, elders, Greek epic singers, clerics, pilots, instructors, catechists, and so on. By this means the corpus of knowledge, values, and know-how is brought out of yesterday into the present, stabilizing group identity via multiple two-way journeys (made by each member of a confraternity, an academy, a church, a craft guild, a school, a party, a nation, etc.). They are the group's master thread, the safeguard at the ram-parts and parapet, the guardrail.

The indispensableness of this symbolic function is matched by the discretely grave aura that hovers over the word *transmission*. Essences are made and remade through transmission; the torch thrown to each new generation, which must hold it high, says the common wisdom. One can communicate with the first passerby, but such things as the sacred flame, capital (and the sinfulness of human nature), the spirit of one's homeland (down to the very taste of its baked bread), all these are *transmissible*. Transmissible, too, are great secret stories or practices: family secrets, state secrets, secrets of the heart; arcana of the Book, of calculating longitude and making metals; professional secrets, party secrets, secrets of the gods and nature. Preserving all these gives a community its reasons for being and hoping. One has no right to forget or keep them to oneself, and to squander them would be to forfeit what must be held dearest. They are not something hastily communicated *sub rosa* but rather more as mysteries into which one is by degrees initiated, heart and soul. Journalists communicate; professors transmit. (The difference is that between news and knowledge.) Notaries arrange for inheritances, a priest enshrines a tradition (laws versus rites). Communication needs only interest and curiosity. Proper transmission necessitates transformation if not conversion. When fear and trembling ensue, the result is the only criterion. Thus is the process of education, for

example, inconceivable without its regulations, examinations, or competitions for prizes.

THE MECHANICS OF TRANSMISSION

The prefix *trans-*: it comes down most decisively to this particle that encapsulates the marching past, burden, and adventure of so many mediations. And yet what the term alludes to could not be more prosaic. *Le Petit Robert* gives the following definition for *transmission*:

trans-mis-sion *n.* [L. *transmission-*, *transmissio*, fr. *transmissus*, pp. of *transmittere* to transmit fr. *trans-* across, over + *mittere* to send] [1765, used to speak of electronic signals. 1869, telegraphic signals.] Transference of a physical phenomenon or of its effects when this transference implies one or several intermediate factors capable of affecting the phenomenon.

There can be no transmission of movement, in the mechanical sense, without machine parts that produce it (camshaft, universal joint, drive wheel, drive belt). And in medical parlance, no transmission of disease, epidemiologically speaking, can occur without a site for the pathogen and an infectious agent. Communications can be of an immediate, direct, and joyously transitive nature. Transmission, on the other hand, imposes itself on us by its character as process or mediation, something that dispels all illusion of immediacy. Mediology is devoted to medium and median bodies, to everything that acts as milieu or middle ground in the black box of meaning's production, between an input and an output. A milieu: it is indeed because there is refraction that there is degradation. The *transmission coefficient* (or ratio between the intensity of influential radiance after its passage through a given milieu and its initial intensity) also affects the emission of immaterial abstractions.

To sum up, if it is true that one cannot separate completely, *in vivo*, the range of phenomena encompassed by *communication* and *transmission*, one must guard against mixing them together. *In vitro*, we can do this by subordinating the first, more modern notion to the older one, which seems to me at once more holistic and more rigorous. A process of transmission necessarily includes acts of communication. The converse of this may not occur; here, the whole will have primacy over the part. To reflect on the nature of transmission illuminates communication, but the reverse does not hold

true. It is highly unlikely that a communications major or the holder of an advanced degree in communications arts will have studied the origins and formation of the West's most popular religion. But anyone curious enough to adopt a mediological approach and follow the propagation of the "true faith" across its first few centuries will have also gleaned in passing some insight into information societies in the year 2000.² (Turning one's back on a problem is often the best way to pose it the most aptly.)

Not a single historical reconstruction (however partial) of communitarian crystallizations—be they far back in time or closer to us, perennial or fleeting, revealed religions or rational utopias, or two movements that most interest me: primitive Christianity and proletarian socialism—can properly fit under the purview of communication studies/computer science. Faith in the living Jesus was no more propagated by the newspaper than was Marxism over the telegraph wires. Access to these hotbeds of meaning was not a simple matter of communicative instantaneousness or spontaneity. Their complex means of constituting themselves slowly and symbolically exceed in every detail and import what we today call means of communication. Mediation does not reduce to media. Shelving a more philosophically informed mediology in the media studies section would be as sagacious as considering the study of the unconscious a part of the sciences of the occult. It has been known to happen. And this blunder proves unfortunate.

CIRCUMSCRIBING A DISCIPLINE

Transmission it shall be. But of what, exactly? Once we set apart a new field of study, it remains to explore fully the object. How to avoid the pitfalls of seeing things everywhere transmitted, from the AIDS virus to property holdings to titles of nobility to a privilege to bad character? The human sciences already label *reproduction* the past's continuance into the present.³ It should be said I have in mind neither (1) the properly biological reproduction of a group nor (2) a group's social reproduction in a global sense, even if the latter can be likened to transmitting a cultural or symbolic capital. The separation of fields, necessary to scientific progress, always has something arbitrary about it. Codes' transmission has no autonomous and pure existence, which is also why the semiologists' insistence on the arbitrary nature of the sign hardly suffices as a basis on which to analyze the workings of society or technology. Even if the influence one exerts can never be reduced to a power

one imposes, and even if symbolic violence is by definition differentiated from physical coercion—the first presumably beginning where the second ends—the action of one will or mind on another is indistinguishable from the institutional or informal positions of power held by them. Leader and foot soldier, guru and follower, witch doctor and patient, father and son, president and citizen, boss and employee, general and private: these oppositions are realities, not arbitrarily binary. Study of transmission can obviously not exclude all that occurs among members of a family or at school, in the neighborhood or village (a father, for instance, transmits certain norms and values to his children without even saying a word, as does membership in a union). But at this early stage I would rather concentrate on how explicit symbolic systems are perpetuated: on religions, ideologies, doctrines, and artistic productions. I do not ask how the social world reproduces its constitutive structures such as the state, the family, property, social classes, and the like, nor how the sociocultural predispositions of agents in that world (wage earners, teachers, supervisors, spouses, bureaucrats, etc.) are reproduced from generation to generation, but rather, how is it that, two thousand years after Jesus, there still subsists something like Christianity in the Western world; or, more than a century after Marx and Darwin, something like Marxism and Darwinism; or, more than fifteen years following Lacan's death, Lacanian analysis; and so on. What are the pathways followed by the relay race of human thought (a subject overflowing the mere transactions of language)? Where are the sites at which, somewhere between myths and figuration, a new or different meaning is added to something that had possessed none, or another, before?

This said, I do not intend to dwell in that innocent empyrean of popular zeitgeist phantasms, that undifferentiated haunt of the gods and spectral collective representations. This is because these productions of consciousness—religions, doctrines, ideologies, disciplines—impinged decisively on the course of material things. They had direct influence on organized bodies and human bodies, modifying how they functioned politically, economically, and militarily, rather than working only in peoples' dreams and minds. The administration of signs and images has effects and stakes that are tangible, constraining, and at times violent. Neutral things mobilize energies, inert things act on us, and the word giveth life. No doctor remains unaware of the placebo effect, which pharmaceutical labs now isolate and measure. A host of today's historians have, I dare say, fully caught up with the pharmacists. Their fertile researches encourage a certain formal leap toward a discipline whose object is the relations between the superior social functions of art, religion,

and ideology and the sociotechnical structures of transmission, in other words, ipso facto, *the ways and means of cultural symbols' efficacy*. Such a methodical undertaking would not lack import for those present sciences of the collective that, when they turn to the still mysterious effects of peoples' beliefs, resort more often than not to metaphor over explanatory analysis.

ORGANIZED MATTER AND MATERIALIZED ORGANIZATION

Consider from the outset an intelligible, deliberately schoolish model (only by pressing the limit cases, however reductive, do we release an explanatory force that makes it easier to grasp yesterday's and today's confusion of certain issues). The development of tool-using hominids from evolutionary lines leading back to common ancestors of man and apes, on the grand scale of paleontology, was driven by countless functional collaborations between inert matter and biological living matter. So too does the acculturation of a distinct group, on the historical scale, couple *communication* with *community*. It is the wedding of the technological factor to the institutional factor, by and within the process of social incorporation, that sheds light on the paradoxical currentness of the past. It also helps explain the enigma of human history as a succession without exteriority.

What poet does not expect his utterance to survive its initial inspiration? Where is the striker of meaning's sparks who does not wish to set fire to the plain? Indeed in order to bring off transmission across time, to *perpetuate* meaning, in my capacity as emitting Everyman I must both render messages material and convince others to form into a group. Only working on dual fronts to create what will be memorable by shaping those devoted to it can elaborate the milieu for transmission. The memorable can be put across by transforming what has perished into monuments (because physical matter preserves the traces of what is absent). Those who do the remembering, the *mémorants*, or remembrancers, constitute collective official channels of recreation (because only the living can stir the embers of meaning that slumber in traces of the past). Together, matter and members make up Bergson's so-called two sources of morality and religion, the cold and the hot: a mortal, or objective, memory and a living, or innovative, memory. They bind together indissolubly, in the manner of a passive *cultura culturata* and an active *cultura culturans* or, to use the terms of medieval scholasticism, material cause and efficient cause. Communication is the message's *sine qua non*, while the com-

munity of messengers is that by which the choice of an inheritance is possible. The message that does not find an institutional housing will go up in smoke or be drained off as so much background noise by the ambient environment of cultural life. Perpetuating meaning assigns an institution the dual mission of archival and pedagogical conservation. No prophetic or charismatic improvisations can substitute for it, and it exceeds all individual capacities. The institution acts as a kind of registry or patent office, but rather than passively conserving its charges, it is never done sifting, revising, censoring, interpreting, and peddling them. It also authorizes others in turn to pass on its achievements or even to deflect and divert them. The church through its preaching, the university through its teaching, the Freudian brotherhood through its psychoanalyzing are all forms for conferring pertinent qualifications in their respective competencies. Their task takes on a dynamism when it is oriented outward, yet it implies a certain inertia on the inside.

We can rough-hew a further elaboration. The agencies of cultural expression belong to one of two orders: inorganic and organic. Medieval cosmologists divided up extant beings, on the one hand, into organized beings (the object of the sciences of life) and, on the other, inanimate things (objects of the physical sciences). The operation of culture invents and mobilizes a third and fourth category of existents of which our knowledge, in contrast to the preceding antitheticals, is still quite imperfect and will no doubt occupy the centuries to come: the categories of organized matter and materialized organization.

Man-locomotive contrasts with the errant animal in his aptitude for making movement coagulate into a solid structure (Georg Simmel). Even so, the organized inorganic is not to be attributed solely to the human species. Animals do after all produce works of art (or industriousness?) even if they do not labor from a plan. Swallows construct their nests, bees their hives, beavers their dams, and moles their burrows. The same holds for materialized organizations inasmuch as, broadly speaking, we can speak of societies of termites, the organized activity of ants, and the like. Peculiar to humanity is its particular combinations for materializing organization and organizing matter.

A labor of transmission can be broken into its two corporatist components: its constituent body of members or service staff (a corps in the sense of diplomatic corps or teaching corps) and its material embodiment (its body in the sense of "falling bodies" in physics). We see the complexity of a process that summons the mythological talents of the artisan and the legislator, the machine maker and the lawgiver, Daedalus and Lycurgus. At the material level, to transmit is to inform the inorganic by manufacturing con-

sultable stores of externalized memory through available technologies for inscribing, conserving, inventorying, and distributing the recorded traces of cultural expression. At the institutional level, transmission means structuring the social locus in the guise of collective organized units, devices for filtering out mere noise, and totalities that endure and transcend their members of the moment and reproduce themselves over time under certain conditions, all at high costs (such as those nonbiological "living" beings: a school of thought, a religious order, a church, a party, or an institution of learning). What would happen without such materialized organization, this pocket of antientropy, this enclave of ordered activity hewn out of the larger amorphous disorder? Such a micromilieu is constituted only at considerable effort, as it is a quasi-substantial form set off from a more or less amorphous environment. Simply translating organized matter across homogeneous space and time directly and uncomplicatedly—say, in the way one translates a triangle in mathematics or, in physics, the way a translated moving body has all its points in motion at any instant going at the same velocity and direction, as opposed to those of a rotating body—would merely *transfer* or *displace* it. It would not address all those conditions and changing contexts whose resistance both impedes and allows organized matter to be put across. Just translating organized matter would subject it maximally to those very conditions and contexts—to static, loss of signal, fossilization, repetition, and extinction—for forging a chain of meaning to impede its dissolution obliges one to remake its living links incessantly, like living stones in the edifice of the Gospels. All in all, *just as there can be no cultural transmission without technological means, so is there no purely technological transmission.*

Among the varieties of organized materials required to materialize organizations must be included a proper orchestration of all the instruments of communication. One can distinguish between (a) the *semiotic mode* (the type of sign used, be it textual, imagistic, or audible); (b) *the form of its distribution, broadcasting, or channeling* (linear, radial, interconnected, or networked); (c) *its material base* (stone, wood, papyrus, paper, or waves); and (d) *the means of transportation* (of people and messages, via roads, vehicles, infrastructures, and larger systems and industries). Rendering the message material, let us not forget, means not only drawing (or keying) signs but also opening ways for them to reach others. Among organized matter's artifacts you will find, according to the given mediasphere, ink and copper plates as well as communications satellites; parchment, calamus reeds, and styluses for writing, as well as PCs and typewriters; and horses' saddles, along with automobiles and telegraphs.

Under materialized organization, or institutions, you can lay out communitarian arrangements, that is, all those diverse forms of group cohesion that bring together the human agents of a given transmission or, more exactly, those forms *imposed on* such agents by the material nature of whatever coded signs and devices they are using (a function of the regnant stage of semiotic development). Your list will include chains of command, personnel, and bureaucracies; priests, rabbis, mullahs, and professors; salons and plebeian tribunes; steering committees and ancient Roman and Catholic curias and consistories; institutes, academies, and *collèges*; chief curators and revolutionary chieftains. Take for example the tradition and institution of cinematic image making. Cinema is the sum of film clubs and celluloid. Especially in the French context, it groups together organizational methods that originated from the confluence of activist Catholicism and political progressivism—the review, the club, the festival, and journalistic criticism—together with evolving representational technologies, such as projectors, cameras and shooting angles, soundtracks, screening procedures, and so on.

In sum, the art of transmission, or making culture, consists of adding a strategy to a logistics, a praxis to a techne, or establishing an institutional home and engineering a lexicon of signs and symbols. What persists over time is the art of composition; the proportion of elements varies.

As a general rule, the stronger the innovatory force of a given symbolic message (i.e., the greater its nonconformity with the norms of its milieu), the sturdier must be its transmission's organizational armature, because it will become all the more arduous to clear ways through hostile surroundings. For its part, the transmissive relay will see to it that a certain necessary level of redundancy is sustained for the sake of a proper hearing. Because an excess of originality affects reception adversely, one must know how to use signs that are dispensable—or already familiar to the ambient milieu—to be understood. In the science of perfumes, a nondiluted fragrance can become tonic or noxious (the Mallarmean enigma); the mediologist's art avoids this pitfall, pouring the banal into the original, as water stretches wine.

Historians contend there could have been no Roman Empire (materialized organization) in the absence of roads (organized matter); geographers, no roads in the absence of empire. What was the ultimate causal operative in these historical efforts to domesticate space and time? Doubtless it was the collectively authorized individual authority that accumulated capital and commanded construction (the project manager-state, in the case of the road system). The *who* as subject of the predicate of transmission is a motive force

vis-à-vis its *what*. In the Marxist schema of determinations, organized matter is considered *instrumental* in producing both (1) a projected meaning, i.e., organized matter's mode of production, the macrosystem of transmission currently in force (itself the hybrid of different superimposed technological periods); and (2) the productive force of that projected meaning, i.e., the collectivity that variously takes in, takes down, and puts out cultural meanings. In these orderings of the world, material organizations put things in motion; in the example, the Roman Empire clears land to lay roads allowing its legions to go forth and return more easily, its food supplies to be absorbed, its hegemony to be carried on. All of which supposes, among other things, the organized and appropriative network of routes for sending communiqués, receiving reports, and transporting troops that subsequently spread Christianity through the channels already put in place under the old empire, lending the new culture the old's imprimatur.

A necessary but not sufficient causality, then, the concept of instrumentation can propose but not dispose. Precisely for this reason, no single cultural form is pregiven in the material technical system that makes it possible. *Verbi gracia*—thanks to the Word—the system of alphabetic writing did indeed enable the ancient Greek city to become a meeting ground for those who could read to be exposed to public decision making and debate. But, by the same token, this publicness required the institutional machinery of politics in order to promote graphic reason to its new standing. Mediation is a zigzag.

Likewise, the institution or tradition of painting would not have come about as art without the art gallery, the site of its appreciation and sale, with all the attendant regulated capitalization of daubed canvases this implies. Yet there could never have been a modern museum without first a political-ly motivated creation of the national patrimony, a matter of institutional authority. Likewise, no literature without a library; in France, no *royal* library without a Charles V to promote it or *national* one without the Revolution's Jacobin phase.⁴ No edification without the struggle to build the edifice. In other words, no historical record of memory records itself. Downstream, its trace has the virtue, or vice, of effacing the collective trace leaver upstream. Roman roads outlive the empire, as do copies of Plato's *Phaedo* the Academy, and octavo editions of Marx the Communist movement (only by this process can the writings be gathered together, the opus canonized, the words put back into circulation). Because we fetishize memory in its material forms, its facticity causes us to overlook the very materializing organization it was called on to extend in the first place. The doctrine's influence and success wipe clean the memory of indoctrination's

painful gestation; opus eclipses operation. *Optimal transmission is transmission forgotten*. Hence the imperative of reminders that go against what is natural in these matters. The fact that the fruit melts so spontaneously into palate's pleasure calls for a more rigorous understanding of the grower's art.

NETWORKS AND TERRITORIES

Transmitting means organizing; it thus stakes out territory. It consolidates a whole, draws borderlines, defends itself, and exiles others ("Unity's nature is exclusion," Bossuet cautioned). The problem with territory is that it is always already there. From its preexistence arises the political effort necessary to dissolve the territorial ties of subjects who have come from elsewhere or from yesterday, before being reterritorialized differently, that is, given a new supraterritorial allegiance. The kind of organization stipulated by Christianity calls for a personalization of belief unprecedented in the antique world (for a Greek or Roman an individual credo has neither meaning nor place). Its effect was to separate the converted from their sociopolitical membership within the *civitas*'s topography of traditions only to enroll them in those created by a new, ecclesiastical territory. There, the less firmly established the church's ties to traditional localities, the tighter and more total its administrative net. For the new laypeople, parishes and dioceses simply took the place of the ancient Attican and Athenian demes and Roman centuries or tribes. Organizing cannot proceed without dividing tasks and demarcating spaces.

A holder of title or office in whom authority has been vested sees to the regulation and administration of the transmitted inheritance, to its proper circulation among the believers (or knowers), and ultimately to the adaptation of both these services to the external milieu. To do this, the useful redundancy of a hierarchized institution is highly recommended. Emile Poulat has insisted on the obscure *commutative* relation between a body of knowledge and a power, between a science and a potential, between a know-what and a know-how. Can we not shed light on this relation by seeing it as the effect of the principiative (originative, initiative) relation that joins a memory to a territory; or more broadly, the symbolic to the political?

No territory, ideal or physical, exists without a capital (from *caput*, head). Every school has its headmaster or principal, every doctrine its founder, every county its administrative center, and even Fourier's phalansteries were

set up with father-directors. Fortifying a territory also means deposition of doctrine (or with Islam and Judaism, investiture of a sacred language). An orthodoxy is authorized to escort and drive home a founding and appropriately political partition of territory between inside and outside. "To make stable," "to enclose," and "to make faithful" all imply one another. Does not the praise we lavish on the asystematic modern nomad (so frequent among contemporaries) forget that historically the nomad was a conqueror and thus a potential sedentary? All territoriality is organized according to a center that directs and peripheries that undergo. This is the difference in nature between a network (which is technological) and a territory (which remains political).

The capillaceous model of cyberspace communities sometimes relegates the pyramidal or linear model of organizations once wielding authority to the Stone Age. I have my doubts about the results of blindly extrapolating any order of reality into another (however denigrated the more traditional one as "neolithic"). The Internet is a headless network, a decentralized rhizome stretching limitlessly and horizontally. This is why the giddily anarchical World Wide Web, despite the metaphoric momentary highs to which it currently takes us, seems incapable of transmuting the virtual neurons of a planetary brain into the members of a real community of feeling and action. A collective intelligence does not ipso facto produce an elective or electoral solidarity. As data is not knowledge, so a PC is not a polity. Cyberdemocracy is the dream of technocrats who have forgotten their partially animal existence. Only by remaining preoccupied with this latter have those definitive religious or political prophets who are invested with official duties of demarcation ensured their success over time.

The fate of the commons, or *socius*, is territorial, our genealogy as zoological beings contributing to it innately.⁵ Large groups' organizational fabric depends on their means of locomotion and mobilization. In my book *L'état séducteur: Les révolutions médiologiques du pouvoir* I sought to delineate those relations that join together technologies for transmitting and institutional forms for governing. It is not hard to appreciate furthermore that cyberspatial information highways do not make for the same kind of empire, give rise to the same kind of metropolitan hegemony, as the metaled or cobblestoned roadbed constructed by human labor. The Roman Empire's static constructedness—pyramidal and radiating outward from the central *Urbs*—and its mania for accumulating and storing are markedly different from the dynamic, mobile, network architecture of the U.S. Empire, in which flows (of capital, goods and services, information, and people) have displaced stockpiles. A network is not a nonterritory but an organized con-

nectedness (a basic definition of the French *réseau*, which was coined at the beginning of the nineteenth century to describe the linked systems of urban waterworks for carrying water and draining sewage). Networks cannot meet the same criteria of practical effectiveness that apply to a simple relation ordered in a single direction.

It would be worth examining, on this score, the discontinuous shift in evolutionary rhythms one observes when moving from the institution responsible for conveyance (organized matter) to its material infrastructure (materialized organization). There is, on the one side, the dynamics of the *quomodo*, the how, of initiation that belongs to technological progress proper and unfolds as a product of numerous human agencies interacting with the materiel. On the other, there is the relative inertia of the *quid*—the agency of the initiating (toward whatever end)—that properly belongs to every group formation. Jewish ritual today observes the same rites, celebrates the same religious holidays, chants the same psalms and to the same swaying of the body that it did three thousand years ago. The *talit*, or prayer shawl, is held in one hand, the *Torah* scroll in the other, as shown on the Wall of Jerusalem. The Roman Catholic Church conserves mindsets and administrative structures inherited from the technological era of Constantine. Believers in information, contemporaries of the atomic age, follow the same liturgical calendar and move among the same mental and physical topography of holy places (Rome, Jerusalem, Santiago de Compostela) as people in the time of windmills and Philip II. They are oriented toward the same space-time coordinates because of a *sui generis* organization, an *Ekklesia*, that is itself not easily disoriented. This *Ekklesia* has crossed memory's successive technological periods intact, through the letter, the analogue, and the binary code. It is itself a self-reproducing memory, with a supra- or interethnic ethnicity endowed with a vital independence and animate with internal programming like a living being. Even when televangelism made its appearance on the scene of Protestant cultural settings (an example of how new material devices mediate religion's propagation), it did not modify the evangelical canon (the initiating *quid* of collective formations). The mobile array of organized matter innovates while the stationary motor of material organization conserves. But the innovative effort of the evolving technology has a need for organizational stability. To find fault with the pedagogical or religious agents of memory—whether school or denomination, time's gifts for the forgetful—for turning their backs on the present and on modern life is to fail to understand their very reason for being. The school couldn't possibly be ashamed of an attachment to the past so much a part of its

very function (and so disruptive of the amnesia induced by commercialism and consumerism). Transmission withers on the vine when the present is taken as the only model. And innovation itself withers with it, scorn for the past being the greatest enemy of progress.

CHRISTIANITY'S MEDIOLGY

The formation of revealed religions offers an exemplary field of experimentation. It is more rewarding to study than the propagation of secular ideologies spawned during the last century, developments whose timescale is more condensed but whose effects are more superficial (despite all the sound and fury). Did not the organizing of belief in a single God, particularly the evangelical message's multiseccular diffusion through Rome's Western world, take to its maximum performance a culture's symbolic efficacy, that is, the production of real, material effects (political, territorial, and administrative) from immaterial givens (words, signs, and images)? Just as the genius of the Incarnation provides a code of intelligibility for studying mediations in history—a kind of mystic calculus—so too the genesis of faith in Christ furnishes my approach with its *via crucis*. This historical genesis attests, better than any other historical experience, to the general truth that *the object transmitted does not preexist the process of its transmission*, if it indeed appears that Christianity invented Christ instead of the other way round.

Is there a more telling sign of the dual nature of the mediating organizational body, of its inherent ambivalence, than the meaning of the Greek word *ekklesia*? In liturgical Greek it designates first the main body of an architectural structure, the physical site as meeting place; then, in the aftermath of this meaning, the institution of grace, the *corpus mysticum* of the Christ. (A similar usage is not immaterial in this respect: do not the terms *cinema* and *theater* suffer, or benefit, from the same equivocation?) Its first version uncapitalized, its second capitalized, *ekklesia* carries the double signification of a single crucial operator—a linking mechanism, like the king-bolt connecting the front and rear axle and wheels of an automobile chassis or the trucks of a railroad car—that proved decisive in the transmission of the message-Messiah (and whose double nature in Jesus as fully man, fully God, founded Christology). "The reason for the Christian faith is that Christ died and regained life" runs the causal argument. The objective validity of this reason counts less to our way of thinking than the fact that its initial,

historical stimulus was objectified, formulated, and reformulated by a church that learned to assure its perpetuation across the centuries, down to our own. It is irrelevant to mediology whether Jesus of Nazareth was raised from the dead on the third day; the central question is to know how the tradition that established him was elaborated and carried on. Why is it that Adonis, Attis, and Osiris, eastern mystery cults all, have not come to be worshiped among modern-day celebrants, while the Christian mystery was carried across the centuries? Dwindled and weatherbeaten it may be, yet it is still proclaimed and confessed by communities of the faithful gathering together and setting up churches distributed over five continents two thousand years after the "facts." Unable ever to know if Jesus was brought back to life, we are positive however that people believed it happened. The psychological mechanisms of such a belief are not hard to imagine. Jesus' disciples could not endure the grief of losing him; hope against hope got the better of them, and they saw him alive again in imagination and posited his continued life in heaven. Here is the real miracle of the faith. And here are the grounds to say that the idea of Jesus' heavenly life explains his apparitions on earth and not vice versa. The idea outlived the visions, and faith in the living Christ outlived the particular sightings following his death. How the miracle has been renewed and renewed, making its way to us (witnesses to nothing)—is the central question.

So, yes, the generation of Jesus' apostles has long vanished, in subjection to biological law, but not their belief. It was transmitted to Paul of Tarsus, for instance, someone who did not meet the living Jesus during his ministry yet saw him with his own eyes risen from the dead on the road to Damascus. The converted Paul found ways to convert others, who in their turn forged the chain from age to age, city to city. The articulation of Christian faith turns on solid pivots: on relics, sacred images, and holy scriptures that are directed less toward propagating the *memory* of past words and deeds than the impersonal *interpretation* that the distant alleged witnesses, Matthew, Mark, Luke, and John, are supposed to have given them in their lifetime. Doctrine refers to an admirable propagation of Christianity, adding further cause for believing in it. The mediologist, whether or not a believer, has the task of supplementing admiration with an explanation.

Wherefrom we can deduce that, strictly speaking, there are no "founding key words" or "founding principles" (ill-chosen expressions at best) from which traditions and institutions of transmission originate. A mediological approach would do well to renounce the idealist's illusion that our culture is founded on a few simple formulations or messages that brought about its

present state. The institutional body supposed to relay these disembodied word-principles has gradually invented its own origin. The words it is held to have transcribed it was indeed the first to compose. The holy speech of Jesus did not come first, only to be gathered and set down by apostle-mediators subsequently and then finally broadcast on all fronts (*omnes gentes*) by members of the priestly body serving as mere relays. Instituted Christianity uttered the Christian proclamation. "A word become world" has it backward; a world was only uttered through and in the priesthood's speech. Holy writ is produced by particular communities making use of it as needed in order to communify. Hence, in the case of both Christianity and Islam, the belated character of their sacred scripture: following their faith, interpreters still found license, for several centuries, to reinvent after their own fashion the revealed religious texts they claimed only to be quoting verbatim. (Six centuries were needed for the Christian church to adopt and establish the twenty-seven books of the New Testament.)

Likewise is it fitting to take *cum grano salis* the hackneyed expression of historians of philosophy "Plato's 'founding idea' that. . ." What indeed would Plato have amounted to had he not had the brainstorm of purchasing a plot of land near the Athenian suburb of Colonus where he established a sanctuary of the Muses? This proving ground for the mind, dubbed the Academy, became the collective property—of a school. Plato launched this religious association, and in turn it instituted the thinking of its founder as foundational. What would we have known about Plato's ideas without his nephew and successor, Speusippus?⁶ Without Xenocrates and, after him, Polemon?⁷ All of them became links in a chain across time and helped build the coherence of a doctrine (and thereby its capacity to *become* doctrine) in rivalry with the organized schools of the Lyceum, the Porticum, and the Garden (each one a territory generating its own war machine).

The disciplines invent the teachers. And, as it turned out, the Neoplatonists—more orthodox even than the direct successors installed in the Academy—invented Platonism. If you wish to understand a theology, examine its corresponding ecclesiology: you will pass from the form to the formative matrix. From the consequence to the cause. The critical agencies of acculturation (into Platonism, religion, Marxism, psychoanalysis, what have you) are bodies rather than spirits. Only bodies can deliver the message. To think is to organize. If you begin by incorporating, the incorporeal will be given to you in the bargain, the line of succession opened unto you. An inheritance is recorded only once you have made the record to which it is owed.

2

Crossroads or Double Helix?

THE TWO LINES

This, then, is the nodal point of my proposed diagram of transmission's criss-crossing lines, the point where organized matter and materialized organization interact, where material base and social relations are in their most dialectical relationship to one another. It is impossible to treat the communitarian level of authority separately from its means for communicating or to treat sociability separately from technicity. If such a vantage point can stake a single claim of originality, it is its refusal to sacrifice either the technical equipment or the institutional group when analyzing the trails left by symbols. What matters most is to travel along the ridge from which both these historical slopes can be scoured. One must take in both the mundane matters of the highway department and the sublimities of the lyre, both civic and literary genius, the laying down of both pipes and party platforms.¹ Transmission's genius is a long ambivalence.

For those with a lingering preference for the genius of Christianity over that of the engineers, it is essential to bring together two etymological ancestries of the word *religion* about which philologists have quarreled since the days of classical antiquity. Authors such as Cicero relate the word to the verb *legere*, "to gather or bring together." Others such as Lactantius and Tertullian argue for *ligare*, "to link together."² Does not the one naturally imply the other? Without indeed gathering up saints' relics, without collecting here and there from far away bits and pieces threatened with extinction (the *relegere* part), how is a durable link ever to be forged between contemporaries (the *religare* part)? A scrupulous conservation of traces and a capacity for rallying together, each activity in solidarity with the other, constitute one and the same operative function practicable two ways. Whether or not



Ways of Doing

have never yielded a probing and generalizable conclusion permitting some kind of prediction, and it is not hard to guess why. Measuring for one given individual the respective shares of hereditary or genotypic component and cultural or environmental component would first have to suppose that those components are (a) distinct and (b) homogeneous and thus summable. As long as they are interactive yet incommensurable, the quantitative phantasm seems destined to be dashed.

It should be clear by now why more promising fieldwork might lie elsewhere. Not that a social psychology with much to teach is to be rejected. There is, in particular, Gabriel Tarde (1843–1904), with his innovative studies of the opinion of crowds, which are more subtle and original than is suggested by textbooks' scholarly caricature of this great thinker as a monomaniacal doctrinaire of imitation. Tarde contributed in considerable measure to rid conversation, the public, the newspaper, the crowd, fashion, sects, and many other situations of what might to us seem their deceptively obvious or anodyne comprehensibility as ready-made, influential givens.

The various psychosocial schools of thought are nonetheless burdened by what seems to me a common procedural vice: the *ab interioribus ad exteriora* method, the ease of slippage from the interior to the exterior or from individual psychic dynamics toward the collective effect. If one admits, as I do, that cultural transmission begins where interpersonal communication ends, the actual state of affairs would seem to call for the inverse method, *ab exterioribus ad interiora*. It was not Saint Thomas but Saint Paul who, never having set eyes on or heard Jesus himself, made faith in Christ *transportable*. This contagion was carried out at a distance (historically and geographically) from its point of origin. The routes of its transmission were not genetic, not reducible to familial relationships, and without crowd effects of the kind modern media entail; neither were they somnambulistically suggested, involving hypnotically induced trances in the converted. As a result, this propagation had recourse to an institution—the church—and to a determinate set of techniques for inculcating the faith (evangelism).

Mediology's change of focus attends to coordinating these two realities *sui generis*: the belief and the techniques. It makes its claim, if not to independence, at least to internal autonomy. And this autonomy should follow naturally, so to speak, from the principle of subsidiariness: a mediologist should treat, from his own level, so-called minor questions that major disciplines of knowledge, despite or by very reason of their superior competencies, necessarily leave pending because they are not outfitted to study them.

The research program implied by a mediological perspective can be divided into two branches. One side favors diachrony, asking by which networks of transmission and forms of organization a given cultural legacy was constituted. How were founding ideas themselves founded? Across which material and mental walks of life did they have to make their way? How did they negotiate and compromise with these various environments? The question can be addressed equally to great historical religions and secular ideologies, to sweeping spheres of influence and to local coteries.

On the other side, with more importance given the synchronic crosscut, the question is how the appearance of a new system or equipment modifies an institution, an established theory, or precodified practice. How does a novel technological object dislodge a traditional domain? For instance, how have successive generations of recorded imagery—at first photographic, next filmic, and finally digital—affected the adducing and administering of proof in the sciences? When the material basis of inscription, transcription, and recorded data changes, what are the repercussions for the very definition of an art? (What changes have the vinyl record and compact disc brought to music, photography to painting and to literature, etc.?) On the one hand, then, there is the geomorphology of a cultural landscape; on the other, its geodynamics.

In short, whether one surveys, so to speak, the meteor craters resulting from an unexpected object's impact on a mental planet or reconstitutes the fluidities of magma behind forming eruptive rock, it is the shock of heterogeneous elements that will interest the observer. The Catholic Church was not made to encounter the cathode ray tube and televised religion, nor were schools created for the computer, but their paths could not help crossing. As it stands, how must they make themselves over so as not to be undone by the meteorite? Culture and technology move together and cannot do without

one another: the two enemy sisters do not get along but must come to a working compromise. Such compromises pass through a series of decompositions and recompositions that mark a cultural crisis, or crisis of exponential growth. And this remains the case even when it finally proves necessary to refuse the postulates and above all the melancholy attendant on these changes. (Among such refusals can be counted Plato's derisive juxtaposition of copy to original, the nostalgia for a lost mythic authenticity, and the superstition of artistic aura.) Benjamin's "The Work of Art in the Age of Mechanical Reproduction" (1936) uncontestedly opened the way and established a profile for this line of inquiry. There is also his "Small History of Photography" (1931).¹ The latter calls for numerous as-yet-uncomposed complements or pendants, for example, "A Small History of the Automobile" that chronicles forms of collective consciousness in the era of individual transport as a driving force.

I recognize that my speculative profligacies and large-scale forecasts have no way of covering over the minimalist character of this proposed approach. With obstinacy and indifference to raised eyebrows, the latter places the great turning points face to face with trivial realities: a minuscule technological cause; a great civilizational impact, to use Daniel Bougnoux's juxtaposition. *Minimus curat mediologus*.² Indifferent to the impregnable point of view of a global conception, the angle of attack prioritizes a diminutive mediology, one that covers concrete landscapes (which are already littered with humble forgotten artifacts: the bicycle, the road, paper and pens, the candle, and the reading lamp) and case studies. Mediology's expectations turn away from the founding of a school with its garrisoned disciplinary turf and its issuing titles of nobility, its walls with arrow slits, its officer staffs, and its acknowledgments. (A university corporation has its professional interests to defend. Though hardly satisfied with disciplines that are already institutions, a mediologist, having no official roster of adherents, still has no reason to make war on those disciplines.) Even less is it a matter of some doctrine sprung fully armed from a founder's skull separating true from false and good from bad in order to cure contemporaries of their ills and illusions with subscription to a redemptive value. Why shouldn't the inquisitive researcher at work place his values between parentheses for having, like all reason's devotees, pledged fealty to the cynicism that comes with understanding? If, with mediological curiosity, one approaches frankly the modern state subject to the rule of law, republican education, living spectacle, a religious confession, or a literary genre, there still is no imperative to defend republicanism over democracy, wager

Buddha against Jesus, espouse live perception or broadcasting against deferred or taped broadcasts, or tout the novel over the epic. Why not think more in terms of an archipelagic than a fortified disciplinary space? A work in progress rather than settled system, such a semi-independent area of influence has an androgynous quality, a space that is motley with hunches. In its precincts, harlequin-hermaphrodites (to use Michel Serres's image) labor—sometimes with each other, sometimes at cross-purposes—at divergent if not contradictory interests.

Though not keen to corset with a prioris this bundle of emerging concerns, I believe something gives an undeniable family resemblance to this turn of mind shared by quite a few. Each of its hybrids finds itself incapable of letting operate, as before, the binary code of philosophical universals inherited from a past that will not stay passed (including the habits of thought it has fostered in the social sciences, where one would have least expected it to persist). This code stipulates stark bifurcations between nature and technology, spiritualism and materialism, form and substance, symbolic and material. Such antinomies can be facile and sticky; against them is set an analytical style of mixed breed, uncoercively trinitarian (that is, tirelessly seeking out the excluded third term, the medium that makes it possible to put ideas across, the carrier that makes the first term of each aforementioned antinomy pass over to the second and back). Out of negative protestation there can arise a positive mutation (as every new object that is made intelligible transforms the frames of intelligence itself).

Sometimes the moment of truth is demanded of us, as by whoever inscribed *hic Rhodus hic salta* at the foot of the wall. "So where, at long last," I may be asked, "is your mediology? If it is something serious, surely it has its method, does it not?" It is often typical of bodies of knowledge less certain about their foundations to fetishize methodology: they are taken up (perhaps to reassure themselves) with putting the cart before the horse. The less distinct the terrain, the harder the method: no surprise, then, that the sciences of culture and society obsess about this question more than the others do. Must I respond to the question by remarking that although studying the facts of transmission does not (yet) resort to numerical data or statistical instruments and although it cannot count on a whole century of erudite legitimations already under its belt, it sees itself poised at about the same epistemological starting place as sociology in its infancy, despite its still eccentric marginality? Like sociology, it is neither experimental nor hypothetico-deductive. And so in its turn shall it not be satisfied with establishing concrete causal connections (Weber) via a method of concomitant

variations (Durkheim)? One might prefer to defend mediology as a *science humaine* by embroidering on the vast spectrum of scientific regimens already out there or wrapping oneself in a cloud of references and authorizations like the cuttlefish in its own ink. Some words of Roland Barthes might help us resist this temptation: "Sterility threatens any work that never stops proclaiming its will to method." Let it simply be enough for me to outline, in what follows, a way of going about cultivating the merest kind of skill, or knack, for mediologic practice. Three gestures in this direction—because they actually comprise a single gesture—fall unpremeditatedly into line: decentering, materializing, and dynamizing.

DECENTERING

A Chinese proverb says, "When the wise man points to the moon, the foolish one looks at the pointing finger." The mediologist shall be a fool, meticulously, and his method, a carefully argued, foolish concentration on the unexpected or the taken-for-granted. He will look thoughtfully up, down, or behind to the information's addressing system, all the more camouflaged as it is embodied. This camouflage can be found in the etymology itself of material bases and substrata: the Greek *upokeimenon* (versus the *phenomenon* itself), "not to show itself," "to be *sub-*," beneath the flotation line (like the boat's submerged keel). Hauling up to the light of day the logistics underlying the spiritual and moral realm comes under a strategy of emphasizing the opposite of what others say. But nothing short of this is called for if we want to defuse the medium's inbuilt strategy for erasing its own traces. This insistence rubs the spontaneous psychology of message producers the wrong way; mediologists are not born but made.

It is more natural and agreeable to evoke class warfare than the finer points of operation of mill trains. Critics would rather bring up an author's elaboration of metaphors than an era's techniques of manufacturing paper, narcissism than reflective surfaces, or velocity rather than the asphalt enabling it. Putting together a dictionary of works or a history of ideas gratifies readers' taste for symbolic meanings over analytical catalogs of mechanical networks, vectors, and procedures. Diderot opined in the Prospectus to the Encyclopedia that "there have been too many books written about the sciences, not a sufficient amount concerning the liberal arts, almost nothing on the mechanical arts."³ His observation is still valuable,

and—except for a few such as Diderot, Balzac, and Valéry, the French pioneers of this kind of archaeology—the great tradition has written even less about the mechanical aspects of the liberal arts. Belles lettres are an unpropitious site for the study of letters' technologic structures, as is literary theory for learning the workings of the book trade.⁴ Writers treat the question "Why do you write?" as tapping a more prestigious source of activity than the vulgar question "What do you write *with*?" (types of paper, pen, or word processor; timetables; and surroundings) and more virtuous by far than a measly "On the backs of whom or what do you write?" How often do we think about the realities of nineteenth-century travel by rail, as we turn the pages of Maupassant's *Bel-Ami*? There is clear evidence, however, for a causal complex in which the popularity of journalism followed from the steel railway. Industrialized mass transport enlarged printed matter's sphere of circulation; it determined the industrialization of the press (the daily newspaper costing one sou) and brought massive influxes of money onto the intellectual scene.⁵

This shift in emphasis, from the better- to the lesser-known, can be called the mediological indexation of a phenomenon. It puts what appears marginal at the very center. It shines a light into the dead and dusty corners of literary history and the panorama of ideas. It vacates textual space or the universe of forms to take a look at contexts of carryings, makes a detour around the outside to reach the inside. This indexation proposes a reversal of the best habits picked up during one's early years at school. It inverts them by targeting atmosphere, by playing its billiards with bank shots off the cushions, and by closing in on the periphery's details as if *they* were the big picture.

Faced with a doctrine that is already constituted and presents itself as an autonomous whole, attention must be redirected from literal meaning-content to the frameworks that administer belief in that content. To do this, utterances must be subordinated to *manners of utterance* and *enunciatory instantiations*. What institution gave rise to the indoctrination and put it across? How was its doctrine propagated, inculcated, and reproduced? Which models of conformity did it follow? Like the jewel in a ring's setting or the rider atop his ride, a system of theses or ideas will have been placed in the mount of its form of collective organization. The latter will be seen to have functioned as something subject to veridical enunciation, and this enunciation in its turn to have functioned within a certain mnemotechnological complex. This complex in *its* turn served to set down, store, and circulate traces in a manner characteristic of a given, historically determined

mediasphere: the logosphere, or age of orality and its first inscriptions in writing; the graphosphere, or age of print; and the videosphere of recorded images and sound, digitized and pixellated sign-pictures, and unimedia.⁶

Consider the example of the Christian religion. To index Christianity mediologically as a *fait accompli* of global transmission, one would have to articulate, in relation to one another: (1) a theological corpus, that is, a set of dogmas and mysteries; (2) a sacerdotal institution, that is, the pyramid of hierarchical ministries; and (3) original procedures for proclaiming, catechizing, and identifying, that is, such things as reading aloud the sacred text followed by an unscripted homily, a form called "scriptural proclamation" inherited from Hebraic synagogical practice.⁷ These latter rituals are carriers of the faith, veritable tools the community has manufactured, incorporating expertises originally derived from technologies of oral and lettered memory in the logosphere. Each of these three staggered stages of Christian transmission has been, though so far only separately (with a few rare exceptions), the object of research. The doctrinal expression of the sacred is formulated as *theology*; cultic expression as *liturgy*; and institutional expression as *ecclesiology*. By recombining these units differently, one catches a glimpse of how much the second and third levels have acted on the first (i.e., the techniques of worship on politics and politics on symbols). The approach cuts across the methodological distributions of labor as much as the proverbial disdain of generals for the supply corps. While the contents of Christian pronouncements were shaped by the vectors and contexts of issuance, there are now countless contemporary interpretations of the Gospel's message that give little prominence to its historical process of construction and propagation.

The mediological indexation of a political ideology such as socialism rearticulates doctrines in their juncture with institutions (schools, parties, and Internationals) and these latter in their juncture with tools (the genetic helix of school, newspaper, and book). These vertical joinings, from ideas down to materials, relativize horizontally secondary oppositions between tendencies in the mediasphere (libertarian, scientific, utopian), bringing to light the cultural technostructure that supports them all. Fratricidal quarrels can be recognized as familial, by virtue of a common rootedness in technologies of representation now extinct. To the eyes of the warring factions, the confrontations of ideas, apparatuses, and persons among different branches of the so-called worker's movement served as a kind of screen (a properly ideological one) between the actors and the global ecosystem of their action, an ecosystem that was, starkly put, movable lead type printing

technology.⁸ Typologues, intellectuals, and pedagogues: here were the three pillars of transmission in the universe of the proletarians. They were the flowerings of a precisely definable age in the history of media that began with Marinoni's rotary press (1850–1860), flourished especially with the Linotype typesetting machine, and came to a close with videotypesetting (1970–1980). It thus lasted approximately a century. Some estimates are that half the species that have ever lived have become extinct since the first appearance of life on earth. A good number of ideological species encounter a similar fate, at the hands of their surroundings' selective pressures (technological Darwinism is pitiless).

The idealistic postulates of this inconsistent materialism, in which a critical rationalism is synthesized precariously with a religious messianism, are no longer competitive once lettered pronouncements' techniques for analytically decomposing perceptible appearances are downgraded when those appearances are recorded by their image and sound traces on tape, film, and screen. No one will ever behold with sensory eyes an average workday or a profit margin on the tv or movie screen. The market's invisible hand has more concrete apparitions to put on exhibit in the marketplace. Every culture is an adaptive response to surroundings (Jacques Ruffié), and even if the "one species, one niche" principle does not apply mechanically in these more subtle matters, the technological niche of the videosphere proved fatal to a cultural tradition tending to put the (invisible) future before and above the (perceptible) present. The last in the line of communities of the Book, Marxists took this analytical-because-alphabetical mentality and made of it a mystique as much as a lever, offering salvation by library and literacy. In the end, however, the mystique hid from their own eyes the historical precariousness of the apparel of apparatus. Before our very eyes there has occurred a slow disintegration of that grand European mosaic of the graphosphere: publishing house dynasties, reviews, newspapers, booksellers, and readers. They had guaranteed the social viability of a book-bound culture within an ecosystem that was invisible because shared (with the internal ventilation of its pertinent oppositions). However Marxist or Proudhonian one professed to be, one did not push one's materialism to the point of identifying the actual material constituents—paper and lead—on which the grand and the small publishing houses had been founded and that melted away along with them. Political parties, movements, and splinter groups proved to be more literary than their members could ever think possible. From 1848 to 1968, encountering the masses through words on the page, the avant-garde intellectual kept up his Latin but forgot his medium.

How much thought does the myopic give to his glasses, except after misplacing them? (Can the fish discover water?) The civilization of the book is more than the circulation of printed matter. Once mother and matrix, when it recedes it takes with it the extremist aristocracy of ink and lead typesetting. Is it not by deideologizing ideologies that one can understand their appearance as well as disappearance?

More today than yesterday, one must play the fool and focus on the pointing, so as not to fall into the moon. The indexical fragment is all the more invisible because obscene, since the more present our visual media of reportorial representation, the more apparent will be the immediacy, the apparent unmediatedness.⁹ The more reinforced the material intermediaries of interpretation are in a given act of transmission, the more the sensation of immateriality increases. When instances of enunciation are at work, it is their strategy to the second power to reach a complete, traceless transparency at the very moment when they impose their "law."

Diderot's paradox of the comedian is reborn here as a *paradox of the interpreter*, and the name of the genial Glenn Gould merits being attached to it. The musicologist Denis Laborde has subtly taken this paradox apart and examined its workings in the case of Bach and the *Goldberg Variations*, the best-selling classical recording of all time.¹⁰ The roughest outlines of an interpretation of the paradox would state it as the triumph of the "Gould utterance" over the "Bach utterance," were it not that the highly sophisticated orchestrating of emotion produces in us, the listeners, the effect of a quasi-ecstatic contact with an "utterance" in its purest and most untamed state, "tel qu'en Lui-même enfin" (such that he—Bach—is finally to be found truly himself), as Mallarmé's line on the entombed Poe has it.

The Gould effect can be divided into two schemes of time. The first involves the star shining his projectors on his own technique (rather than on the musical score itself), subordinating his playing to its recording sessions. The virtuoso refuses to give concerts, and his masterly execution makes a show of its emotive and pathos-filled style. The star tailors his own legend, a myth, a Gould mystique (the anorexic, the insomniac, the misanthrope, etc.). To allow the character to be fully placed in this element, the industriousness of the record making is mobilized in an elaborate mediatic deployment that truly overdoes it. At this time it could be said we no longer hear Bach done by Gould but Glenn Gould in Bach. In the second scheme of time, however, the effect is reversed. Who recalls, from then on, that the thirty-two Goldberg variations were actually composed in 1740 for two-keyboard harpsichord and not for piano? Other virtuosi interpret these varia-

tions using the instrument for which they were intended and scrupulously respect the composer's indicated tempi. These interpreters efface themselves before the utterance, and in mediatic terms they are unwise to do so: aside from the more exact and faithful rendering selling ten times less better than its re-creation, it also sounds less perfect, less true to the ear. In a second state, now carried away by the music, Gould manages to disappear as an interpreter. Like that of the illusionist carrying out a disappearing act with his own technique, the execution takes hold of us as a burst of inspiration, as if dictated in brute form, with no airs, by the original. Here seems to play the source itself, simply put to instrument: a wager won. The cumbersome question of method and interpretation yields to transparency, vibrancy, and translucency. In the end we see Gould no longer but hear Bach in person: a revelation, an encounter, a shock.

As to the plastic arts, some superbly researched treatments, like those by Michael Baxandall, Svetlana Alpers, and Nathalie Heinrich, have produced more than a classic social history of art (in, respectively, fifteenth-century Italy, sixteenth- and seventeenth-century Holland, and the age of classicism in France) by exhuming the mediations, individual or collective, internal to the art world.¹¹ Their method allows one to escape the eternal alternatives of sociological reductionism and tautological aestheticism. Although they do not of course use the word itself, these authors have in their own manner created a mediology *in statu nascendi* by turning attention to the side aisles and backrooms of the noble history of aesthetic canons, where, vegetating in footnotes and decidedly secondary in importance to the main lines of inquiry, labored (from the quattrocento on) indispensable individual mediators—commissioners (public and private), patrons, collectors, and dealers—as well as mediative groups or institutions—public or private academies, workshops, schools, museums, administrations, etc.—from the sixteenth and seventeenth centuries on. The intended decentering crosses things and people, grasping relations of force incorporated into produced works that can in turn modify those relations further. Thus by uncovering all that comes to intercede between an aesthete and a canvas, thereby constituting the one and the other as institutions, one dissipates the illusion of the atemporality of an ideal and inert one-on-one encounter between a subject of taste and an objet d'art. It is instead a matter of discovering what led a subject concretely to sanctify this object and said object to be exhibited behind glass or velvet ropes. For the birth of the Artist, as someone practicing a liberal profession and not just an artisanal or mechanical art, was as little spontaneous and universal an occurrence, and as intricately orchestrat-

ed, as was the birth of the Intellectual to public and symbolic prominence in the nineteenth century.

So too does mediological inquiry find kinship with a kind of knack for sniffing out contemporary creation by taking interest in everything that does not traditionally interest the aesthete or amateur: looking at the lookers, at the public and private viewings of exhibitions rather than the varnished veneer of canvases themselves; at the layout of museum rooms, with their guides and guards, their framings, wall clocks, catalog, collection curators, and recommended sequences for viewing paintings; in sum, at everything that is deployed to display and solemnize works of art. A careful study of this well-handled distraction, this periphery of cultural validation, puts us on the trail to a quite simple truth, which is not demystification but restoration of an aesthetic wholeness: art and the faith we put into it are one and the same. And there exists a technology of production of this faith, as of all others (in God, in science, or in money).

MATERIALIZING

Or, better, as François Dagognet puts it, “re-materializing.”¹² When we view things for what they are materially, we fall back onto our feet (that is, come back to the beginning), at the risk of getting dizzy, because most of the time we walk as if with our heads, from force of habit. Our spontaneous inclination is to conceive human evolution “rather as an outpouring of the social into the material than as a two-way current whose deepest motivating factors remain material.”¹³ This is confirmed by the history of writing, over the course of which the nature of the inscription surface and its substance conditioned significantly the nature of the notation procedure. Civilization, insisted the historian Charles Seignobos, is roads, ports, and quays. It has become so natural to speak of culture, while forgetting civilization, that our elaborate normative displays hide from view the basic levers of interaction and negotiation with things both inert and living.

Admittedly, there may be an element of self-punishment in always vexatiously redirecting values toward vectors and asserting slippery claims for the subject on the configurations of the lowly object, threadbare and mangy. Roads, ports, and quays don’t sport the name of an author. Neither do the photocopier and record player. (Who remembers the name of Ferdinand von Braun and the technology laboratory of Strassburg in 1940?) Cultivated cul-

ture stands like a column covered with glorious signatures; technological culture is the poor relation, reduced to anonymous familiarities. With cultivated culture, the proper names last longer than the works; with technological culture, the inventors are effaced behind their inventions. Fire, the wheel, and steel were and remain signatureless, like the sewing machine. The English lad who had been assigned to activate a crude fire engine and who, when told to go and play, had the idea of attaching with string a tightrope balancing pole to spigots injecting steam and water into the cylinder, advanced civilized humanity by a giant step. His Christian name and surname (Humphrey Potter) were not, however, part of his legacy to posterity. Every French schoolboy knows the name of Barbey d’Aurevilly; however, the bicycling enthusiast may well be unaware of the name of the inventor of the bicycle with gear-wheel and pinion. His invention gave us our first means of individually powered locomotion, which turned out to be, on this score, a momentous event in the history of consciousness. We still go bicycling; we no longer read Barbey. This fact hardly prevents us, we sophisticates of culture, from tending assiduously to the cult of genius while relegating to nameless folklore the inventor of the Concours Lépine. We continue to act as though inscribing a signal on magnetic tape had nothing to do with the realm of consciousness or how the mind works. Within the notion of *artifex* we persist in dissociating the (mechanical) artisan from the (liberal) artist. We tend to see only the painter in the figure of Leonardo, while he saw himself as an engineer.

At the risk of overcompensation, the dangers of underinterpretation should be preferred to the far more pervasive temptation to overinterpret phenomena and objects, especially in the area of aesthetics. When faced with a fixed artistic image—whether painted or sculpted, whether Magdalenian, medieval, baroque, or avant-garde—why not lay aside the specialized lenses of the aesthete, the semiologist, the iconologist, or the philosopher of art? Why not disengage from style, hidden meaning, and figural codes? Instead, with deliberate naïveté, let us shift emphasis onto the most simple-minded questions. What precisely is the material substance of the image under consideration (how are its traces conserved)? Which material procedures produced it? What was its function? What type of attentiveness does it compel? Is it signed or not? Does it look to be an object that is to remain hidden or on the contrary exhibited, touched, thrown, or carried? Is it suited for framing, dressing up, placing under glass, or displayed in fresh air like an everyday object? Was it considered by its manufacturers to be beneficent, baleful, or without any physical effect on the health of its beholder? To what universe does it give or promise access?

It will become clear, through probing of this sort, that the efficaciousness of the image as a *symbolic operation* that puts the looker into some kind of relation to something cannot be considered apart from the image's status as a *technical product*, that is, the operative chain of causes in which it is set. Let us think, for example, within the supposedly homogeneous domain of photography, about the changes of style and consciousness ushered in by the handheld camera, with its new tripodless portability, and, after that, by the Leica camera before the war. With this new piece of equipment are born instantaneousness, the scoop, atmosphere, street photography, and images taken clandestinely. Different social uses are now entailed by photography, according to whether the image is produced on a metal plate, on a negative against glass, with powder silver bromide on paper, with celluloid, with a Polaroid instant camera, or with a digital print (in this sense there are many photographs, not one). The materiality behind the camera's picture taking determines the operations of our looking.

How would a mediological angle of attack take up the history of cinema? Jean-Michel Frodon has already shown the way. The dynamic of genres is to be preferred to chronologies of auteurs; observation of films' effects and influence, to critical appreciation (labels of "good" or "bad"). One should think in terms of production and reception as much as creation, finding as much interest in the reactions of the public as in the direction of the filmmakers. Oblique connections between the technoeconomic, artistic, and social provinces of praxis can be made, but without ever forgetting what distinguishes the cinematographic phenomenon, as a mechanical device and attendant set of practices, from its elder and younger brothers, the theater and television: being a process of *projection* different from theatrical spectacle and televisual broadcasting.¹⁴ It is of capital importance to a mediologist how films are viewed (collectively in hushed darkness, with tickets bought at the door), how movie houses are laid out (from Rex to multiplex), and what kinds of ceremonies and contextual emphases put the industry across (posters, film festivals, Oscars, appreciations, publicity, etc.), all purely circumstantial trifles in the eyes of the cinephile. He gives thought to such things as the abandonment of the turning reel of perforated, unexposed negative within the classic film camera—moving at twenty-four frames per second, a kind of skin highly sensitive to the flesh of the world—in favor of the digital image. Along with the editing table's replacement by computer editing (which permits a different reconstruction of the illusion of duration), he wonders how such changes are going to modify the very texture of films and human feelings. All such technical details will have their effects

beyond special effects, in particular on the dispersal of publics, on the social imagination, and on the narrative structure of films, as well as on their communication modes (broken up into projection in theaters and video and television watching at home).¹⁵

A day might come, in the still-far-off future, when the shift in weighting relative research priorities that mediology recommends will end up as a slippage too far to the other side of the horse. This will happen if and when it attains the state of self-sufficient giddiness (or the hubris mentioned earlier) into which holders of a would-be explanatory master key sometimes fall. As we pass from the book as text to the book as object, the history of the book could risk erasing that of literature. The crudeness of materialist underinterpreting would at this point form the pendant to the snobbish overrefinement of our Hellenistic overinterpretations. Overvaluing the code and undervaluing the channel was yesterday's semicratic indulgence. Stopping before getting to the referent, the mediocrat might succumb to the opposite realist fallacy: overestimating the channel at the code's expense. To each his own penchant, as long as the effort climbs an upward slope.

DYNAMIZING

Restoring to logistics their central role is not enough. If the notion of a vehicle has heuristic value, underlining the centrality of the *medium* (that which occupies the middle) will serve to highlight the efficient dynamism of the *mediate* (that through which one thing relates to another). Analyzing mediations in practice relegates the observational (the inventory of places) to the performative, involving an inventory of metamorphoses (of everything that crosses through these places). Grasping discourse as a course, a journey across and a distance covered, and substituting an anatomy of vectors for an exegesis of values oblige us to break with an empiricism in the Anglo-Saxon mold. Consider, as illustration, the historical example of eighteenth-century France's passage from Enlightenment to Revolution.

It is not without interest to juxtapose here two original specialists of intellectual history, both valuable in their own right. Both ask themselves the same question, how were the ideas of 1789 transmitted? And both set out from the same refusal to apply the old saw, "it was Voltaire's fault, it was Rousseau's fault," which is a tautology that explains nothing. The first specialist is our contemporary, Robert Darnton; the second an ancestor,

[All translations are mine, unless otherwise indicated. Wherever possible, French texts cited in the original are followed by citations, within square brackets, of English translations. Translator's notes are set off in square brackets and followed by the abbreviation "Trans."—Trans.]

I. THE MEDIUM'S TWO BODIES

1. One can contrast this enterprise of constructed duration with post- or pre-modern declarations of precariousness and transience, apotheosized in the happenings of the 1960s. Let us recall, however, that even Hinduism and Buddhism's consecration of impermanence is taken to give entry to the atemporal. And though Navajo sand paintings, which so fascinate contemporary tastes, are designed to be erased, the shaman's elect training in the execution of an ephemeral work still presupposes the transmission of a know-how, that is, a collective victory over the ephemeral.

2. [The sociologist Rodney Stark undertakes just such an inquiry into the networks of transmission of early Christianity. See his *Rise of Christianity: How the Obscure, Marginal Jesus Movement Became the Dominant Religious Force in the Western World in a Few Centuries* (San Francisco: HarperCollins, 1997). In a sense, Stark goes in the reverse direction, by using source material and statistics on contemporary cult activities to better reconstruct the new faith's plausible routes of transmission in the first few centuries A.D. But the same mutual insights into past and present to which Debray refers apply in this study.—Trans.]

3. [The classic elaborations are by Pierre Bourdieu. See his "Cultural Reproduction and Social Reproduction," in J. Karabel and A. H. Halsey, *Power and Ideology in Education* (New York: Oxford University Press, 1977): 451–487; and his *Reproduction in Education, Society and Culture*, 2d ed. (London: Sage, 1990).—Trans.]

4. [Debray avows his debt in this area to a growing body of scholarship tracing the history of libraries and literature as an official, popular, or pedagogical institution. Pertinent overviews in English include Roger Chartier, *The Order of Books:*

Readers, Authors, and Libraries in Europe Between the Fourteenth and Eighteenth Centuries, trans. Lydia Cochrane (Stanford: Stanford University Press, 1994); Robert Escarpit, *Sociology of Literature* (London: Cass, 1971); Robert Darnton, "Reading, Writing, and Publishing in Eighteenth-Century France: A Case-Study in the Sociology of Literature," *Daedalus* 100, no. 1 (1971): 214–256; idem, "What Is the History of Books?" *Daedalus* 3, no. 3 (1982): 65–83; idem, "First Steps Toward a History of Reading," *Australian Journal of French Studies* 23, no. 1 (January–April 1986): 5–30; idem, "Toward a History of Reading," *Wilson Quarterly* 13, no. 4 (1989): 86–102; and Lionel Gossman's essays "Literature in Education," "The Figaros of Literature," and "History and Literature: Reproduction or Signification," chs. 2, 3, and 7 in his *Between History and Literature* (Cambridge: Harvard University Press, 1990).—Trans.]

5. Jean-Luc Piveteau, *Temps du territoire* (Geneva: Zoé, 1995).

6. ["SPEUSIPPUS (b. circa 407, d. 339 B.C.), Athenian philosopher, son of Eury-medon and of Plato's sister Potone. He accompanied Plato on his last visit to Sicily (361) and succeeded him as head of the Academy from 347 to 339. Of his voluminous writings only fragments and later reports remain, but Aristotle treats him with respect and it is clear that he continued and helped to shape some major philosophical interests which the Academy had acquired under Plato." (Gwilym Owen, entry in *The Oxford Classical Dictionary*, 2d ed., ed. N. G. L. Hammond and H. H. Scullard [Oxford: Oxford University Press, 1970]).—Trans.]

7. ["XENOCRATES of Chalcedon, son of Agathenor, disciple of Plato and head of the Academy from 339 to 314 B.C. POLEMEN of Athens, head of the Academy from the death of Xenocrates (314–313 B.C.), who converted him from a dissolute life and whose zealous follower he was, to his own death in 270, when he was succeeded by his pupil Crates." (Guy Cromwell Field and William David Ross, in *ibid.*—Trans.)

2. CROSSROADS OR DOUBLE HELIX?

1. [Historical spadework of the kind Debray's approach champions is not lacking. There is sociological inquiry into the genesis of technical systems, as well as technical inquiry into social ones, though it is arguable that one or the other focus tends to dominate in one or the other kind of research. Of the former, there is especially the work of sociology of scientific and technical knowledge, as in Steven Shapin and Simon Shaffer, Bruno Latour and David Bloor, David Landes and Otto Mayr, but much of their work, which oscillates sharply between the documented details of case histories of empirical science and more sweeping theoretical pronouncements, is laudable more in its reconstructive detail and as monographs of social constructivism in scientific knowledge rather than of daily life in its concrete material-technological determinations. To cite stray examples more in this latter vein (whatever it may lack of theoretical or mediological self-consciousness), Georges Vigarello traces the history of cleanliness and plumbing as a social institution in *Le propre et le sale*:

L'hygiène du corps depuis le moyen âge (Paris: Seuil, 1985). Benson Bobrick offers a social history of city transport with *Labyrinths of Iron: Subways in History, Myth, Art, Technology, and War* (New York: Holt, 1981). Margaret and Robert Hazen's *Keepers of the Flame: The Role of Fire in American Culture, 1775–1925* (Princeton: Princeton University Press, 1992) documents the social organization of heating and flame. Wolfgang Schivelbusch does much the same thing for urban and rural lighting in *Disenchanted Night: The Industrialization of Light in the Nineteenth Century* (Berkeley: University of California Press, 1995) and for railway travel in *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century* (Berkeley: University of California Press, 1990). Catherine Bertho-Lavenir has edited an institutional study of *L'histoire des Télécommunications en France* (Paris: Erès, 1984) (see also n. 4, below). Thomas P. Hughes takes up electrification in Western society (1880–1930) in his *Networks of Power* (Baltimore: Johns Hopkins University Press, 1983). And the development of astronautics appears as a sociopolitical and cultural phenomenon in Howard McCurdy's *Space and the American Imagination* (Washington, D.C.: Smithsonian University Press, 1997) and Peter Redfield's "Beneath a Modern Sky: Space Technology and Its Place on the Ground," *Science, Technology, and Human Values* 21, no. 3 (summer 1996): 251–274. A thorough (and brief) overview of the professional impact that the U.S. history of technology and media has had on a generation of French historians is traced by Catherine Bertho-Lavenir in her "Clio médiologue," *Les Cahiers de médiologie*, no. 6 (2d semester 1988): 106–114. While these studies pass for something we might vaguely term "material history," they also flesh out the historical component of a mediological approach, to the degree that machines in these cases constitute the very medium, or ecology, in which new social groupings adapt, commune, suffer, and the like, vis-à-vis the technological world. For similar monographs on the material history of painting, see Debray's remarks in ch. 7.—Trans.]

2. Emile Benveniste, *Le vocabulaire des institutions indo-européennes* (Paris: Minuit, 1969), vol. 2, ch. 7 [*Indo-European Language and Society*, trans. Elizabeth Palmer (Coral Gables: University of Miami Press, 1973)]

3. [By "angelism," Debray seems to be referring simply to the reduction of the actual material mechanics of message bearing to the nonessentiality of an instrument (in the sense of a mere means to an end), alongside the respective determinate political realisms with which it is paired. The term in French typically betokens a disposition to believe oneself discarnate, to behave in the manner of pure spirit. For more on medieval angelology, however, as a once heavily freighted code for the hierarchies and dynamics of transmitting messages and doctrine, see ch. 3.—Trans.]

4. Frédéric Barbier and Catherine Bertho-Lavenir have observed this guiding principle of historical inquiry admirably with respect to the last two centuries (from the ancien régime's library collections to Japanese video) in their *Histoire des médias: de Diderot à Internet* (Paris: Armand Collin, 1996).

5. ["Truly, truly, I say to you, unless a grain of wheat falls into the earth and dies,

It was an early version of arguments reworked into the text of this second part of the chapter.—Trans.]

14. Emmanuel Todd, *The Explanation of Ideology: Family Structures and Social Systems*, trans. David Garrioch (Oxford: Basil Blackwell, 1985) [originally published in French, as *Le destin des immigrés: Assimilation et ségrégation dans les démocraties occidentales* (Paris: Seuil, 1994)].

15. See Maurice Olender, ed., "La transmission," *Le genre humain*, no. 3–4 (1982).

16. [Dan Sperber, *Explaining Culture: A Naturalistic Approach* (Oxford: Blackwell, 1996), p. 2.—Trans.]

7. WAYS OF DOING

1. [For the latter essay, see W. Benjamin, "One-Way Street" and *Other Writings*, trans. Edmund Jephcott and Kingsley Shorter (London: New Left, 1979), pp. 240–257. The former is included in W. Benjamin, *Illuminations*, trans. Harry Zohn (New York: Schocken, 1969), pp. 217–251. Debray himself offers a short philosophical sketch of the "photographic revolution," in its unanticipated relations to state power, in the first chapter of his *L'état séducteur: Les révolutions médiologiques du pouvoir* (Paris: Gallimard, 1993), pp. 17–62.—Trans.]

2. For a list of decisive insignificances of methodological interest, see particularly my *Cours de médiologie générale* (Paris: Gallimard, 1991), p. 35.

3. [Stephen J. Gendzier, trans. and ed., *Denis Diderot's The Encyclopedia: Selections* (New York: Harper and Row, 1967), p. 38. Published in 1750, Diderot's prospectus was incorporated into his "Preliminary Discourse" to the *Encyclopedia* in 1751.—Trans.]

4. [Scholars whose early training was in literary theory (for example, structuralist) and in literary history have nevertheless recently taken a more mediological path. Four noteworthy contributions in their respective areas are Maurice Couturier's *Textual Communication: A Print-Based Theory of the Novel* (London: Routledge, 1991); Martyn Lyons's *Le Triomphe du livre: Une histoire sociologique de la lecture dans la France du XIXe siècle* (Paris: Promodis, 1987) (though the title page of this rich work notes "traduit de l'anglais," no original version in English seems to have been published); Lennard J. Davis's *Factual Fictions: The Origins of the English Novel* (Philadelphia: University of Pennsylvania Press, 1996); and Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998.—Trans.)

5. Siegfried Kracauer, *Jacques Offenbach; ou, Le secret du Second Empire* (Paris: Le Promeneur, 1994).

6. [For a further elaboration of these roughly chronological epochs of representation, especially in their relation to changing regimes of belief in the visible products of (mythologized) technologies, see R. Debray, "The Three Ages of Looking," *Critical Inquiry* 21 (spring 1995): 529–555. For a genealogy of the effects of represen-

tational and inscriptive technologies on the Word, see R. Debray, *Le scribe* (Paris: Grasset, 1980).—Trans.]

7. I allude here to the noteworthy works of Maurice Sachot on Christian antiquity. See particularly *Les chrétiens et leurs doctrines: Manuel de théologie* (Strasbourg: Centre d'Etudes et de Recherches Interdisciplinaires en Théologie [CERIT, Desclée], 1987).

8. For a more detailed analysis, see my *Cours de médiologie générale* (Paris: Gallimard, 1991), ninth lesson ("Vie et mort d'un écosystème: *Le socialisme*"). [In English, a whirlwind critique of Marxism's reluctance to think through fully its own implication in a mediasphere of transmission ("Nothing less materialist, on balance, than this philosophical materialism") can be found in R. Debray, *Media Manifestos: On the Technological Transmission of Cultural Forms*, trans. Eric Rauth (London: Verso, 1996), pp. 88–97.—Trans.]

9. [Debray borrows his notion of the "pointing" "indexical fragment," or "index" (*indice*) from the U.S. philosopher Charles S. Peirce's writings on semiotics. In a paper Peirce delivered to the American Academy of Arts and Sciences in 1867, he defined three kinds of representations: "symbols," "likenesses" or "icons," and "indices." "Those [representations]," Peirce declared, "the ground of whose relation to their objects is an imputed character, which are the same as *general signs*, . . . may be termed *Symbols*. . . . Those whose relation to their object is a mere community in some quality . . . may be termed *Likenesses*. . . . Those whose relation to their objects consists in a correspondence in fact . . . may be termed *Indices*" ("On a New List of Categories," *Writings of Charles S. Peirce: A Chronological Edition*, ed. Edward C. Moore, Max H. Fisch, Christian J. W. Kloesel, Don D. Roberts, and Lynn A. Ziegler, vol. 2, 1867–1871 [Bloomington: Indiana University Press, 1982], p. 56). Later refinements of these insights led to understanding the *index* as some remaining fragment of the object or contiguity with it causally, such that the part points toward, and is taken for, the whole, as in the case of relic for saint, footprint for traveler, or smoke for fire. The *icon*, or likeness, resembled the object but was not strictly speaking of it, except by the less direct analogy of proportion or form, as in a picture (an artistic work). The *symbol's* relation to the object was the most purely conventional, arbitrary and indispensably deciphered as a code.

Debray has argued elsewhere (see "The Three Ages of Looking," in *Vie et mort de l'image: Une histoire du regard en Occident* [Paris: Gallimard, Collection Folio/Essais, 1992]; and *L'état séducteur*) that the most pervasive and compelling mode of representation in our visibility-oriented videosphere of ocular and positivist credulity is now *indexical*. (The age of the *icon*, "Art," is past; the era of the *symbol* or *sign* depends on instant recognitions, more and more given over to simplified picture signs with messages about utility, class, ideology, etc., flatly signaled, such as by "icons"—an archaism—on the computer screen.) Reading *indices* relies on recognizing the essential relation of immediate *causation* between the object and the referent that is videotic, photographic, televisual, radiophonic, sound-recorded, filmic,