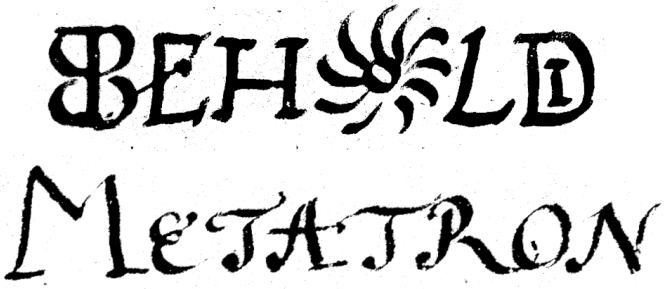

The Recording Angel

Sol Yurick

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good lord it's cold sweatshirt and two pairs of socks while typesetting and tbh while sleeping... cruising towards affording heat this text has been additionally edited by Salitter Committee thank you Ryan O'Connor for double checking cover art and title constructed with SDXL model CashMoney (Anime) v1.0E by advocat Wellcome MS.2000 Angel (Shin Megami Tensei/Persona) LORA by bsinky december 2024

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To Michiko Sawada, for conversations, friendship, analysis, and most of all companionship and support.

To suppose that any author of fiction, poetry or discursive writing works alone is a conceit fostered by the Nineteenth Century. Of course one always has collaborators, advice, and even opposition. Here are some of the people who helped me: Bert Cowlan, Martin Elton, Karen Paulsell, Hesh Wiener, Peter Krass, John Verity, Joan Greenbaum, Peter Brooks, Robert Shapiro, Ken Donow, Jean McDermott, Herb Schiller, Oscar Urgeteche, George Caffentzis, Silvia Federici, Robert Greenblatt. Of course, they might not agree with my ideas or the way I used their help. I alone am responsible for what has resulted. *Metatron* is also in partial fulfillment of a Guggenheim Foundation grant.

1

We are in the middle of that Great Transformation into what is called the Information Age, or Post-Industrial Society. As in all Grand Transitions, *fin du siecle*s and climacterics, perceptions of reality are once again being redistorted by the insertion of a vast new mediational system into an already multiplexed, historically accreted maze of mediations. In the context of this forced march, the relationship of information to society and nature has to be rethought.

Call information *capital-intensive knowledge*, a mechanelectronistic metaphor made to dominate more and more of life. All knowledge is in the process of being converted to computer-compatibility. The old philosopher's stone could convert base metals into gold. Now humans, real estate, social relations ... are converted into electronic signs carried in an electronic plasma. This would merely be an amusing game if people (in fact only a small subset of the world's population: 90% of all information processing is controlled by a small part of the "developed" world) weren't being forced to use and live *through* information processing and communications technology. Call it Informatics; call it telematics.

The components of telematics are mainframes, minis and personal computers, cathode ray tubes, printers, copiers, automated bank-teller machines, point-of-sale sensors, antennae, copper and fiber optic wire, copiers, remote-sensing devices, robots (remotely run or otherwise), calculators, integrated chips, software, mass-data-storages, tapes, discs, diagnostic equipment, a babble of "appropriate" languages, telephones, modems, telexes, terminals, microwave relays, radio, cable, satellites, switching and routing systems... Alongside this, one has to consider the social communication systems and all the transceiving and routing operations there. Even the simplest of conversations are separated, reconfigured, sent and priced. And those who live in this new world are losing their grip on an older reality. As for those who have no access to, no participation in, this newly imposed world, they are out of the world's new information economy, doomed to obsolescence and death.

A glorious, transcendent and radiant future is promised us. Efficiency will increase, productivity will rise, the office and factory of the future will be automated, we will be able to work at home, teleconference, we will have hoards of instantly retrievable knowledge at our disposal, record-keeping will be easier, we will be freed from work and the burdens of memory. That, or an enormous disaster is in the making as parts of the world become metaphysical. For it's time for *Demiurge II.* The Year 2000 is coming. Apocalypse and creation in one.

Whole nations—their economies, their peoples, their resources, their land—can be simulated and displayed on some electronic input/output device. But worse, taken for the real thing. National boundaries become porous and erode. America is no more as transnational data-flows penetrate borders. Nations become illusions as foreign enterprises buy pieces of many lands. The informational process has concrete results. True, this is nothing new. International cartels and merchants in past ages accomplished the same thing. But as long as any enterprise becomes translated more and more into its essences—money and near-money, an all-purpose information, the blood and hormones of business—those essences cannot be held in containers called nations any longer.

The technology can be likened to a nervous system, one external to humans yet connected to their own by a variety of devices, becoming more fused, joined. For example, with the onset of medical databases, monitoring/diagnostic/treatment machines, ancient dreams of being directly connected, the world "wired" to the brain-nerve complex, leads to the hope that thought alone will move reality.

With the invention of new sensing devices, new perceptual systems come on line. All beings are some function of their information intake, no matter how indirectly the information is received. What was done in the mind must now be done through computers... programs begin to become quasi-solidified thought. New procedures for action and behavior take the form of a ritual, requiring the playing of an excruciating game called programming. People resist? The languages are too hard, the steps to long and complicated? Money is now poured into developing computers that "talk English," are touch-responsive or voice-activated. Computers for dummies.

But above all, price is attached to these mediational meditations. Price is a seasonally adjusted, value-added medium in this invented medium, a carrier of values standing for the signs of things sent along a carrier wave. The computer, and its languages, represent a frozen and hard-wired *habituation of thought.* The programs are a way of trying to introduce flexibility, variety and reference into the relative intractability of the machine. However, by itself, and with its operators and its languages, it is impossible to truly metaphorize—an essence of human brain activity and thought—that is to say, fuse into one homogeneity any two or more disparate sensation-terms.

Each "new age" rewrites the history of the past (while thinking it has discarded the obsolescent past). The last great age of reinvention and rationalization of past and future took place, more or less, from the 15th to the 19th centuries. New world views were created, but does the process of rethinking and reorganizing the past really free any age from that past? Has modern rationalization taken a secret rider, an incubus along in its intellectual and institutional baggage?

New institutions advertise themselves, using the old images of domination to promote the transition. They draw their sales-imagery out of a central bank of symbolic forms. Knowledge of the past is simplified. Epochs are erased (perhaps there was too much that was embarrassing in the past). New pasts, whole aeons are invented. Complex existence is simplified, and then recomplexified in another way. Forgetfulness follows. Scramble and resequence; but, in the process of borrowing symbolic energy from the past, new simultaneities and odd juxtapositions, like dreams, emerge.

To look up, to see the stars, the galaxies (in their past and glowing glories) with new kinds of lenses is to have recourse to addresses in data banks where long runs (projected in a short time) of computer-modeled, cosmological statistics are stored (with certain assumptions built in). Look closely at these computer-simulated, eons-long histories of distant stellar objects projected on the cathode-ray tube. Watch them appear to recede. What are we "seeing"? Are the simulations guided by an underlying compulsion to *aesthetics,* and does this become the ultimate gravitational lens? And those great galactic streamers of stars, and the great gouts of gas jetting off into the blackness... how like the mon-

etary jet-streams that banks draw off into the black holes of their balance-sheets from once luminous nations, entropizing and then rematerializing as investments elsewhere. Transubstantiation? Is that what underlies the very concept of the preservation of matter and energy?

Celestial bookkeeping? But see the flaw; the images are seen in squared-off pixels, reconstructions based on relatively few observations, structured by certain recurring theories. All observational technology is, within limits, the concretization of a speculation. And what we see is all based on some initializing, mythic event: *The Beginning.*

Troubles in paradise. While trumpeting the imminent emergence of the grand unifying theory, the unifying theories fall apart. Fundamental forces and particles proliferate. The original central dogma of genetics is riddled with heresies. And even forms of credit go off and multiply. They become desperate to unify and simplify (an ancient compulsion). Unification also implies structuring, measuring, concentration, monopolization, a center, a central intelligence, hierarchies of knowledge, a control room. However, without general acceptance/credibility/faith in new forms of knowledge, these become mere scholastic games. They turn away from observation to their animated projections, assuming them to have been the fruits of experiment, since they cannot journey to the heart of a star, a black hole, or distant galaxies, except in imagination. Nor will they be able to make journeys to putative planets without a complete transformation of the body. But they must journey on: after all, their reputations and belief systems, their funding, is at stake. Scientists seem to have reached the end of the line. They have decided that the observing Mind plays an *active instrumental role* in the cosmos (indeterminacy), perhaps once played by god or demiurge.

Modern observational machinery resurrects ancient epistemological problems and incorporates them into itself. Ether, having once failed as a concept, is in the process of being reinvented. Information is the ultimate mediational ether. Light doesn't travel through space; it is information that travels through information as information... at a heavy price. The scientists, reacting, are now on their knees, abjectly populating the cosmological and sub-atomic realms with "god," "purpose," "design," "progress," "ascent," "transcendence," "cosmic frequency dances"... And if quantum

physics tells us that observation intervenes in the observed, and becomes part of it, this also holds true for pure theories of finance, or for that matter, evolutionary genetics, at least according to the sociobiologists. Credit and the atom court secrecy. Higher and higher levels of indeterminacy fill every aspect of life.

Scientists cannot seem to live with the possibility that there might be anomalies in the universe. For instance, that:

1. this might be the only planet in the universe with life on it;
2. the universe is infinite and unbounded and, what's more, its contents are not uniformly distributed;
3. that there was, consequently, no Big Bang;
4. there are no black holes;
5. the universe neither contracts nor expands... it was always this way and always will be;
6. there are no quarks or pre-quarks, other than as a function of the activity in reactors...

After all, cosmological evidence is a sparse series of stats; stills taken in a short period of time, arranged into an aesthetic, evolutionary, dynamic sequence. Like the ancient mystics, the scientists are projecting themselves into a space they cannot hope to reach, at least in human form. They are colonizing the void with a concept. Like the world's telebanking system with its computer-assisted bankers, they are now inflating space like some financial bubble. Indeed, there is now an inflation model of the universe... finance similized into space. Well, if all is one, why not?

Almost every day, new arrays of satellites are hurled into the air: switchboards in the sky, hovering in geosynchronous orbit, re-mitting messages, insensitive to earthly distances. Other satellites circle the earth rapidly, surveying weather, land, minerals, people. New lines are laid down; optical fiberglass replaces wire.[1] Every year new computers come on line and are re-interconnected as manufacturers try to configure incompatible computer architectures and languages, requiring the manufacture of new networking devices, plug-compatible hard- and software as new models render old ones obsolete.

[1] Mourn for the slaves of the old copper mines of Cyprus, or for those who died in Chile for Kennecott... and think a while of hands cut off for Union Minière in the old days in the Congo.

Databases for every conceivable aspect of life are created. However to gather data, to even *think* data, requires a vast linguistic project. For every item must be distilled, rendered and specified before the computer can handle it; the old, fuzzier specifications must be translated. Given the costs of translating old knowledge (the price of intellectuals and their thought) into new forms (what room for ambiguity is there?), costs of storage, heavy doses of electricity to run and chill the machine, much must be abandoned. Paper libraries, for instance (of course, promising the paperless society, more paper than ever is generated). Certain central markets—like the New York Stock Exchange, which depends on personal interaction, much secret knowledge and "tribal" networks—die hard and slow. Stocks and commodities, the securities markets, banking, currency, options, futures... all these markets must now be rethought and restructured. Banks become stock brokers. Brokerage houses sell insurance. Shopping centers sell securities. Where once precious metals were carried, where once paper was exchanged, new electronic signs and signals verify and celebrate the exchanges. And if the age of the counterfeit cosmos has come, it is also the age of easily counterfeitable currency.

Informational essences become more real than tangible humans. The very body itself begins to evanesce, just as in those folk tales where the shaman's body-parts were scattered to the winds and reassembled. Medicine promises to be delivered from a distance. Experimenters consult case histories on tapes or discs thousands of miles away. Once-free knowledge becomes priced. At the same time the electromagnetic spectrum for transmission becomes used up, gets scarce, high-priced.

As for ordinary life, we are exhorted to become compatible with all this. We are urged to fill our homes with personal computers; to become computer-literate; to write, learn, do office work; get medical examinations and treatment at a distance; do accounting, banking, law; buy and sell equity; shop with computers; do mathematics (without understanding), logic, all with computers; do factory work with robots; confer, and even eat with computer assistance. A vast proliferation of books are produced to explain how to use our computers, to rectify the outpouring of incomprehensible manuals written by and for technicians. We play games, draw story elements out of storages and arrange new entertainments with the computer; we have them watch our fuel, shop,

have the lights turned on or off for us, and, even in time... fall in love with far-distant strangers, perhaps even mate with the gods, as the ancients were reputed to have done...

People seated at their terminals forget time, sitting mesmerized, their fingers jerking spastically at the keys, their eyes blearing. In time—so the sales pitch goes—computers will achieve artificial intelligence (and perhaps even use "biochips," and so live) and what's more, they will be more rational, organize knowledge more neatly than our poor brain can... once certain problems of miniaturization, heat, switching speeds, and the development of sophisticated, "humanlike," or artificial intelligence languages have been solved. Perhaps *then* they will be able to attain that kind of "randomness" and "intuitive" leap humans make so easily without having to scan and compare lists. Having been talked into surrendering our spirit, our knowledge, our bodies will become useless. We will, like Jesus, like Faust, like Dante, achieve immortality and "evolve" into computer-compatible and re-programmed history, one with Babylon, Nineveh, Rome. Our essences will be preserved in that great memory bank in the sky.

...But in the meantime, on the peasant land (what's left of it), in the jungles (what's left of those), in the world's ghettos (which proliferate), in the poisoned seas, rivers, and lakes, the contaminated land, sky and earth... a lot of humans must be phased out. Prices decline for technology, but overall, costs rise because of mundane deregulatory decisions, questions of intellectual property (the pricing of ideas), ironic anti-trust decisions (AT&T, IBM), national information-conflict policies, the classified (or priestly, if you want to look at it that way) intelligence approach to knowledge... all contribute to the expansion of ignorance. Knowledge purveyors block the sun's rays and the rain's fall, offering to sell sunlight and rainfall... as signs. Where once you might look up and see the clouds passing by, you can—but you don't have the eyes for it—look up and see the spy satellites, the earth/weather/sea/resources sensing satellites hovering, or count the streams of invisible electronic gold flowing by. Perhaps you can sense the meta-weather, almost as natural as monsoons. For a deluge of money—inflation—is a "natural" disaster, creating floods, leaving some lands sodden and others a desert.

2

How did this development come to be? Surely more forces were at work than "Progress?" This essay is not a history of the information revolution, but some mention must be made in passing. At some point during the Second World War, a series of decisions to computerize were reached. The overriding concerns were military and intelligence applications. It should be noted that private industry would never have invested in this, or any other development. Without government investment, bankers are paragons of timidity.

The founders of the information, or cybernetic age, were Alan Turing, John von Neumann, Norbert Wiener, Claude Shannon and later, Noam Chomsky. Hordes of electrical engineers—whether they understood what they were doing or not—reworked almost every philosophical problem known to humans in terms of circuitry and programming languages. These problems began, of course, centuries ago. For instance the epistemological question: what is knowledge, how do we know, how do we know we know, how does it relate to the world outside, who controls knowledge, who has it and who does not, what is it worth, how do we talk about it (which is the question of what language we shall use and how shall we talk), and what instrumentalities we perceive through.

Questions of the technology of knowing must be interwoven with political and economic considerations (within the confines of what is scientifically and technologically possible), which is to say knowledge systems are structured like intelligence and counter-intelligence systems. There is to be written a whole history of secret and coded knowledges... priestly systems, rites, hierarchies and ceremonies of learning and passage, memory systems, networks of initiates... In addition, one should ask: why did one set of systems triumph—that is to say, why were they preserved, and remembered—and others fail? There is room for a history of the politics of the promotion, funding and triumph of intellectual knowledge systems and this includes the remembrance of the major streams of philosophy. Philosophy is one of the atmospheric

backgrounds which provides for a general and unified state of perception against which day to day knowledge is learned.

The original choices for computers, binary, Boolean (Leibnizian, as Wiener would have it) logic, reflected a dialectical, even a Manichean approach and was an unfortunate decision. Why these choices? It was easier to design electrical circuits that could carry out the logic operations.

The system began slowly, went on line massively with mainframes and minis in the fifties, mostly in defense and intelligence applications, followed closely by banking and business.

In the seventies, a massive campaign was mounted to "democratize" the computer. The micro was developed by small, innovative businessmen-technicians. Sales propaganda was disseminated in the name of enlightenment, efficiency, transcendence and power. Every possible sales technique known to public relations, advertising and mythology was employed to sell the computer. Not only were ancient and modern symbols deployed, but also fear. It became possible, we were told, to have a computer in the home that was once as large as a building... and did the same work.

One notes the parallel developments and "needs": The commitment to the Great Theater of perpetual war as the pressure system out of which innovation and invention and progress came. This generated a need for a vast corps of mind-workers. Cheap education produced intellectuals. This led not only to the further proliferation of mindworkers, but of mediators and mediational systems. Intelligence and police (and their surveillance systems); psychologists and their theories; many schools of psychotherapy; sociologists; anthropologists; analysts; coders and decoders; cryptographers and decryption experts; disinformation-propagating operatives; advertisers; public-relations flacks; consultants; historians in fifty modes; economists, both practical and theoretical; financial manipulators, and the buyers of their services (bankers, securities dealers, brokers, currency dialecticians); new critics; hermeneuticists; structuralists; semioticians; deconstructionists; quantifiers; metricians; statisticians; propagandists; accountants and auditors; lawyers and proliferators of law; interactivists (and their connecting machineries); cosmic and microcosmic theoreticians; agronomists; doctors; philosophical logicians and inventors of yet newer and newer mathematics; salesmen; priests and min-

isters and inventors of yet-new religions; logical and scientific astrologers... And now, in the present age, all this to be machined.

They sought both unity and fragmentation. Now one must admit that there is a propensity in some humans to generate new unifying theories and technologies while at the same time inventing and proliferating new explanatory systems and new subtheories... all of which promise to explain everything. This seems to be a function of the density of intellectuals, in terms of availability of jobs and competition, both relative and absolute, to a general and non-theorizing population. This insures that a fair percentage of those theories will be nonsensical, if not fraudulent... which is no impediment to their triumph.

In addition, general systems theory took hold, and every aspect of the universe was designated a sub-system of some larger system and the largest—and unknown—system of all was a function of these bureaucratically minded spinners of holisms.

The early cyberneticians thought that this development would add to—if not exponentially, then at least incrementally—the sum of human knowledge. Accompanying this development was an ancient agenda: the compulsion to impose order, predictability, to eliminate risk and uncertainty. But as far as this ancient agenda was concerned, the commitment should be shared, paid for by some part of the public. New processes would in turn create still newer knowledge. And, as all things happen in this modern society, the "system," with all of its attendant confusions, complexities and corruptions, with its intense conflicts among the different programs, systems and equipment manufacturers, with its political and business battles, has been laid on in the most haphazard, ridiculous, expensive, inefficient and disorganized way (repeating our earlier history of canals, railroads, highways, transit systems, communications and technology in general). We now have a conflict of computer, communicating and language-conversion systems with many fundamental problems still unsolved.

(And here, lest we forget that the problem is not merely "intellectual," we must remember concrete institutions with which intellectuals are connected, and who provide their funding. How, and to whom, ideas are sold: we must think about AT&T, Sperry-Rand, IT&T, IBM, Citicorp and Chase... We must also not forget that there are unwritten and true histories to be done of the Department of Defense, the National Security Agency, the CIA, all

intelligence agencies of the world, and how the intellectual thought of these agencies permeates every aspect of everyday life. We must think about the politics of international and national communications policy and how these issues are fought out in corporations, legislative bodies and regulatory agencies. We must think of pricing, advertising, marketing, promotion, generations of faulty computers, paper computers, imbecilic competition, suppression of innovation, influence-peddling, lobbying, bribes, kickbacks and the rest of the common paraphernalia of business... especially at a time when business becomes ever-more "intellectualized.")

There was a necessity to translate all living and non-living forms, to simulate events and natural processes, to chart their interactions and simulate those interrelations and to begin to fill the memory and data banks. This growing assemblage gradually becomes the total environment... at least for a few. These developments are new but are also, at the same time, the fulfillment of an ancient desire: to control the material world by the manipulation of secret knowledge (secret, in modern times, by being priced, being made into intellectual property, being classified). How does this differ from the practices of ancient priests, shamans, magicians?

Ancient magicians thought they could control the environment. How did information control the material world in the past? By assuming a connection between the internal system of intellectual order and the *external* system of *material* order. One controlled the cosmos by the uses of resonances and dissonances, rhythms compatible with the true natural rhythm of the spheres, by the use of a chant, an incantation, a dance, a ritual; or one could apply sacred geometry, controlling shapes that were analogous to the shape of the worlds one wanted to dominate... magic. Magic embodies a primitive theory of electromagnetism and telecommunication. Magic desires to achieve telepathy and teleportation. Voodoo, for instance, contains the notion of a communicating medium and the communicants who believe in it. The Catholic Church is a communicating organism with an apparatus of switches and relays and a communicating language for the input of prayers through a churchly switchboard up to Heaven, and outputs returned to the supplicant. And above all, all ancient and primitive systems implicitly propose the notion of an ordered, coherent universe, expressible in a certain set of languages, the manipulation of which manipulates the universe. The question is: do these systems ma-

nipulate the universe or a simulation of the universe? What certain intellectuals in modern society propose is electromagic.

3

Beginning, perhaps, in the 17th century, a few had embarked on a program of "modernizing" society; shattering old categories and languages while inventing new ones. Leibniz, for instance, dreamed of a logical/mathematical-based universal language. One of the great agendas of the 18th and 19th centuries was a vast program of reclassification. There was also an attempt to trace back all modern languages to a primal Indo-European tongue. Past and present humans, societies, languages, plants and animals were arranged on a progressive scale.[1] New theories and new disciplines emerged: economics, politics, psychology, sociology, history, the physical sciences, mythology, anthropology... all split off from philosophy. These new disciplines began to atomize and reconstruct, emphasizing quantification. They were partial fictions and suffered all the difficulties of translation; each developed their own jargons, hard and soft tools, aesthetics, formal modes of organizing the perception of the world, creating new mediating lenses between humans, and between humans and the natural world. In time, each one of these disciplines claimed to be a total world view... as did each mitotic sub-discipline. General systems theory and interdisciplinary studies began to emerge in the early twentieth century. Now, in the tail end of the 20th century, they are remelted into the general category of information and communication theory.

The information age required a vast new enterprise: an enormous translation or conversion project; a reduction of all disciplines into a kind of symbolic, quantified representation—a new universal language which would translate the languages, dialects and jargons of all languages and disciplines—appropriate to the basic circuit logics in the computers. Bit by bit the differences between disciplines and disparate bodies of knowledge (as well as living and non-living bodies considered as language) are becoming eroded. This endeavor implied a perhaps fictional notion; that the universe and everything in it is logico-mathematical. It also

[1] And this was a continuation of the Renaissance, which had introjected the past, ancient Greece, into its program of liberation from medieval thinking.

implied that all things and forces in the universe could be treated as a cryptogram, a code, a text that could be *read*, sooner or later. Another and muted implication was that all things in the universe were in some sense *perceptually* simultaneous.

The general computer-compatible/general systems-schema runs something like this:

1. Anything (or anyone) that can be exactly specified can be automated.
2. Inferential, judgemental, learned or adaptive behavior can be specified (which raises the problem of translation or conversion of knowledge to information).
3. Intuitional and creative activity can be indistinguishably simulated by machine (the drive for artificial intelligence).
4. All this can be communicated from machine to machine, for the speeds of transmission means that messages are distance-insensitive (relatively speaking).
5. Which means that one has to deal with complexes of social sets and the way in which they, or the information they have, or that represents them (not the same thing) can be communicated.
6. Information is passed among (or taken from, or imposed on) the sets (but they also frequently resist this passage or appropriation of knowledge about themselves: this implies hierarchy of information systems).
7. The forces which produce stability inside these social sets create instability among the sets.
8. From the point of view of the general systematizers, an improvement between and among all social sets (and the way they interpret themselves and the world... or the way in which they are interpretable) leads to a better management of the metasystem's information.

But from whose point of view?

By the "social set" we mean a population which has a language, a mode of discourse and a set of customs (by which the language it uses is processed) existing in a variety of domains or environments, using sets and subsets of natural and artificial languages; bureaucracies, corporations, secret societies, individuals, professional societies, classes (in the social sense), ethnicities and races, disciplines, nations, regions, hierarchies... and so forth... in whatever ways society has been split, conceptually and actually.

These, of course, overlap. It is apparent that for all these groupings, the means for universal discourse hasn't been invented yet and what's more, many resist translation actively. All the propositions point directly at the problem of translation, or the generation of a universal language.

Systems-building has gone on since the beginning of the appearance of humans. Even the most "primitive" of groupings builds all-encompassing (and complexly muddled) systems. Underlying this newest global climacteric, this vast re-writing program, was a not particularly new set of assumptions: that any set of things, events, forces linking people and events could be represented by some language, or set of languages, logics, numbers, letters, symbols, signs... That there is an ultimate and fundamental language, a deep structure in the universe... and that it is mathematicological and is discoverable and translatable... These representations could be linked in several ways: language to language and language to the world represented by these languages... into interactive and mobile structures that in some way match, dance in time to the underlying and fundamental language of the universe (automated natural language translation is a disaster). When things and people move, the signs representing their existence are communicated to this informational technosphere. Conversely, when signs, symbols, language elements, variables of all sorts are moved, people, things, whole economies, the universe and all that is in it, should move. This manipulator's dream is possible only if information is connected to the universe in some concrete way, requiring sensors, languages, translators, categories and levers.

The sensors (eyes, ears, skin, writers of books, typists, telescopes, microscopes, electronic sensors of all kinds... and so forth) must "read", transmit and input these signs of movement into some kind of storage where language could work on them (meaning the incredible complex of miniscule and high speed movement in the circuits, in and out of the various logical devices and timers and storages...). Contrariwise, a set of language-motivated output levers could, theoretically, energize and change the configuration of the universe.[2] This desire reflects an ancient obsession; the Archimedean dream of minimal expenditures of energy moving

[2] In quantum, operationally-oriented physics, this interventionary notion, that mere thought and its instrumentalities affect the universe—in yet unmeasurable

great masses, for example shifting the great nebula in Andromeda into a better orbit.

All of these desires occasion the search for the universal system-language which is, at the same time, the *real* language of the universe, the ultimate "machine code." A recourse to what can be considered gnostic wisdom, Pythagoreanism, or Kabbalism: these are used as key words to exemplify a way of thinking. Pythagoreanism was both a mathematical and a magical system: number translates into space and conversely; all is number and geometry. Kabbalism and gnosticism are fundamentally literary. Cartesian thinking carried this obsession further, turning space into a vast, suburban real-estate development. Kabbalah views the universe as "word" (although "word" translates into number games: *Gematria*). Considered from the perspective of these ancient magical systems: gnosticism, hermeticism, the religion of the Jains, the I-Ching, Rosicrucianism, alchemy and astrology, all the material universe is translatable. But this is to throw a net of language out into the universe, and is the precursor, perhaps, to quantum physics and operational indeterminacy.

None of this denies the need for the creation of language but points toward a recurrent obsession with language as the ultimate reality. What drives this obsession?

The hunt for the ultimate, sacred, or secular, usable, transmissible knowledge or information is like a vision of—a penetration to—a sacred realm where total, instantaneous, universal and all-purpose code *exists.* This kind of thinking assumes an underlying unified universe. To match this universe, somewhere, somehow, there exists and is decodable (if only in visions and dreams) an underlying language, an ultimate metalanguage, a deep structure of grammar, a boss language of all boss languages to match that reality. And that meta-language is basically mathematical, logical, rational.[3] *"In The Beginning was The Word and The Word was made Flesh."*

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ways—is implicit. By extension, mere thought affects the universe, but in as yet unmeasurable ways.

[3] In anticipation, let's propose several such languages: the language of genetics, the language of quantum-relativistic particle physics, the language of finance, the language of mathematical logic, the language of literature...which includes the psychoanalytical disciplines. There are more.

However… out of this uniform ur-language has come Babel. That is to say: pure Word, pure light (ultimate information), being made into Flesh, yielded corruption, decay, dialects, death, a plethora of languages. Or, from the evolutionary geneticist's point of view, diversity, uniqueness, adaptability to material conditions, non-repeatability… *quality*. Diversity is the way to disorder, chaos, entropy, a confusion of languages. Specialized knowledges divide into languages, sub-languages, jargons (even putting it this way assumes primal unity); specializations fragment further the possible wholeness into cultures, sexes, nations, races… Truly unlike languages have unlike assumptions behind them; they cannot translate. This arises out of observing the bewildering array of languages, proliferated into mutually incomprehensible dialects, a diversity of natural languages, in a short period of time. But worse, the presence of, the possibility of incompatible languages intimates that the underlying *physical* universe is not one. Again, chaos. These "mutations" puzzle and anger the unifiers. They take steps to correct the process of decay and dissolution. (As the first Rockefeller put it: "Combination is the wave of the future," in more ways than one.)

If there is a fundamental oneness in the universe—particles seen one way, waves another—and all things, people and events, all singular events are manifested out of this fundament, then all change and process and people are mere aspects, illusion, perhaps developed over time. This *ur*ness should have its own language, shouldn't it? Why this diversity? Or perhaps this *ur*-language existed before the beginning of time? What happened to fragment pre-temporal paradise (which will become balanced at the other end by post-temporal paradise), this primal oneness, this *quality*, leading to the shattering of Eden into cosmic Babel? The Fall? Sin? Imbalance?[4]

It is to offset the effects of a modern Babel that languages are constantly converted into one another, hopefully without losing anything. Work into `COBOL`; `COBOL` into Aramaic; Hebrew into digital… and so forth. The universe and all that is in it is assumed

[4] Remember Lucifer's tale before Eden was built? Consider the role of knowledge in the tale of Eden. There is a struggle over the possession of information and thus a fight to control the sacred language, or Lucifer's tale before Eden was built. Satan becomes the Lord of Diversity, the Lord of disinformation, disunity, chaos, entropy: Prometheus becomes the lord of stolen knowledge.

to contain a secret code or cryptogram; the new language project, this drive toward fusion is designed to unlock the code (or perhaps its purpose is to *invent* the code). Strings of biochemicals, DNA and RNA, are called a code or cryptogram. The code expresses and replicates to duplicate itself (with mutational and combinatorial variations) and becomes a body which eats food, converts it into energy to give growth to another body-shell in order to perpetuate a code, a language, a message. The body as a message transmitter.

The wisdom of the East handles this problem another way: it announces that diversity is an illusion. The west, at present, holds that the clue to the ultimate bottom language is supposed to lie in the human mind: in some way this primal unity can be *remembered*.

Word-obsessed Kabbalistic or Gnostic lore anticipates the Big Bang. Many religions anticipate the Fall. The Big Bang leads to entropy: entropy leads to diversity. Humans, we are told, are themselves the creators of negentropy (holding the center together conceptually, if not physically) in the expanding universe, and so they invent unification and then start on the project... The mental act of unification has evolved into a technological and informational endeavour. Diffusion is death; unification is eternal life.

The division of knowledge into disciplines to pre-conceptually "observe" society was problematical to begin with. What assumptions were brought to this task? The newest synthesis raises new problems without solving the old ones. In order to achieve this translation, one should look at some underlying assumptions of western, perhaps human, thought. One fundamental tenet of this kind of thought is that one can take wholes, break them down into fundamental units and rebuild all up from those units, providing the structural operations, the "grammar" to string the units, complexes of units, into whole, new languages. In this newest approach, wholes are broken down into a language of irreducible particles (which are easy to account for, and match up to units that are either measurable and countable, modelable, mappable, comparable: specifiable) and are built up again.

Now, structuralist thought (which allows one to reorganize the positioning and sequencing of any text and relate it in new ways to any other text... an exercise in simultaneity) and semiotics begins to treat life—including literary and media artifacts—like a complex cryptogram, a treasure, always oblique, to be disinterred.

It should be noted, however, that while this can be done with artifacts, with fictions, with records of the dead, it cannot be done in real life.

One of the first rules of this game of interdictions is that almost nothing is allowed to mean what it first seemed to be. Novelists, priests, poets, mythmakers, magicians have practiced this combinatorial and sequencing, this matching-up and conversionary pythagoreanism for centuries. Novelists, tied to certain traditions, were permitted to only see a limited set of realities and not others. In much the same way poverty is invisible in the boardroom, suffering is not a category to be found in an annual report.

But the new constructs in the present contain an accretion from the past (a sort of memory) which is then used to rewrite and reconsider the past. (The act of *primal* creation—and its time, or the "beginning" of time, and timing—didn't happen *then* but is reinvented again and again, and happens *now*, just as history is rewritten again and again to justify the present in order to assert that all events could only lead up to the inevitable present.)

The newest instance of breakdown and buildup has led to several crises: atomic theory is in trouble. The breakdowns threaten to become endless. "Fundamental" particles proliferate; gravitons and chronons are invented alongside quarks which require prequarks. Every sub-atomic particle must be specified and recorded, creating firestorms of indeterminacy between all boundaries of thought (and reality), which allows for certain excesses of the imagination, the possibility of new transformations, shapeshifting and chimeras, creating arcane juxtapositions in the life of things, operations which once belonged to the realm of dreams. Unit-quantum thinking contains a history of obsessional perception since Democritus: the universe particularized... wholes fragmented into quanta... This difficulty is apparent in psychosocial, statistical disciplines which study groups and individuals... atoms and wholes. And yet, at the same time, the universe is perceived as a unified and contiguous whole in which the most distant parts affect one another... sooner or later.

Another complex contradiction to be considered: all could be viewed as the agglomeration of force-fields, electromagnetic waves, gravitational waves, frequencies; which, when they reach

some critical density, change into some other "quality."[5] One can look at humans as/of/in these fields in many ways, from many angles, through a variety of disciplinary lenses. Humans, for instance, could be considered as manifestations of the cosmological/astrophysical (and astrological) whole... brothers, sisters, spawn of the stars; as biological manifestations concreting out of Fourier processes, complex waves inventing complexes of waves in order to explain the self. If so, then medicine based on physics, chemistry, molecular biology should, in time, be replaced by electromagnetic wave therapy... which is what voodoo is based on.

When the universe is waved, or when a universal language is discovered or invented, the boundaries between objects and objects, and between objects and languages blur. As boundaries were blurred, the discipline-separated currents of the past dissolved. It became desirable to create the logical links that united the now-unbounded contents of once artificially separated areas of thought. Indeed, the newest developments in computer thought demand this unity... but in a special way. Language domains can, in principle, be interpolated into any form of discourse, past and present, spatially separated, including literary and psychological discourse (we consider those psychologies that don't take account of the nervous system to be literary; word games). Now a re-reading and re-critique of all "great traditions" becomes possible. But, as in all translation, much has to be left out, cast aside as irrelevant or dangerous dross, basically untranslatable (or not desirable to translate). New problems of classification are raised, for one cannot say "OM" and have it stand for the *All*.

The long and corrective project that some humans are in the process of inventing and reinventing leads to reunification and reconcentration. In the legend, humans are created to replace fallen angels, but they must go through aeons of "development." Through a long-range process, this concept mutates into "evolution." All of history is a trip toward ascendance and transfiguration, or transubstantiation: in modern times this reads as a recombinant genetics project for the manufacture of immortal angels. (And in the Golem myth, information placed into dust brings the dust to life.)

[5] Or geometries, numbers, values, dimensions, symbols, images, gods, spirits, phantoms, cash, talk, drawings, dances...

How is this fragmentation of languages, of civilization, of energy to be cured? Perhaps by creating the appropriate thesauri, slide rules, categories, classes, conversion matrices for comparative mapping of realm onto realm. A mental act should make it possible to describe n-dimensional hyperspaces in which the languages of, say, poetry, finance, or relativity theory are seen to be one. Recreate a post-ur-language at one of the time-ends of the universe? New vision? Not really. Kabbalah anticipates these alternate spaces as language-manipulation. Primitive religions describe journeys in folded and short-circuited spaces which can be matched up to the hoard-spaces and passages through which bankers hurl their money around.

If fragmentation is the way to death, then the parts of the person can still be united. How? Resurrection: by the parts being conjoined (keeping track of them, memorializing the whole and its subsequent parts in a file), *communicating* in a magical medium... If not a mystical medium, then possibly an *externalized* nervous system, a great, artificial brain. Who does the connection? In the old days, the witch, the shaman, the priest, The Church, the observer, the remembrancer, the tale-teller. The information establishment plays the modern role. Modern medical information and telecommunication systems may memorialize representations of whole, or parts of people in different and separate data repositories even in different and distant countries (since the speed of communication is distance-insensitive, and time-insensitive, relatively speaking), ready to join the parts together in the twinkling of an eye. By maintaining communications and preserving a joining-together algorithm, one can create a modern version of the Resurrection through wire or wave transmission, reuniting the parts. The presence maintained after death. Ghosts, of a sort.

Let's consider a practical problem: the operation of the multipurpose computer in the defense sectors: the Situation-Room. There are various defense and intelligence situation-rooms, and presumably the ultimate and best one in the White House. The purpose of the situation room is to receive data from all over the world, so that a response to a political or military problem is instantaneously possible. It is a vast intelligence input/output, monitoring device, presumably in a form understandable to nonexperts. (After all, for the crisis-data to arrive in machine language, or any other primal computer languages, would be meaningless.) Infor-

mation arrives from all over the world. A change of any variable in the political, military, economic orders, creates changes in the computer: it's a sort of electronic spreadsheet.

In order for this to work a number of conditions must be met. Various sensing systems must be receiving and sending data at all times: a world network of National Security Agency stations monitoring all electronic traffic, decoding and interpreting it, the Central Intelligence Agency receiving a stream of reports, Internal Revenue System, Federal Bureau of Investigation, Political analysis, economic reportage, inputs from the civilian sector... and so forth.

This incredible influx of data must not only be translated, compressed and graded in terms of importance, and matched up to already existent data (to determine significant change), but must be arranged according to some overriding set of scenarios for ready response... scenarios into which go various modes of analysis which had, at some point or other, to be automated, must match up, in computer languages, to those original systems which generated the scenarios in the first place. That is to say, military, economic, agricultural, trade, political, sociological, psychological, anthropological, even medical data or country studies; all, at one time or another, have to be translated into machine-readable forms. And, as much as possible, this influx must be in real time. Of course when one considers the variables, the incredible proliferation of disciplines and their attendant languages which developed before the computer arrived, we see that what constitutes actionable facts are hard to deal with and are imperfectly specifiable, translatable or programmable without enormous distortions.

But another consideration is more practical and that has to do with the question of whether or not individuals, classes, social sets share, or don't share their data. While on the one hand there is a striving for grand unification, at the same time centrifugal forces—competition, protective secrecy, a proliferation of sub-disciplines—work in the opposite direction. After all, to take one example, given an age of high taxation, many groupings and individuals have a vested interest in concealing their data.

But, in practical terms, when projected production of oil and its consumption do not conform to electronic wishes and statistical projections of energy companies, then the instrumental Archimedean levers to correct this deplorable situation becomes

the Marines, the CIA, the torturers, moving in to fit a preconceived notion of immediate long-term gain and growth.

Of course, beneath all of this there are larger agendas, whole world-views which are, by nature, metaphysical. Views of human nature (psychological theories), views of nature itself, progressive—military-assisted—Hegelian-Calvinistic destiny.

4

The limitations of the new information languages; the limitations of the machines, storages, operating systems, circuitry, machine-compatible logic, programs; diminish what was once far richer. The old words were broader; they packed complexes of implication within them; their ambiguities allowed for richness and latitude, for rethinking, redefinition from time to time. They contain treasuries of implication within them; the "amounts" of information they contain are staggering. Consider Eliot's The Wasteland:

How do you represent, in terms of specification, and thus bits of information (if that is even the way to put it) the endless galaxy of implications contained in Eliot's poem? In the first place the poem is a rhythmic index, a memory-system. The allusive and apparently self-contained word or phrase opens up into other poems, and histories. That is to say: they are references to memory storages. The first line reads *"April is the cruelest month…" All* Aprils included; the April of Chaucer, the April/Easter of the crucifixion, The Divine Comedy, all the Aprils contained in The Golden Bough, and all the rites of spring, sacrifices and renewals to ensure fertility, of dying and being planted in the earth to spring up in a new form. Are we to mix our terms here? For example political/social/economic conditions, to say nothing of genetic evolutionary and "adaptive strategies" and continuities to be considered as the stuff of literary concerns… at least not *directly*. (Although the naturalists had tried to meld science into literature.) Nor had passion, hatred, character, conflict, ceremony been allowed to be part of science. But once we consider the universe to be language—information—then fiction and magic permeate it all. When experience and reality are processed by computer, the usual domains and disciplines are mixable. Once discrete realms shatter again, their languages melt, float, interface. Multi-lateral Pythagoreanism. But then, hadn't this modern fusion of realms been anticipated by dreams and surrealism, but in a non-quantified, anti-particleized way?

Agriculture itself as a metaphor for death, all resurrection, and conversely. In ancient thought, of course, the spoken and acted-out rite is a ceremony pre-operational to planting: it is a planning

and management system. It *precedes* the actuality of material life, as the modern rite of manipulating the memory of past and future wheat crops inherent in money *precedes* all spring plantings and growths.

There is the question of metaphor and simile, which the computer *cannot* handle unless given specific instructions, and then within a limited set of circumstances (which may grow, but becomes unwieldy). Metaphor is a form of *fused association*, sometimes of completely *unrelated* terms (except in the mind of a poet, novelist, or advertising copywriter), to create a third term, but in a peculiar way. In the world of program-driven computers, one list of items may be matched to another list. What is compared are two or more strings of *stored-up impulses* (given in one or another set of computer languages). Beneath, on the level of circuitry and machine-language, something different happens than thought. *Items are not being compared.*

All items in natural language are not bounded by the compartmentalization required by a computer: they have no true boundaries. Truly different sets of items *cannot* be compared unless a tedious and endless program is written on the order of "`if [ this ] ... then [ that ] ...` " An algorithm describing the way metaphors are generated can be easily written; it cannot be implemented or generated by a computer language. The instructions could be written such that "whenever `[ April ]` then `[ cruel ]`", but only applies to these terms whenever "April" and "cruel" appear. But supposing that another poet appears, working out of another framework, to speak of April in conjunction with the autumns of the southern hemisphere?

In order to unlock the poem's meaning, one already has to have access to a vast knowledge of literary, religious, anthropological, political, historic, mythological and psychological compilations (and those edited) in order to summon up the full text of references. The way the fragments are allusively juxtaposed may be analogized to the way information is stored, organized and sequenced on a disc... in non-sequential fragments with memory addresses. Well and good.

It may be said that the retrieval process of the brain-body is somewhat like the retrieval process in a computer, but there are significant differences. (That is if anyone knows what goes on in the brain). The computer was originally likened to the brain. The

terms were reversed and the brain was likened to the computer, leading to ridiculous assessments—tried out experimentally—that the brain "processed" information in an on and off way. Later this was modified and it was said that the brain "parallel-processed." The mental processes are associational and quasi-random, and frequently get confused, yielding felicitous mixes. The computer processes are much more rigid and limited. It is when, in the poem, the fragments are fused that the difference becomes more apparent. The computer cannot fuse associations into a seamless whole.

Fiction, drama, poetry, non-quantifiable psychology and other traditional modes of discourse are partial but stand for wholes; they have long incorporated complex modes of organization of people, events, matter into dramatic sequences... novels, plays, epics, poems, psychological theories... Creating indices, hierarchies, queues, maps, models, simulations, translations, sets and classes are some of the problems raised by information handling. Each reorganization raises these problems again and again in new ways.

All literary works contain, among other things, indices and every such work solves the problem of hierarchy, or of queueing without specifically delineating these modes of sorting as problems. Literature does not accept polarities as absolute oppositions. Dialectics is the emanation of crippled and self-constrained minds... the realm, really, of accountants. Hierarchy? It's all in Dante. Sets? Borges deals with them wittily. Indexes? See Eliot. In literature (and literary psychology, such as Freud's or Jung's) all these modes are dynamic, allusive, *multireferential.* As for set-theory, this is, of course, the mathematician's and logician's whimsey. As in life, literature shatters sets.

In real life, all sets are fuzzy. For example: in a complex, transnational, transtemporal holding company which owns other companies and parts of companies and constantly seeks to conceal itself behind a thousand portals represented by the shell-names of companies distributed in a lot of countries, *which is the set of all sets?* The subsidiary or subset may contain (by control) the set of all sets. In fact, taken all in all, the contiguity of economic (and political) activity eventually links and sends the representations of each part of itself at incredible speeds to every other economic and political body *in the world* these days, especially in the age of

advanced telematics. In the modern world, America, France, the USSR (since transnationals overlap their boundaries)... are indeed fuzzy sets, better expressed in literary language... indeed, the language of Finnegan's Wake. (And one may say that a set, called for convenience Mafia, is conjoined and interpenetrates those sets called corporations and those sets called governments through other interpretive realms called politics, by using a set-violating, economic activity called bribing... It is, to be sure, primarily an economic organization, but on the other hand, it requires primitive rituals as part of its sustaining power.)

The way of the fiction writer and mythmaker is a function of long stores of knowledge, arrayed in certain ways, drawing from a taken-for-granted memory bank. The world of information processing is a world of partial faiths and fictions. Tests for truth that match reality are meaningless in this world: *inner consistency is what counts.*

In literature (its application to the new information world will soon emerge) one converts the experiences of the self and others into words.[1] The writer uses imagery, similes, symbols, signs, translations, conversions, comparisons, metaphors, tropes, compact representation, character, emotion, conflict and drama in certain limited situations. All dictated by a body of traditions. Experience, real people, furniture, space, action, geometry, geology, geography are converted into evocative words and are arranged into some new structure, perhaps more neatly—or more amusingly, or startlingly—than in life. Fiction, poetry and drama are programs designed to transmit energy which *amplifies* as it goes through its "circuits." There is selection. One cannot write about everything.

The compilers and refiners; the preservers and organizers; the abridgers who assembled and trimmed the treasure; the great canon of literature (surely there was always editing and censorship involved), assert that their Great Creations represent whole populations... Man and Woman writ large. But in fact these are *sampling* techniques, which can provisionally be said to have been invented by the Greek Tragedians. But what is left out? Among other things, the living stuff of humans, which involves neuronic, hormonal, en-

[1] What sensors does one use to acquire the experience of others? Through what set of filters—ideas, technology, legends, myths, psychological and social theories, artificial memory/intelligence—does one sift one's own personal experience?

zymatic, chemical, metabolic, genetic and electromagnetic activity had not been fit for literary language. Yet one could come up with a prototypical set of biological reactions accompanying (indeed, initiating and sustaining) mythological, literary and religious prototypes and archetypes.

When Proust bites into the tea-soaked madeleine, the taste is a stimulus to releasing memory which then pours out and is recorded as a printout. We have a report of Proust's brain operating, but in another language. We could also write a biochemical essay which replicates the event. We could also say that Proust wrote a treatise on information storage and retrieval, on the long and short-term memory, in which the tea-soaked madeleine is the key word, and the instruction, that begins the memory dump.

When a marketing study is prepared, psychology and sociology is used to create the stimuli, the association of ideas that will generate the *feeling* which reaches the memory to release biochemicals, electrical charges, symbols. All emotions, behaviors, dramas and tastes are tallied, sampled and compared with standardized and representative beings: prototypes, concurrent archetypes... the hypostatic buyer. Frequently life-signs are monitored by biological telemetry equipment. But, at the same time, the marketers must try to turn diverse populations into Standard Consumers; infecting the archetypal consumer's memory with prototypical hunger. Persuasion.

True archetypes, *original* archetypes, prototypical figures, their deeds and emotions are communicated down through the ages. From time to time their attributes are altered to adjust to newer ages. These are used as templates to force people into those image-forms. Consider that message called *Œdipus* and how it has been used again and again. But were such recorded, aboriginal events prototypical? Who, what set of people made them that way and why? If Jung talks about the collective unconscious, one must not only ask, "who collected it?", but who keeps reminding us? And what are we not reminded of? Who speaks of the archetypal revolutionary, the primal guerrilla?

Some set of "original," transcribed events and characters are made into standards, broadcast and rebroadcast. Those who follow are made to resonate to the original signal. People through the ages are made into transceivers. The emotion of a perhaps once-lived life in turn gains power to motivate people across time

and space. In fact, the people, the transceivers, the relays, are frequently more emotionally moved by these compulsive fictions than by their own life or the people they live among. They are taught to screen their own experience through these long-transmitted stereotypes, reassessing their own lives, comparing, matching, referencing, denying what they are in fact living out, viewing what is around them through mediational scrims.

Some humans, fearing death, watch the butterfly emerge from its chrysalis, or they see the seed planted, going into the winter-dead ground, and grow up as grain, and dream of the time when they can metamorphose, transubstantiate into angels and gods. The whole algorithm of agriculture is described in Christian thought, represented by a human/divine figure in its metamorphoses into divinity. So they invent varieties of immortality. The way to immortality lies through death; it begins with a dissolution, a liquidation and ends with a reconstruction, recombination, resurrection.

But the progressive series of deaths and resurrections lead somewhere. (Not "true" death, for energy and matter are conserved.) If we view the world, the universe in a quantum-operational sense, in which the observer intervenes in the observed, then, as we have said, "Mind" permeates the universe and must constantly be sustained and reproduced or the universe will cease to exist. Thus, *all* the instruments of perception, of past and present, place mind in the universe and the universe in/as/of mind. True, the referential frameworks change and the rules change. Thus dreams permeate through skins, flow through all boundaries and are shuttled back and forth in history; empty space becomes a plenum which manifests itself into sometimes virtual entities, fields of particles and waves, sometimes real and permanent entities which are viewed with astonishment. Life is an illusion; the flow, the dance, the perpetuation and evolution of language is all, and bodies lyse into language, symbols, matter, space, velocity, energy, bodies, money… (Perhaps humans resist this liquidity. When humans are converted into economic symbols, one form of capital, the being is liquefied, transubstantiated into capital. What is capital but a set of numbers which will metamorphose again into factories or other humans?) The first law of thermodynamics tells us that matter and energy are conserved. Then the instruments that view these events are also conserved.

That is to say mind is eternal. (Really?) And perhaps, so is time. And clearly we can see the whole program of the birth, life and death of the universe speeded up for us in a reconstructive program. But more, we can now populate our computer with a plethora of virtual, interconnecting and concurrent spaces and minds, as the Kabbalists had proposed so long ago. Perhaps we will see them, since these fictions will have themselves become instruments of perception.

In the pre-Judeo/Christian past, the metamorphoses were circular or cyclical, happening without any purposive, long-range strategy. The Jews and Christians introduced two complementary—yet opposing—long-range strategies; non-repeating, goal-oriented history, which led to collective immortality, out of which sprung metaphysical evolution. Events in time were arranged in an ascending sequence leading to collective death, transfiguration, resurrection and escape into paradise... a reuniting with that from which they had originally been separated from.

With the advent of the industrial-scientific-technological-capital revolutions, the transformation programs *appeared* to be secular. Events were arranged into a *non*-Judeo/Christian, long range strategy of transcendence. *Qualitative*, metaphysical transubstantiation was replaced by an accretive, recombinatorial, technology-assisted march toward transubstantiation (since everything can be pried apart into units, numbered and rearranged). This invention was called progress, though still incorporating the old notions of immortality. At certain stages, the accumulation would reach a critical mass and a quantum leap into a new period would take place. Permanent revolution. This was a reaction to that perpetuated, obsessive dream of a faded paradise, the Roman Empire, and the descent into Feudal chaos. How many expulsions from timeless and non-progressive paradisos haunt our *collected memory*? This kind of thinking led to concepts of rational forecasting, retrocasting, planning, management.

But since events had to be scheduled in a practical, materialistic, exponentially rising line, in order to gain escape-velocity, in order to escape entropic fate, it was clear that man's ascendant journey required a series of engineered metamorphoses. The mechanisms of natural evolution seemed to be gone. And anyway, Man wouldn't let any new form that emerged from him, challenge

him. This meant that the journey toward immortality required tapping the earth's and the universe's energy. And if one were to harness the universe's energy, that would cost a lot, and anyway, most people, while fearing death, were not necessarily interested in immortality: the enterprise had to be sold. Enter Faust.

Faust stands for a key word, one of many in a directory of transcendence strategies. The Divine Comedy is another. Faust is dynamic and action-oriented: Dante is static. Dante (and The Church) encouraged saving of energy and cutting down of indulgence-expenditure—called sin—while Faust encouraged profligacy as a means toward progress.

One general form of the transcendence algorithm runs this way: Hero seeks, or is impelled to seek knowledge; hero has dream, or dies, or passes into another realm; the new, or next world is revealed; hero comes back, or leaves directions in the form of a book. Note the role of knowledge or information.

Faust is the great poetic myth representing the transition from the medieval to the modern age, from medievalism to capitalism, from agricultural/feudal society to industrial (and then to the information society), from one kind of magic to another. (And it is Eliot's lament that we had taken the wrong path.) Faust's ascent is built around one concrete and one mystic project. The concrete project involves a dam and land-reclamation. Faust is in every marketing strategy the computer and software manufacturers generate. The mystic project is the transubstantiation of, the rejection of the body and the earthly life, earthly events and time, history, and mundane procreation, utilizing a meta-sexual image. Faust becomes, as it were, one of the programs of modern society. The dependence on mystic knowledge, information, is very strong.

5

Even the most primitive of tribal entities, those most materially deprived, seem to have extraordinarily complicated and sophisticated intellectual systems. And, along with generating wondrous classification systems, they stack up tales of underlying, fundamental orders—and the creation of these orders—into layered versions. In contrast, modern western thought is relatively simple and simplifying.

Formally speaking, all these "pre-modern" systems are very alike: in practice, quite different. The introduction of modern formal analysis may be a particularly western mode for making unlikes alike, a strategy for destroying singularity and quality, still lurking in ultra-modern, western civilization. We see the imposition of this western formalism on the underdeveloped world. On a formal level, these older systems seem to bear a curious resemblance to modern ones. Is this a function of modernist and leveling perception? And all, of course, address themselves to origins and endings.

A cosmic or godly event begins the series. New versions are invented. Beginnings and endings proliferate. Origins are projected and analogized to inconsistent historical and mythological structures, which are then rationalized and united. The Kabbalists ask; what happened *before* the Biblical version of creation? The Hindus retroactively add geological strata of explanation and, *literally*, concretized them out of mountains of stone, chiseling the *Kamasutra* of creations: a sexual version. The Mayans and Aztecs choked their cosmos with Gods of retroactive explanation. But, as far as the Judeo/Christians were concerned, nothing less than the hunt for *The One* would do, worshipping at the shrine of The Great Unifier and Explicator. But, yet, in entropic time, the cathedrals of nuclear particle and information priesthoods abound with sacred Fundamental Particles and Forces (or operators). Looking backward, the god or culture hero, the calculator-supreme, the order-bringer who will, after a hunt for a mystic vision, enter the spaces of inspiration and blinding insight. There, he will view an inscape, not of earth, after which he will return to deliver the Message of the Oneness of all things.

All information theorists erect their knowledge-processing gods: Prometheus, Lucifer, Thoth, Metatron, Hermes, Hermes Trismegistus, Simon Magus, Giordano Bruno, Jesus with his tidings of great Joy. Now we can look at the latest culture hero in a new light: as "truth-bringer." Under the hero's mythic appearance are subsumed physicists, astronomers, molecular biologists, financiers, geneticists, neurologists... is the five-faced Cyberneticist: Alan Turing, John von Neumann, Norbert Wiener, Claude Shannon and Noam Chomsky (it should be understood that these names are mere variables for which other names may be substituted).

The great cosmic battle that calls them into being are the first two world wars. The civil war in western civilization is matched up to that great pre-primal civil war in heaven, the aboriginal revolution. This great Initial/Final struggle provides the impetus to machine the universe and go into business. Before earth existed, God and Lucifer battled. Earth was created (a rearrangement of space, matter, energy and time) as a tool and a battlefield in the Grand Struggle. The Grand Alliance vs. the Comecon legions of Pandemonium. Before the earth and the galaxies were invented (or reinvented), the Communists sinned against The Light and had their Great Fall from Grace. Or conversely, the Capitalists sinned against the light of Primitive and Paradisical Socialism.

The Delphi, where their cybernetic or information thought was born, are the Macy Foundation, the Rand, IBM, Bell Telephone, bank wire rooms, the coding, cryptography and signal intelligence systems of government, the military and the universities. Rather than being anything new, this mode of thinking was designed to reorganize and incorporate the long tradition of western rationalizing and simplifying: Greek and Judeo/Christian thought. This scattered and compartmentalized Delphi strove to organize all divisions under its aegis, devouring and engulfing all before it, metabolizing diversity into this new, computational-assisted, gray pap. This assumption, this reclassification of diversity into fundamental order and unity in the universe, all things in it and all interrelationships among them, may, in the long run, be an act of faith... the propagation of a magic spell to colonize all minds.

Magic depends on a community of belief. The more who believe, the stronger the dominating resonance of the vision, which is then broadcast out into space like an incantation. If, indeed, as

the quantum theorists would have it, the observing mind and its prosthetics intrudes into the cosmos, then wouldn't a cacophony of visions and systems lead to a plethora of spaces? To make sure that chaos is averted, peer review, and ceremonialized, hierarchical orders of permissible discourse allow only for glacial change. Experiments which might prove incontrovertible diversity, or lead to a final skepticism are not funded. Goodness: what if Ernst Mach, who disputed atomic theory, was right?

In modern thought, each version of universal order, developed in history, subsumes and tries to erase past or contradictory versions, negotiating away genuine differences or, at best, converting them into polar opposites or contradictions. But to call something a contradiction is to subsume it. The early efforts of unification included the pantheonizing activities of the Greeks, Romans, Christians, Mohammedans, Hebrews, Buddhists... who attempted to compress, resolve and rationalize the many gods (who had many attributes and stood for many things), spirits, realms and cultures. Early unified-field theorizing.[1] Not only did the arcane formations of the past lurk on, visible to the eye, palpable to the touch, but in dream-states (since brain activity generates a wild, a surreal associationism, generating metaphors and conceits); the ever-present archeology of past formations collected in social thought (the true artificial intelligence/memory) which was the matrix through which education is sifted. These re-emerge when unifying attempts run into trouble in their encounter with intractable reality.

When order/universality/oneness fall apart, when classification fails, fallback positions are prepared. Contradictions are invented, the perniciousness of dialectical thought. Human thought (or at least the thought of some subset of humans) seems obsessed with the use of polarities to explain what will not fit; similarities perceived as counter-identities. (Is a lobster the opposite of a human?) All this finds its way into computer thought, based, simply enough, on addition... mechanistic thinking built on the limited operations that, first logic, then switching devices and logic gates can perform (input-output and feedback devices). For all its complexity, any computer has to use a symbolic logic, which is

[1] And at the same time, intractable organic trees were converted into rows of stone pillars with stone leaves on top to control the wild proliferation of nature and to house this riot of now-domesticated gods.

limited by the control of the flows of electricity. The speed of a vast amount of miniscule operations is mistaken for complexity. The messiness outside this logical world—whole living ecosystems in wild and wondrous irregular shapes, plants, marine shells, animals, microorganisms, a memory of jungles, sea bottoms, a casual distribution of galaxies—must be reduced to binaries, Cartesian/Leibnizian pixels on an image-processor's screen, or a printout. And this presumably matches the world outside this hermeneutical cave of transistors. (Computerized image-recognition depends on building up a reference library of simplified, sensor-apprehensible images, compatible with computer recognition.) All this is another way of, as Aristotle put it, holding up the mirror to nature. We see what a few of us—who have designed the sensors—expect us to see; the designers have their preconceptions reflected.

Economic behavior is also obsessed with input-output polarities; systems which account for-and-of capital flows, the *yin* of debts and the *yang* of credits; male gain and female loss; dark and light; the dialectic in which money in a bank is a liability and money out on loan is an asset; the hurling of a profit in Frankfurt to a loss-column stationed in Panama (but both in an electronic balance sheet in, say, New York), or anywhere. All quite Hegelian. Hegelian thought is particularly applicable to accounting systems. In the first place, it is ideal, which is to say that it deals with representations, not actualities. In the second place, it implicitly shows progressive and inevitable, even divine growth—an organic metaphor—which, when tied to evolutionism, fulfills itself, or God's Purpose, in Time.

Now, the question is: was Hegel the father of the modern, automated balance sheet, or does his thinking derive from double-entry accounting practices? We have been trapped since double-entry bookkeeping and unit-pricing was invented by the ancients. Another question is, how to deal with the unexpected, random, *risk*, and uncertainty? If no one knows what happens "out there," but projects: if no one knows what happened "back then," but retrojects (doing a long run... for which a computer is ideally constructed... if the events can be specified), the past, present and future can be procrusted into a prophet's or risk-analyst's dream. (Consider Joseph in Egypt, whom we will mention again.)

In physics, this long range dialectic concerns itself with entropification, for which quite Manichean Maxwellian Demons were invented to reconcentrate dissolving matter and overcome long term loss. Maxwellian Demons dealt with particle matter, but couldn't deal with the quality of matter; it was a *statistical* conceit. Norbert Wiener derided the very notion of "quality," which he considered a Medieval hangover. How can you measure or chart a quality? Humans inventing particle physics (physical biologists) see humans as agglomerations of quanta.

As for business, the non-quantifiable aspects, compulsive behavior, fundamental irrationality, the rites attending successes or failure, the ceremonies of contacts and connections, the accompanying trade in prestige and rank (and frequently women), panoply, display, to say nothing of individual obsessions, trade in contracts, stupidity, shortsightedness, favoritism, structural thievery, fraudulent accounting, altered and destroyed records, computer glitches (and bad design), invented numbers, nepotism, bribery, kickbacks, the giving and receiving of presents, acts of abject faith all are everpresent and must be factored in... however indirectly.

These sorts of thinking (particlization, accretion, mutational variation within combinatorial limits, dialectical contradiction, fleshly pythagoreanism, accretive historicism on the pilgrim's progress to transubstantiation and resubstantiation), when applied to the replication of organisms, give rise to the notion of genetic structures as information. This living, quivering biology, this jellyware, comes to be seen as mysterious codes, cryptograms, instructional algorithms for the development of bodies. In sociobiological thought, bodies are mere totality shells, packets, envelopes for transmitting genetic messages along a carrier wave, that becomes embodied from time to time, down the ages. Genetics is not only information, but it is memory. (And, as an instrumentality that interferes in the universe's workings, generates mind which then generates it.) Perhaps, at time's end, the messages will reach such a level of accretion and recombination that humans will evolve and transmogrify into angels. (Hence, one burden of this essay is time itself.)

6

At this point in history, the conceptual and theoretical constructs are distilling and summarizing the past into programs that mimic natural and human activities; and conversely, the rich paper records are being concealed, secreted away in caves like the treasure of the Niebelungs. The distillation remains in databases, hoarded by large corporations and governments.

More and more the world is seen in terms of information no matter what the reality is. Just look at the account books, the numbers, the projections, the returns. But computerized account books tend toward a sort of semi-autonomy—market-to-market, interactively linked—and drive this outer reality before it. The investment in computer-compatible thought is so great that more and more we become trapped in this new culture and they cannot admit that we have been led down the wrong fork in history's decision tree.

If all is fundamentally the same, it follows that a database in one language should have the power to talk to databases of other disciplines in other languages (mediated, of course, by programmers, protocols, translators, modems, computers, networkings...). One might have to descend into the primal language and then, choosing the right fork in the decision tree, emerge into the proper language. If only one can design the right protocols, ones that will not only link among unlike, competitive machines with unlike, competitive architectures—IBM's, Control Datas, Apples, Crays, DEC's—but also unlike transmittal systems run by competitive companies. Languages can be united because each field and domain, each way of looking at things, should be a subset of the one, universal, primal language. Perhaps what is expressed in one domain should be considered an encryption of what is expressed in another domain.

However, not only do computers in different disciplines not translate into one another well, but different manufacturers and communicating companies (to say nothing of nations)—while proclaiming one world, one language, falling prices, one global village, and universal compatibility—fight one another tooth and

nail. They erect a maze of priced mediations and product differentiation, countering speed and directness of transmission with profitable labyrinths; in different time-zones, each turn and gate tolled and tariffed, competing and maintaining secrecy, organizing those to whom they sell services on a need-to-know-and-pay basis, playing the differentials among different states of being, business and knowledge.[1]

There are certain laws to be deduced from the observation of business practice. Information management, traffic control and pricing follows the timeless strategy of railroads in the past: which is to say, given a certain limited distance, the problem becomes to increase distance by increasing price. Economies of scale are developed, need for certain volumes regardless of content, development risk to be paid for by the consumer. Tesseracts of tax shelters spring up. An incredible maze of contradictory laws emerge requiring incredible expenditures of intellectual energy and computing time. Information theorists always leave out the costs. Claude Shannon quantified information; AT&T and IBM priced it. Shannon's theory did not develop in a vacuum; he did his work for Defense and Bell. Where did the money come from? What did the funders want and what did they not want? What other enterprises cross-subsidized these developments? What solids were melted down, who was liquidated to fund the Great Enterprise? No different than the practices of the ancient Phoenecians, Babylonians, Greeks, Romans, Venetians, Fuggers, or any other merchants in history. (In addition, of course, the amounts of energy, in terms of electricity, required to run and cool computers is staggering.)

If we take into account the human, informal, anti-organizational, shadow-organizational networks, the person-to-person contacts, those who emerge to resist this development, those who have an interest in not sharing information; we see vast, centrifugal forces at work. On the one hand, the emergence of a unified system, a sort of electronic Catholic Church; on the other, a sort of electrofeudalism.

Given all this potential convertibility, how can money talk to nuclear particles, pension funds speak recombinant genetics,

[1] Citicorp, for instance, computerizing and gaining speed, places its headquarters in South Dakota in order to—taking advantage of the laws—gain advantage which allows it to keep checks for a certain time and thus enjoy a float in the empyrean.

prime numbers retrieve fictional heroes...? Can we really create a translation program, which is to say a unified field theory? Or should we, not having been invited to the initial feast of reason, create a *disunified field theory*?

The primal-language business, like the origins business, is highly competitive (since the costs of computer runs is much more than paper experiments). One of our many ultimate transformational and alchemical media—a primal liquidity in which all life is dissolved, reconstituted and redissolved—is genetics. What is the market value of bioengineering as expressed in some form, with purchases involved, with manufactured products and processes at the end... investible end-products and investors screaming for their dividends, trying to hurry time up? Will it cost the world's savings to transform humans... and will we be left with one creature at the end?

We raise the same questions about particle-wave physics and its ruinously expensive paraphernalia. Finance, literature, genetics, nuclear physics: four (of many) primal languages; three media in which translations from realm to realm can be seen as new versions of progressive metamorphoses.

7

So we begin again, from another angle, using one of the most highly computerized of modern entities: the *corporation*. We will talk for a while about entities, borders (or skins), sets, organisms, time-series, populations and genetics.

We live in a time when corporate operations have sped up. They have become mobile: they waltz across the sea, they take wing and fly into the night, they grow slender and slip through 30 gigabyte-wide needle's eyes. They attack and pillage one another. They split into pieces and recoalesce. They live in this age... and other ages. Metanational entities gobble up chunks of their national hosts. Nothing new about that: what is new is the informational paraphernalia and the high-speed, distance-insensitive, time-devouring equipment which presages a vast political change.

Corporations are—at least legally, and metaphorically—separate entities. At the same time, they are not. They are linked into para/meta/supra/sub-networks by investors, interlocking consortia, joint ventures, cartels... they defy the notion of discrete sets. A corporation has a boundary only for purposes of classification and identification. (By the same token, one can also say that conceptual imprisonment denies the human their individuality.)

A corporation is defined as a living being in the *contemplation* of the Law. A corporation is diverse. The contemplating Law is also not only diverse, but dynamic and changeable, requiring lawyers, plaintiffs, litigants, defendants, judges and legal memory banks (precedents) assembled through the ages.[1] A corporation spans nations, and it is contemplated by several systems of law at the same time. Are we expected to believe that the emanation of a complex of people, events and memories—the law—can *contemplate* the abstracted emanation of a complex of people, events and memories—a corporation? That is to say a fiction, or anthology, or novel, contemplates another fiction, another anthology, another novel. A sort of organic *character*? We need hunt no further. Here, truly, is artificial intelligence. Why spend any more R&D money?

[1] Law too is being placed in data banks, into a system called Lexis.

The corporation can be represented as information in a pure financial form, which is a slice of the composite life of lives and works in progress, taken at some point in time.[2] While appearing abstract, ideal, it is neither ideal nor platonic, nor is it static. Its positions can be caught in an account sheet, but not in its motion. Its motion can be caught, but the positions are lost. Sound familiar? Its existence now requires the constant intervention of humans and machines, managing, evaluating, working, integrating it into a market structure. It includes several methodological histories; the evolution of the notion of evaluation and the history of its accretion of value. This is to say humans and machines producing, trading, buying and selling money or near-money. If it is to have life, it must have lives to keep on working. Its abstract operations have concrete results that drive the lives of the people inside of it and outside of it.

With the advent of the high-speed calculator, robots, and programs (based on long statistical runs of past performances, accretions of admonitory history-scenarios and tortured equations) which mimic some financial transactions; such trading and instantaneous as automated communication programs to link buyers and sellers into an electronic market; it becomes possible to conceive of a pure, automated and constantly adjusted financial corporation, one totally devoid of humans, territories, factories... it would do all the things financial organizations do: move money around, trade, arbitrage, take deposits, account, merge, acquire, make long and short term loans, divest, invest, liquidate, grow, collect, lobby for laws, pay or dodge taxes, contemplate risk and probability, now and then order an assassination... all while living in exotic, anaerobic climes.

If there is no plant in the physical sense, there have to be virtual *plants*, as-if factories, represented on paper or in computers, stored in data banks, to guide bankers in their moves, driven by modes of evaluation, lists of people and institutions to borrow from or loan to, risk studies about good and bad investments (prophetic programs; Joseph scenarios), market-switching-and-routing programs for heaving pools of money this way and that.

[2] Financial institutions, especially banks, are considered here because of all business, the financial entity is the most heavily intellectualized, the most heavily dependent on computers and communications. The technology is inextricably bound up with the value-flows, the calculations being fundamentally simple.

But to be meaningful, this fictional being must be connected to other markets and other forms of endeavor in real time, a something, somewhere in the universe to connect to, someplace to enter inputs, a someone, or set of someones or the simulation of someones to credit these messages from this totally automated financial institution. Most of all, such an ideal financial being, in order to exist, must be credible: that is, accepted as a motivating act of faith by other institutions, other beings, and Law. This has not happened yet. As we talk about corporations, we still detect humans... somewhere, if only living in palaces. It still needs humans to interact, humans to be affected by these interactions. Although one can see a time when some automated complex of corporations consume what some automated complex of corporations produce.

We talk about the life of the corporation in several ways, as we talk about the life of an organism. Humans are stockholders, directors, traders, officers, consumers, workers. All who contribute to the life and existence of this contemplated being have histories, both social and biological. They may also be defined as a gene-pool, although differing from a race. This population is the result of diversified reproduction as against non-diversified reproduction (a tribe, clan, race, ethnicity, nation; those with subsets of shared genes). There is, to be sure, such a thing as a family corporation, a form that bridges the gap between a dynasty and shareholder "democracy." Thus one can say that the corporation has a sort of genetic structure, one composed of sets of genetic structures, each set composed of parts of other sets, defined or ensetted not so much by family or race consanguinity as by their participation in the enterprise. Indirectly, this corporate organism has, so to speak, a genome, which is to say a complete genetic constitution. At the same time its participants invest/give life to/guide the destinies of other such entities which have different genomes, for one must spread risk and diversify.

Another way to think about the corporation is from the perspective of investments (stock, bonds, etc.), plus other rules for life, governance and growth (even replication). This combination of investments and rules can be considered as the genes of the corporate, fictional organism. These metagenes are said to express themselves into living organisms. Genes, information of living beings, express themselves into other living beings and also into

metagenetic forms: capital, which has its own rules of continuity and metamorphosis.

Investments shapeshift into material life. Here we have begun to introduce the concept of modern significant demographies in which contiguity, as well as continuity is provided by investment, participation and modern communication. Replication does not require face-to-face existence, and so the question of space and time is raised again. Offshore receptacles with names await; Panama is said to have at least one hundred thousand corporations of all sorts. Some are real; some are shells, mere names of fabulous beasts that are inspirited and informed by a shower of electronic gold.

It is possible to perform a mind experiment. Consider the genes—in their informational aspect—of all who interact with the corporation, and search for something in common between genetics and corporate life, belongingness, in turn related to the equity/debt/assets expressed as stock, directorship, management, etc. This new set of translations relates to the organism's two totalities and is exemplified in the annual report, the balance sheet, which is a slice of life... frozen in time, but as transtemporally allusive to past and future histories as, say, Eliot's time-meditations in The Four Quartets.

This being's genome can be seen as the result of a long stretch of accreted historic information (the story of the buildup of equity and credit) which can, through a series of reconstitutions (as one reads past organisms, arranged in a historic sequence, in the genetic memory of any being), be remodeled backwards on to life, production and reproduction of gods and humans. The *names* of those past and present humans... the lives as they live... replicate in parallel, can be mapped to the corporation's replication pattern. Or we can go forward again from these humans to dissolve them, their essences, into this legal fiction, this corporate being. It's a simple mapping problem; genetic information encrypting corporate information, and conversely. Once again; we should not forget that both sets of information involve human activity, or at least the *still-living memory* of human activity. Considering the age-old continuity of some dynastic fortunes, this is not too arcane to believe. After all, the corporation is a metaphor embodying real human existence. It is a chimera.

Corporate mergers are referred to in sexual terms; marriage, even rape. Are these mere words, anthropomorphisms used to describe a phenomenon too complex for words? Shorthand? Key words, which when decrypted, open up a vision of vast legal and credit data banks containing huge record depositories of swiftly shifting law, money, reports, memos, accountings, as well as histories of the mixing of complex social groupings, populations, evolving, revolving through a variety of forms? An analogy?

There is a problem here: are we to take a metaphor seriously? Is it truly descriptive of a complex reality? No, but... The keyword always becomes an intrinsic contentual part of the phenomenon described; it is wrenched loose with the greatest difficulty. What do lawyers and accountants argue about? They argue about *words* and *semantics*. They structure, deconstruct, semiotisize, mine the law-bodies for hermeneutic nuggets: they do *literary* criticism and linguistic analysis. They invent new, post-dated critical theory.

And if we are talking about fictions, try to think of what the Œdipus Complex describes without the word "Œdipus" to unlock the memory bank. Try to think of the merging, through a marriage, involving two individuals, representative of two complex dynasties (corporate entities) and fortunes (bloodlines or genes; property and treasure); royal families. Whenever we are talking of corporate or dynastic marriage, in terms of informational essences, we are describing an alchemical wedding, a marriage of heroes, gods, archetypal figures, and enterprise. But what is it that is mated? People? Yes. But also information: bonds, representations, money, deeds, abstractions, symbols (stock, for land) which are generalized information; not specific to any corporations, resolvable into things—people, factories—as the genetic information is potentially resolvable into bodies of living beings, races, once properly expressed.

A vast practical and ceremonial apparatus is required to bring alchemical essences together. A vast, practical, biological and ceremonial apparatus is required to bring the genetic essences of any two people together. When it comes to the marriage of dynasties or fortunes, ceremonial behavior increases (to say nothing about a great to-do about contracts). Mating dances. (Stock in *this* company or *that* company allows for certain kinds celebratory rites and participations. When stock is loaned against currency, that currency is potentially part of *any* corporation, but only when traded

for new securities with their particular, limited set of behavioral instructions.)

If a human is a combination of two halved gene-sets, a kind of information-bearing and organism-producing program, then a corporate merger is a multi-sexual, abstract orgy. It requires dozens... *thousands* of essence-sets to conjoin, to participate, to be transferred in order to materialize into another kind of existence. Certainly as long as human activity goes on, as long as computerized and abstraction-activity goes on, as long as it is recognized in the contemplation of law and the faith of people, this wondrous being lives. Go tell someone that IBM does not live.

Do analogies of corporate marriage incorrectly define this entity? While we wait—probably forever[3]—for pure, artificial intelligence to come on line and carry on the purified and transcendent sum of knowledge, making new, autonomous decisions, we can say: no humans, no corporations. No human reproduction, birth, death? No corporations. The corporations may not actually mate, but mating and reproduction must go on somewhere. Is this any sillier than saying, as the sociobiologists do, that the body is nature's way of producing more DNA? The exchanges, assets, liabilities, accretions, all the other signs of operations in the corporation's informational sphere can be said to be determinants of social behavior inside and outside (wherever its influence reaches) this being. Its individuals are just as caught up in a sort of fate as poor Œdipus (a dynastic drama) was. Considering the rhetoric; invisible religions, acts of abject faith, superstition, lurk beneath the most rational, mathematical and scientific works. Magic continues to shape human behavior.

In ancient mythology there were organisms that had lion's heads, wings, human bodies, snake's tails, the heads of hawks and owls... we could in principle make a genetic map of such a being. A modern, diversified transnational being is, of course, infinitely more complex and amorphous, for here we have an organism composed of living things, dead things, and the remembrances of things dead and past, no less phantasmagoric than those ancient sphinxes, chimeras, minotaurs and hydras.

[3] Sorry, Sol.

8

Let's backtrack to wherever it is that the Origins of Western Civilization are reinvented and then go forward to try a little progressive meta-history of this most modern of organisms. Greece, a tiny time-slice inserted far down, towards the beginning of the ascent-trajectory of western Man. Our art, philosophy, logic are said to begin here. What if all memory of Greece were erased?

All countries/cultures/religions secrete, value and store up selective histories and mythologies to legitimate themselves. What do Europe and America consider themselves to be without this passing nod to Greek origins? Even Hitler's and Mussolini's regimes featured Greek-derived iconography. To make these histories, an amalgam of events, myths, legends, folk tales, sagas, religious deeds, epics (to say nothing of vast storehouses of paper, as well as appropriate mnemonic architecture and monuments) were collated. Thus a quasi-arbitrary sequence is created, one linking events into causal chains in order to create the feel of mystical inevitability, celebrating the ever-constant triumph of the present. Mistakes or horrors are leached out or are considered to be the price one pays for progress. Continuity, progress, history is a smoothing out of the sudden, the disruptive, the violent, the random and unaccounted-for. Even the most rationalistic sequences must include the cultural, for logic too is a *culture*.

The building up of Western Civilization is a story of grand strides toward unity, yet requiring breakdowns and fragmentation of old formations: that is to say, re-feudalization before new reorganization (note the re-feudalization of AT&T). This totalizing sequence constitutes a grand myth—given an ascendant trajectory which will avoid breakdowns—called progress or sometimes evolution—beginning in the past few hundred years when some perceived that the industrial revolution had to rewrite the old myths into new ones, forever ending circles and cycles and introducing exponential curves reaching into the empyrean (sometimes called space). To question this accretion at any point is to disrupt the spell the Grand Ascent has over us.

It may be argued that certain events were chosen arbitrarily; an association of ideas about event sequences, which happen to

have—we have not accounted for pure invention—operated in a certain temporal sequence, not necessarily in a cause-effect line. A politico-mythico-Lockean mnemonic. Ultimately Gödel makes the point that the linking of all logical steps depends on an act of faith, just as the assignment of meaning to a pool of securities is an act of faith.

We can follow some of the many arbitrary feeder streams that empty into this ocean of Western Culture. Œdipus, for example, is not merely a Greek play about a hubris-ridden, stubborn figure; one prototypical individual, blinded and suffering. It is the story of the restoration of balanced ethical and divine budgets. The tale is also about a power struggle, a plot in the face of an environmental disaster: medical (plague), economic (starvation), genetic (dynastic legitimation: though it is not specifically mentioned as such, genetic information as fate—as explained by the retroactive prophecy delivered by Delphi—are intertwined), and demographic catastrophe (sterility in women and potential population decline). The tale is also about an information-search (among other things, for genetic origins). Who passed ownership and title on to whom and how, based on breeding lines of descent; a story of false and contaminated claimants. It is about the relationship of genetic purity to rulership, property, the laws that define those relationships, the rules of mating. The health of the nation is at stake.

Usually this play is interpreted for us as a moral, psychological and sexual tragedy (incest). Freud led us in the wrong direction, positing the erotic rather than the reproductive consequence; falling into a trap set by the old Hebrews and Christians. Lust, especially incest, leads to death. But then, we may ask, what did Freud know about life? What little he did know, he lied about.

Genes, contaminated by *deeds* (acquired characteristics, or fate?), the inadvertent sin of Œdipus and Jocasta have brought together the wrong genes, illegitimately. The sins of the rulers, or putative founders of this kingdom of Thebes (the information), contaminates the body politic; its well being, its health, and affects all nature. Did the Greeks know about genetics? No, but they were obsessed with plant and animal breeding and dynastic breeding strategies. The forced comparison between human activity and nature's response is interpreted in a magical way and skews

human behavior.[1] If the thought of the pre-Socratics/Socrates/Plato/Aristotle go into modern rational thought, why not these tales, which are *logical* constructs disguised as dreamlike tales of scandals?

Another take: Helen of Troy gives birth to the Hellenes. We can now understand one of the reasons for the furor over Troy. Only Helen can give birth to the Hellenes and she—or the symbolic and real reproductive apparatus inside her beautiful body—has been stolen. Helen, mythic figure, like a queen ant or bee, is a collective emanation. As a carrier of a certain nation or race-spawning mechanism, she is, from an information-perspective, also collective. The Iliad concerns a conflict of ethnicities, a polarity called Asia vs. Europe, an East-West struggle for the control of trading routes to the profitable Scythian hinterland. The war is used as a means of uniting diverse tribes into one mega-ethnicity. The first Grand Alliance, the first NATO-like Allies. These themes are summoned up again during the East-West war against the Persians. The Iliad includes a brilliant, albeit indirect, essay on set-theory disguised as a list of tribes. The Hellenes are the set of all Hellenic sets: a genome of a corporate body called a race.

The Old Testament can be seen as a set of linked stories and myths about the Hebraic relationship to God's Design (covenant, contract, law... rules of the game, more honored in the breach than the observation), a history of dynastic continuities; rules for the preservation of the Hebrew gene pool and its royal subsets; the living propagation of God's word, or perhaps the Word made into code... God provides the operating system; the Hebrews write the software. The Design has rules for mating, accretion of power, and how to transmit *informational* treasure (The Talmud). The Old Testament is also a meditation on the rules of economic behavior, negotiation of conflicts, law, contracts, politics, nations.

These notions of a nation encompasses a genetic mystique. An ethnicity contains the idea of birth from a set of primal founders, all of whose descendants have shares in a commonality of genes and are related.

Implicit in the Old Testament and Judaic law (and fulfilled in Kabbalah) is a sort of evolutionary trajectory along a linear

[1] That the play is also Athenian propaganda against Thebes and Delphi is another story in itself.

path. The history of Jews, unlike the history of "primitives," is not cyclical except in the longest sense. Gratification and fulfillment are deferred. The Hebrews introduce the notion of the long-range trajectory, completed by the coming of the grand recombinatorial and debt-redeeming wizard, The Messiah. This Messiah will reunite the scattered Hebrews (for how can they mate if they are far apart?), and *this* Messiah is only for the Jews, only for *one* gene pool, no one else. Kabbalistic lore, a heretical meditation on the same long-range cycle, is a wave with only one fall and rise, spread throughout the universe. The Messiah becomes a way of reuniting, reconcentrating the power that the diaspora fragmented, a kind of ultimate meta-history of mergers.

Still another event: what strategy did Joseph use to monopolize Egypt's grain production for the Pharaoh? Prophecy, dream interpretation, fear, land-reform, expropriation of commodities, rationalization of production (a kind of early, political, state-run agribusiness), storage facilities, new gathering techniques. Clearly Joseph must have used some form of accounting and econometric projection to affect a grand, structural and political change. His interpretation of Pharaoh's dream is risk-analysis. Not only did Joseph change the environment around him, but his thought radiates down through the ages and affects agribusiness today. The short-range, forced march collectivization in the Soviet Union, the long range "collectivization" and concentration into agribusiness in the US (using genetic cropping strategies), use the same pattern. Maybe we should call Jung's idea the collectivized memory.

Up to the New Testament, the Hebrews are heterosexual. The Jews "give birth" to the Christians, or that's the way we tell the story. God uses Mary as a child-producing/nurturing vehicle (expropriating variant tales out of the past). Here is a departure into androgyny: self-replication, an ancient, sinful theme, for this is what Lucifer did too. Incest? Autocest? Autogamy? Or is God a weird insect? New rules for sexual mating enter the picture and implicitly alter the relationship of dynasty to property. By proselytizing *all*—not only Jews—the nation, the ethnicity dissolves and becomes a sort of corporation: shares in redemption are open to all. The Messiah will redeem *all* debt. The Old Testament is endogamic; the New Testament is exogamic.

Historiography is expressed as reproduction, human continuity with attendant "qualities"; genetics as myth... but does the

myth enter into the genetics of the present, as many scientists turn back to what was religion and magic in the past? (One may pour enormous resources into a project and use scientific techniques in pursuit of magical aims.) The Christian God's experiment enthralls the moderns and they try to replicate it, using the Holy Spirit to fertilize a laboratory vagina.

Genetics and the right to rule, to own property, come for the Romans at a time when both myth and documentation exist side by side inside the dynasty-obsessed empire. The Empire funds the history of its own origins, a vast, dynastic myth called The Æneid, which traces the ancestry of the Romans to the Trojans, not the Greeks.

For the Christians and the Romans, these tales explain discontinuity while maintaining continuity. The new birth stories ensure discontinuity between the Romans and the Greeks. In the same sense, Jesus is not only divine, but a Jew and not a Jew. Æneas is a Greek, but not a Greek.

At time's end, the Christians promise—theme and variation—Resurrection and redemption of all believers (investors). They will bring to material life the dead and dissolved who remain as memories. But how is this Resurrection to be accomplished? Will there be an information-search for the dissolved and scattered, the transformed, decayed human material of the world; and then a sort of reconstruction, a retro-combination? Clearly, the parts, the very atoms, have memory addresses. Or are the *memory* elements to be reinfused into dust, and that dust brought to life, as the Kabbalists claimed to be able to do? Or are the memory elements inserted in machines? No matter. The point is that the *thinking* behind these tales descends to us. (Of another transubstantiation myth which has to do with capital itself, more later.)

These political and social materials, this kind of thought, woven back into the whole traditional memory-corpus of dramatic, fictional, religious works, permit us to see that a trans-disciplinary whole operated even in the ancient past... albeit using coded languages. These were preserved, by some, with consequences for the present. On the other hand, what was selectively forgotten and buried? We never get to hear the peasant's side of the story in the Joseph tale. The oppressed have no dynastic history. The concreteness, the mundanity of the past, has been generalized; its particularity eroded, just like the start-up equity put into a

corporation. The information of the past shapes the information processing of the present.

The econometric predictions of this present[2] uses, with minor variation, the Josephian scenario. In fact, to tell the story again, the disaster Joseph predicted was not a disaster of underproduction—but too many years of *over*production, with attendant depressed prices; requiring either a famine to be manufactured, or at least an *informational* famine created by cornering the market, leading to real hunger. Prices? Is this really in The Bible? Joseph, after all, as Pharaoh's agent, sold the surplus grain on the world market during a world famine. New discourses inserted back into past events disrupt the holiness of the memory time-series, and question the legitimacy of modern thought-buildup; indeed, the legitimacy of all present-based/obsessed-with-past, the soft cause-effect linkages built into history.

[2] think of the Russian-American wheat deal of 1972–73, the decision to corner the grain market, extensive planning.

9

Why raise these questions? To challenge an obsessional mode of thought which annunciates itself as new and seems to become more rational every day... but which is a capital intensive, ghost-haunted complex, stealing thought and memory away to hoard it. To attack a long and endless, even boring set of preoccupations; theme and variation on a few original musical phrases; a casting out, an obliteration of cacophonies. But do the original themes tell us anything of the real social behavior of the message-senders, the people who generated them? Can we really separate passion from ideas? Even the ambition to succeed can distort ideas. After all, how do the preoccupations and passions (to say nothing of the confrontation with, or the bowing to power) enter the idea-stream? Certainly, people have killed one another to preserve their ideas.

What would happen if we altered the memory-references to—say—the ancient Greeks, and their culture (sculpture, philosophy, logic, myth, history)? What if we included the practical, day-to-day thought and considerations of power? This disruption of the sequence, described as a progressive and ascendant evolutionary movement from the simple to the complex, would ripple back up again to the present, causing glitches and noise in the pipelines.

When Marx said that the philosophers had only talked, and never done anything, he was wrong. They indeed did something, for the propagation of messages requires a climate of belief which they generated. Marx himself refused to let go of any of this past, merely rewriting the perspective.

Consider: Socrates never answers Thrasymachus satisfactorily, in that order-obsessed schema, The Republic. If philosophy is a sequence, each succeeder building on each preceeder, then philosophy never got off the ground. We still wait for a response to that question: power is justice. What followed is nonsense. On the other hand, the merchants, politicians and soldiers listened carefully to Thrasymachus.

And does it mean anything at all that the great themes sounded by the Athenian playwrights and philosophers, and upon which the great symphony of western thought is composed, were all written by homosexuals who were nevertheless

required to mate with women and replicate? Is there a hidden content, a secret sexual message in philosophy, a movement toward body-purified thought? This has bearing on the question of heterosexual reproduction, the desire to escape the tyranny of Grand Design-serving matings. A homosexual population generally doesn't replicate; it must recruit. Will it put artificial reproduction on the agenda? Do dreams of non-heterosexual reproduction lead to designs for immortality and eternal youth... a longing for transcendence, a covert desire to escape the decayable body?

In both The Divine Comedy and Faust there is a seeking to find a route to escape the bodily and heterosexual mode of reproduction, to separate the erotic from the reproductive; which begins to lead to algeny. Faust turns his back on earthly marriage and love, to mate with a "female" principle in heaven, seeking and using knowledge and deeds in his journey. Dante glimpses Paradiso, seeing shining intelligence and bodiless love. As light/love/intelligence radiates into space, it sinks into the blackness of body/matter/sin. Divine love and knowledge are a metaphor sent down the ages... alchemical wisdom. But in the past, there were no major idea-and-body-replicating devices to carry down the notions of hermeticists, gnostics, Kabbalists, magicians. Heterosexuality was necessary. How to escape this trap? Later, John von Neumann dreams of machines, gathering knowledge, becoming autonomous, reproducing.

To understand the present one must look over this long series of *regularized* events, saying in each case, "this time is like that time" or "this time is not like that time." To regularize events is to force similarities on these happenings. This is possible only if time-segments are everywhen the same. It is disconcerting to think that each individual in history was unique, singular, unrepeated and unrepeatable. How can you retrieve their thought? How can you resurrect?

Modern, rational thought requires even greater precision; since we think and replicate thought through this *capital-intensive* mode, one which cannot handle true singularities. Order, repeatability, similarity, pattern, structure, identity is introduced into past sequences... otherwise, how can there be such a thing as a series? Consider the search for missing links (a medieval, logical technique left over from the invention of the Great Chain of Being) in

order to smooth out the series of evolution, to eliminate great and cataclysmic jumps. If we allow these ruptures, we leave room for the reintroduction of the divine, the inexplicable, wild and truly random *chance.* Evolutionary frauds, counterfeit artifacts, faked documents are manufactured and inserted in the attempt to create legitimizing historical series where there were none before... or at least no record of any. How much easier this is to do with the computer as it projects, constructs, simulates to fill the unfillable gaps? If we cannot think without the aid of the computer, then thought itself is capitalized.

There are several kinds of capital (or value) here. One involves the accretion of knowledge. Another can be likened to the yet-to-be-valued good will of an ongoing enterprise. Good will is an intangible, but it can be quantified and entered into the account books of an enterprise, then bought and sold. A third kind is more mundane: energy ingathered and stored up as wealth, credit, money, which is information. A fourth kind is the good antecedents, the precedents, the legitimizing "genes." A fifth kind is structure; the orderly arrangement of timed events into a sequence of inevitability: critical-path operations, program evaluation and review technique, scheduling... one kind of chronology as against other and disruptive chronologies. All together, they constitute the strategic program for running the modern enterprise, the extended Talmud of western civilization.

Whatever really happened in Œdipus and in the Joseph story is suppressed. The making of the sequence requires rewriting the elements long after the facts, if there were any. These tales are supposed to be exemplary, instructional, fragments of an algorithm. The enterprise must be saved from disruptive thought, from noise, and requires, first and foremost, the storage of a transmittable message. It is in that sense that this sampling of literary/mythic works mentioned here are an intrinsic part of the good will of this capital-intensive enterprise called Western Civilization.

Now, the chief operating executive in Thebes, a subsidiary of a diversified banking and religious consortium called Delphi (also a data bank and intelligence-gathering operation), was called a king: Œdipus. The king has broken the rules; he's an anomaly. In order to prevent the enterprise's demise, Œdipus must be deposed, the management changed to demonstrate that the enterprise continues under the ægis of fate (what "appears" to be an inevitable

series) rather than individuals. The board of directors meets at the shrine of Delphi; it is they who plan Œdipus's deposal, implying retroactively that not only was it fated, but the cause of the crisis lay in Œdipus's very genes.[1] The board are kingmakers. At the same time, this ruling elite, in order to restructure the trajectory, also plan a meta-demise, a long-range, exemplary message which will be transmitted down the ages, a program-scenario for the sacrifice of kings, managers, chief executive officers to maintain order and sequence. This is to be celebrated thousands of times.

What if *all* the characters in Œdipus were disgusting, then why bother to preserve that memory? But in fact, that's what they were: greedy, grasping, selfish, monstrous, in *no* way noble, and in that sense archetypical.

If we are dealing with no more than a revisionist, mythic history of a political struggle, then the classical Freudian interpretation—indeed the whole Freudian industry, which needs one interpretation and not others—loses this stored-up good will. The credibility of one of the foundations of our enterprise goes down the drain. In one version, Œdipus is a hero; Jocasta is not his mother. In another we see the story of a coup against Œdipus. In a third, it is Jocasta who ordered Laius slain. In a fourth we see that indiscriminate sexual behavior, including casual incest, is everyday behavior in royal families. In a fifth we see the play as the celebration of the coup from the point of view of Athens; the defeat of Delphi and the assumption of control by Athens as it struggles to establish hegemony. In a sixth, we see Œdipus trying to replicate himself through incest. If Œdipus is not exemplary, then good will is devalued. Œdipus could just as soon be Boss Tweed.

One could make a communications flowchart of these paramemories, trace how this good will was transmitted down through the ages by humans who acted as receivers, repeaters, relays, enhancers, gates, transformers, noise-eliminators, interpolators, adders, switches, coders and decoders, error-correctors. They received and sent these stories down by voice, in writing, or by use of rites, chants, liturgies, ceremonies, dramas—storing them in any variety of devices. From time to time, they were

[1] As later Eliot will re-sound this theme, using the key word, "Tiresias," to express the barrenness and sterility of modern life.

retrieved to be used as guidelines to correct present and future behavior. At the same time, humans themselves, as biological creatures, also transmitted a different kind of information and memory: genetic messages. Alongside these two streams, treasures, credit, good will, capital was sent. The memory of a memory: one, events; the second, biology; the third, capital. Built in was an adjustable, time-sequencing rescheduler for calender reform. None of the tracks can exist without the other.

All forms of knowledge intertwine to pass down a climate of opinion, a meta-environment, which becomes part of the present perceived *physical* environment. Indeed, as futurists—equipment-sellers all—talk about the next evolutionary step into the information age—which is also a whole environment—and annunciate this adaptation to this new climate, *property* seems to become less physical and more ephemeral. The burden of our argument becomes clearer: inheritance.[2]

The newest version of these old inheritance stories is sociobiology, a kind of biodeterministic Calvinism. Into the observation of nature are inserted these birth-mythologies and breeding-and-replication logics of ancient Israel, Greece, Egypt, Rome, and the consanguinity-obsessed Middle Ages. The carrying down of these treasures—saved from the ruins of shattered civilizations—finds its way into modern myths of adaptability and evolution, even within the present twenty year span. To this theme is added inevitable causality.

As an asset to Western Civilization, what kinds of valuation can be placed on these long gone events? How can they be calculated into the asset picture? One must begin by reviewing, assessing, quantifying and valuing these intangibles, these pools of good will. How do these carry-forwards contribute to the development of rational calculation in its newest computer-assisted modes, translated into assets and liabilities? What distortions, mythologies, religious superstitions have crept in and how did

[2] For example: the one subject, the true, corporate—or embodied—"hero" of all of Dickens's works is Inheritance. His characters are always involved with claims on Inheritance. Inheritance as meta-genetics, manifests itself into shells called humans, or characters. The role of Dickensian characters is to move Inheritance through history. Each one of Dickens's novels involves a search for a programming error, which, when corrected, allows for the continuity of inheritance outside of the fates of the characters involved. To use inheritance self-indulgently is to descend into sin.

they get there? Or, since everything can be informationalized (if specified) and assigned a currency value, does it matter?

10

Enter cliometrics. If legend/folktale/myth is a form of information and meta-history, featuring un-individualized heroes as variables, then cliometrics is meta-meta-history—the kind that makes it easier to match events up to number-series and can incorporate genetics-as-coded-logic—which itself can be used as a kind of history (as history can be used as a kind of genetics). Each particular person, each event generated, becomes a variable in a statistical series. Chosen events in a time series are matched up to chosen sets of self-transmitting individuals. Cliometrics is a sub-branch of those statistical time-series that computer archeologists are so found of retrojecting back to creation in the attempt to make history compatible with logical operations. Cliometrics is quantified history in which people and events are graded along an importance-scale and matched up to a time-scale established by archeology and evolution. Cliometrics, more than any other kind of historiography, is computer-compatible history.

But then, ascent-mythology reenters. All event-clusters on an evolutionary series are in fact fungible. The billions-years-trajectory is mapped onto a short stretch of human history, just as an infinity of natural whole numbers can be, say, mapped onto all the possible fractions between one and two. But like any series, such a construct depends on the measurable regularity of events. Catastrophe, the unexpected, must be integrated, smoothed out. The catastrophe is cut apart into small segments, the compression stretched out, and we see that event in regularized, even fragments. Why evolution—which is supposed to move in glacially incremental steps—is matched up to history—which takes place in only a short time—is an obsession... progress, growth, incremental gain... that the 19^{th} century foisted on us. Humans have not changed, not evolved, in all the time they have been on earth.

Then the proposition that evolution, as applied to humans and their history, is the movement from simple to complex, from less to more, from worse to better, from chaos to order, from primal virus to sub-human to human to angelic to god... doesn't work. Whereas the latest studies are purported to demonstrate that more than fifty percent of the economy is information work, a case can be made

that whatever the conditions—peasant, primitive, factory worker—more than fifty percent of the work was *always* informational.[1]

In the very act of selection, grading and valuation, in order to constitute part of the latest national remembrance-treasury of our enterprise, to make it fit to be good will, it must now be said that these events are convertible into these numbers, these increments. For it is part of the equity, the capitalization placed retroactively into the start up of the enterprise; a set of past events converted into numbered, stored and convertible values. After all, even eventless, invested capital must have some history. In any pool of money, there lurks an implicit collage of time series.

Now if cliometrics is to have any usefulness, not only must religious history and mythology be quantified and arranged into an accretive time series, but it must be valued. Once quantified they may be translated into other metrical disciplines through a complex series of conversions shuttling back and forth in time. (Although, before this can happen, a rewriting and re-evaluation of the meaning of time itself is required.)

[1] Which intrudes a touch of the miraculous, for when, how and with what blinding speed did humans become the way they are?

11

Starting from another end, we can look again at the hypothetical annual report and balance sheet of our enterprise, Western Civilization. If we analyze, concretize, qualify, re-view, individualize or personify the bottom line, representing pools of capital, we unfold it to see a variety of sub-enterprises: factories, farms, plantations, mining operations, shipping, workers, slaves, wars, thievery, pieces of drama, the addition of last year's, last century's, last millennium's profits or losses, the whole ensemble of economic activity. These pools of money and near-money (an incredible array of quasi-liquid exchangeables) have different key words, titles, identifiers, instructions and names attached to them, indicating by what rules they may be converted from one form into another: numbers to numbers, numbers to people, people to events, events to a varied range of goods...

But to repersonify, re-invent, decrypt events out of our bottom line puts limits on their exchange potentials by pointing to sets of *particular* people, their lives, energy expenditures, products. They are not given to us in the proper language. It is hard to trade a human being (or a ghost) *directly* in our society, with its putative commitment to humanist values (each and every human in the world is supposed to be of importance... but not their work). Yet, the abstracted, refined, distilled, symbolized value of part of a human, their work—with the rest cast off—can be stored, calculated and traded every day. Modern purification ceremonies.

The coming of high-speed communications, computers and trading programs allows for the movement of keyworded, encrypted bundles of capital across barriers and borders to be entered as profit in a tax haven (as souls bereft of bodies ascend to heaven), a loss in a taxed sub-world: expensive signals of expenses. *All* forms of credit are highly abstract, general-purpose information. Otherwise, how could they be moved and interfused?[1] Information cannot be too particularized in order to make entries

[1] Citibank, Chase, the Bank for International Settlements, Banco Ambrosiano, the IMF, the Federal Reserve System, etc., all banks and securities houses are information-handling, transactions and communications companies.

in account books. Generalized, it can be teleported easily through the most complex spaces (where humans cannot be moved), some of which are not so much spaces but representations of spaces: magnetic perturbations, addresses standing for a country, another enterprise, files on a tape or disc, or in flight, entries in an account book. I can transmit six million dollars (how many lives; how many things?) from a US bank to a Japanese bank which has a branch (a presence, but not a necessarily a facility; a designation) in Panama—move it from a ledger marked "US/Chase" to a ledger marked "Panama/Bank of Tokyo." Has the money traveled? What does the question even mean? Yet the US, Panama, and Bank of Tokyo behave as if it has.

If we intone "Russia," six letters, we have some idea of what that means: the letters, or the sounded word, stand for the space in the file and that space, on tape or disc, matches up to the whole of Russia. (The code-name, the identifier, the recognition-signal, legitimizes the transaction. It must be precise. We cannot say we are sending "Œdipus," for what does that mean? Or can we?)

At bottom, these forms represent the activities of people in the present, the past, and the future (when capital was/is/will be stored, built up, accreted). Money contains a past: it is a memory and energy-storage. The labor of old machines (animals, plants, and humans) which once converted sun, soil and seed into food, raw materials into things; all these and more are implicitly represented. The credits are a form of miraculous non-energetic energy storage.

We have reached a fascinating metaphysicality: energy storages which are not contained in material objects. Wood, coal, oil... these we can understand. With electricity, things become problematic. Electricity cannot be stored (except in limited ways, i.e. batteries). We must produce heat in order to drive the generators. Yet, there are abstract, informational, non-heat, non-energized, *symbolic* storage devices which nevertheless have the power to drive the energizer of machinery—the human. Money, securities, paper instruments of all kinds, electronic signals... all these (among others) have this power. But in order to energize they must receive this power, which is purely a symbolizing activity which must take place in the context of a whole social climate which trains people to respond to the energy-stimulating information

associated with (not *in*) these devices, these instruments, these fictions. We are talking, in the long run, about belief-systems.

History resides, embedded in each item we touch. A set of ghosts... remnants and memories of people who worked to produce money, wealth. Looking at a pool of credit, we are not permitted to infer the concrete existences—the lives, the sufferings, the pleasures now—of those pasts, this *unspecified* stuff of phantoms. This analysis holds if we believe that capital is a residue, expropriated and stored work-energy, value and time (representing the expenditure of human energy, lives spent in forced labor). Electronic gold is the newest minimalist form. Capital represents a compressed work-and-time series omnipresent in credit and every processed or owned thing. A continuity of real and fictional people.[2] A revived theory of spirits.

But when we come to the creation of credit—as the material representation of embedded value, gold, gems, declines in importance—by banks (real banks, or fraudulent shell-game banks, and all the interest-leveraging games they play, lending five, ten, twenty, a hundred times their assets; national treasuries with their printing presses running full-time, account-book manipulations), we have arrived at the manufacture of value out of nothing. If credit, value are linked to people (genetic series: or their residues, for they continue to work when dead) and the lives they once lived, or might have lived, then inflationary cycles create even more fictional people, fictional lives which impinge upon and crowd the living. These humans and their energies seem to be drawn out of the *future* (looking at interest as a price based on usage and future realization, as expressed in money and time, which is to say energy-expenditure—labor—to be realized) and become another way of birthing fictional people and enterprises.

Hence, in this world all the forms of credit (information), if convertible to the lives of populations, create *population pressures* on a limited environment, recrowding the past, or emptying the future. They, these *pre-spirits*, impinge on the economy and on daily life and the psyche. Fantastical?

[2] Why fictional? Information doesn't have to be about real things or people; it only has to be *accepted* as real.

If dreams and myths have an effect on the lives of people, it is clear that metadreams and metamyths also have an effect.[3] Such manipulations violate the first law of thermodynamics, creating energy out of nothing or the future. You can violate the laws of nature, at least for a while, if you put enough money into it... so said the physicist, I.I. Rabi, clearly identifying money and energy as one.

These labor/life/time/suffering residues, these generalized phantoms are peculiar ones. They have no meaning until the underwriters of an enterprise assign a value, a meaning to them. Assigning a value (and raising money against it) requires an act of confidence and the general acceptance of that assignation (which itself must be sold) is what constitutes the general act of faith in certain people's notions of present, past, the invisible, the future. Credit, *credo*. You can invest in it, you can bank on it, you can buy a piece of the faith and people will be moved by it. By what? By this long series of conversions, metamorphoses, transubstantiations and appearances out of pure space, dyings and rebirths, incorporating a kind of serial cannibalism among its many charms. These acts of faith in the modern rational age are not merely cool and detached. They are attended by great excitations, curious passions and lusts, unseemly fights for status, murders, massacres, tortures, annihilations of populations, pomp, circumstance, exchanges of gifts, drink, drugs, bribes, kickbacks, display, ostentation, treachery, thievery... and so forth.

Massed and abstracted capital represents not only a history but populations and their biographies. Economic archeology: capitalist historians, pushing progress, are counter-intelligence archeologists. They rewrite their history to deny that the suffering of populations ever took place, just as we deny the spirit world of "primitives" and their reverence for ancestors. We don't revere ancestors; we revere ancestry: inheritance, not inheritors.

[3] What's a metadream? The purest form is capital, information without specification. To take another example from other realms of discourse; the score of a psychological test, which converts psychic states into numbers. This involves the pricing of the tests plus the start-up costs for developing the tests, getting people to believe in its validity, and the investment in the formation of some psyche or intelligence-testing company, and the sales of such test, and so forth. None of this mentions cohorts of theoreticians who develop the background theories of human nature. What are we left with? A disembodied and quantified psyche.

If you averaged out capital buildup per person per life, established historians, rewriting history, tell us that things were becoming better and better during the industrial revolution. Concentration of wealth is ignored. The invention of a class perspective created an oppositional classification, revealing one population's misery. But even Marx accepted these constructs; the evolutionary inevitable. He only wanted to change direction once these "necessary" sacrifices had been made. Both Marxists and capitalists have played the same kind of game. They didn't challenge the basic, agreed-upon, evolutionary-schemata: the concept of capital itself.

12

If one could invent (or draw out of some infinite account) values created by populations yet to be born—fictional people, which might include robots and simulations—those populations have a real effect on our present. What *space* do they live in? If they're fictional, how can we feel their presence here and now? Or if they are far away, even in the future, how can we feel their impingement, as if they were next to us? They exert mysterious influences through myths and interest rates, like the gravitational perturbations coming at us from past and future, annunciating the presence of an unseen planet or star. We search for them. They can be found by indirect methods; relating population to space, converting the numbers of those-yet-to-suffer into space, time and people. This is done by the art of studying population pressures in the present, for new populations are being unleashed upon our planet, teleported to us, backward in time, emerging through the central processing units of financial institutions.

Segmented demographics[1] allow us to play new games with the location of populations, to move them from place to place, even into invented countries. For example the Nielsen rating's **A** country, **B** country, **C** country.[2] People in **A** country can be scattered all over the world; they don't even have to live in proximity.

How were these populations put into these demographies? If we have totalled up real people—hungering, sweating, copulating—then we need real geography, at least at some point in time... perhaps in the past. With the advent of the need for targeted, reachable populations, demographic regions were invented, related, classified, archtypalized along buying/class/income/taste/interest/communication lines. We see continents dissolve

[1] Studies of populations in abstracted, discontiguous home territories; stacked up, perceived, recorded, retrievable, quite as if they were in some mass memory; memorialized particle-clusters, when networked, make their territories contiguous while lack of communications-access makes the land of the poor quite separated.

[2] There is a **D** country but that is discounted. Dante also had an **A**, **B**, and **C** country and, although he didn't write about it, a **D** country; for Dante never wrote about the poor and the ordinary.

into an archipelago.[3] All nations have—at least as far as some of their populations who live in transnational space—dissolved.

Corporations transcend boundaries. Financial institutions hurl money across timespace. Pools of wealth flee the constraints of national taxation. Russian and Americans bank in off-shore havens. The French and Germans invest in Russia and the US. IG Farben, Dupont, Imperial Chemical and Mitsui had an explosives cartel throughout the Second World War. What does nationspace mean to them? They live in Paradiso. They absorb the energies of dead Germans, Americans, British, Japanese. This subset of French, German, etc., constitute a cultural homogeneity.

Such an approach generates endless lists for direct-mail and political polling, possibly electro-politics. One could even poll *the compilations of taste-lists* (which would contain significant sociological, psychological and bio-medical data simulating humans), a thing the computer does very well. The information age becomes more scholastic and magical.

Given these geographies—these weird topologies inhabited by real and fictional populations—questions are raised: are we merely playing an intellectual game, or do these fictional people have some substance? Do they have a history? How were these list-populations generated?

In his extremely information-oriented, mechanistic, Laplacian Sociobiology (genetics perceived not only as information, but as the motivators of every human act), E.O. Wilson proposes the notion of the feeding capacity of an environment, a region, a land, a territory, in relation to the population of animals, or humans. The relationship is called the density-dependence ratio. The amount of grass to cows and cows to humans, for example, in a set amount of geography. This limits the feeding capacity of cows and humans. If one factors *perceived need*, the ratio changes in a non-rational way. With class, and all that the term entails (culture, for instance), one must erect a set of density-dependence equations and ratios for hierarchies of populations, relating masses of fictional capital to fictional populations to real populations, since capital needs to feed and be fed... and all of these are to be assigned to certain confined spaces, which constitutes mass. We are beginning to talk

[3] Dante preferred to stack them in cones and concentric, high-velocity circles.

about frame-references of space, energy, time, money, genetics (both real and invented).

Grass converts sunlight; cows convert grass; humans convert cows by ingesting and transforming them. Commodity brokers, grain companies, agribusinesses, food-processors, chemical companies (for preservatives and fertilizers), refrigeration specialists, distributors, railroads, truckers and unions, politicians and bankers... intervene between humans and their eating, separating mouth from food, by inventing multiplexed and involuted distances which are a function of pricing through two kinds of intersecting transportation systems: physical transportation of goods and transportation of money, invoices... The complexities of credit and time, in all of their forms—commodities, options, future, indices—create conversionary mediation-complexes and lengthens distance. The need of a loan in some distant place creates a shortage of liquidity on the local land; a sort of drought, symbolically and effectively equivalent to a plague of grasshoppers.

The more capital there is, the more population. A small, capital-intensive population consuming vast amounts of capital-intensive food with the aid of technology becomes equivalent to a huge population, crowding out the living from earthly space by the reproduction of hungering ghosts. No wonder the ancients fed ghosts, spirits, gods. And given cliometrics, demographics and the density-dependence equations, considerations of capital, telematic acceleration, surely we can find these antecedent considerations somewhere in our ancient texts.

We could estimate the amount of food, perhaps in calories, required to feed each individual, averaging consumption, and set a provisional standard for existence. But this is mere munch-democracy. It's not the way things work. Given real considerations of power and concentration, much capital never even reaches the earth, but remains in perpetual transit in the empyrean, going from countryless account to countryless account, money being invested in money (which embodies time) for high interest rates and other profitable instrumentalities, passing through odd logic gates and mythic addresses. Some populations not only eat for themselves, but for whole hordes. The bankers have, in fact, invented hyperspace concurrently with the physicists and have their

own white and black holes. In short, relatively, we are speaking of *gods*. All they lack is actual, as against relative, immortality.

Wanting to know what his population is all about (consider a heaven or hell, full of ghosts, phantoms, spirits; the dead and their claims upon the living; the exploitation of the dead) we can, by decoding, assign characteristics to this population. We can resurrect the dead, or the unborn, though not, unfortunately, with their bodies intact. We can write histories. Suppose the recorders of life—the gossip columnists, the journalists—sat down and looked—along with the poet, novelist and biographer—over the bottom line of our enterprise's balance sheet, instead of looking at the illusory world around them. If our premise is right, why couldn't they construct (or deconstruct) a novel, a history, a biography from the numbers? How?

For example, one could use psychological/medical testing and diagnosis to record and store up the signs of the living. We can get readings on medical machines: lie-detectors, EEGs, EKGs, stress-analyzers, voice prints, PET scanners, CAT scanners, NMR machines, varieties of brain scanners and other kinds of instrumentation. We can create electronic simulations that fluctuate, as if alive. We can store those records electronically (at a price). We can establish a constant link between body and record (itself fragile, almost "alive") so that as the body changes, the record changes. Each change alerts the medical monitoring machine to take action. The record becomes an analogue of the body. If the development of medicine has been correct (problematical) and the translations of bodily qualities into signs, numbers and waves is correct, and the instrumentation is correct, the simulation begins to approach autonomy (as long as the electricity is on; doubtful in these days). Now presumably this body-to-record-and-recorder can be reversed, so that when the records change (the simulation is given a disease and then transmits it to the body), the state of the body changes. We can invent whole library-demographics of electronically simulated bodies. We can also put them in sync with the state of the world's economy, so that a change in the numbers in a complex of account sheets would change the health of the simulated population, and the health of the simulated population would affect the health of the world... and, indeed, isn't that what happens in the case of the sacred king? Œdipus?

We can abstract and average out the readings; we can even feed back pre-recorded physiological data into this ghost population and give it life. We can appropriate the stored-up work-effort of the sports athlete, the assembly-line athlete, the drug-consuming athlete, the neurosis-athlete (who struggles to produce new records in psychosis: anguish indices). Why, pain itself can be telemetered on different scales, even stored electronically in these computerized telemedical systems and transmitted, when needed, through wire or satellite, broadcast to far distant places. After all, the electrical *instruction* to a prod applied to the genitalia doesn't have to be administered directly by a finger pushing the button that turns on the juice—button connected to finger connected to person in the same room with the tortured. The amounts of current can be calculated from far away (assessed by previous testings) and be transmitted by satellite to some banana republic, just as money (compressed and massed lives, sufferings) is transmitted every day through SWIFT.

We can even poll the indicators to find out the wishes of this phantom population. In fact no one has to poll real people, just query the taste and market-cluster data-banks containing the repository of psychosocial desires and physiological indicators. It is already clear that voting electronically can be like ballot-box stuffing, using votes of the dead, since the powerful make the powerless a transmitter and talk only to themselves. If a big stockholder votes his shares, why can't he vote his ghosts?

When we move into these realms of abstraction, we can play any game we want with the indicators, the concepts, the "stand-fors," just as long as there is consensual agreement to credit, honor and have faith in these acts. And this is what's happening.

In Kabbalistic thought, the elements of a language, ordered one way, reveals one world. Ordered another way, a completely different world with different laws emerges. Language precedes things and humans in gnostic thought. Even history itself can be restructured (along with geography) in interesting ways. Events in Œdipus can be placed next to the events in Joseph's Egypt (since they are about agricultural disaster), even made concurrent with a cash-flow crisis in the US, and related to the collectivization period in the Soviet Union; and to link them up we have the marriage of IBM, Comsat General and Aetna into Satellite Business Systems linked by Systems Network Architecture. After all, wasn't it Del-

phi's and Joseph's monopolization of knowledge that caused all the trouble?

13

We have been moving from time-series to simultaneities. Serial and synchronous time threaten to become *surreal* time.

Speed and distance are functions of time. In the world of linked-up computers, messages move faster at the center than at the peripheries; where messages move an entirely different way. What's the center? One can propose a model: a set of rings. Messages in the inner ring move fastest, less distance to travel. Messages to and from the outer ring move slower. Dante's model. This is a conceptual device that expresses the state of communications today. However, the center is in fact spread and networked all over the world. It is faster for, say, Citicorp to get a message to Hong Kong from Lexington Avenue than it is to deliver a message across Manhattan walking, riding a bicycle or taking a taxi. Citicorp-Hongkong is a center: 9,000 miles. Lexington Avenue-Eighth Avenue is a periphery: ½ mile.

When we take into account pricing and power, the the problem becomes even more complicated; when the message traffic has to go through some center... or complex of centers. It is asserted that if everyone is linked up by interactive terminals and microcomputers then this blazing center of knowledge will be available to all. This is nonsense. In the real world, competitive advantage depends on your opponents being relatively ignorant. We're not even beginning to talk about price and the horrendous effects, in the US, of the AT&T divestiture. Prices of computers go down, this is true. But prices of communications not only go up, but will be unavailable to a large group of people. And anyway, one has to reeducate oneself to use these clumsy machines.

If we are to make a transition to the information economy—in which information is a certain kind of currency—certain steps must be taken. Treasure is meaningless if everyone has it. Treasure, every good, has built into it a political and business version of the second law of thermodynamics. Maxwellian demons concentrate treasure, energy and information. These are shrunk, massed, concentrated into smaller and smaller class-spaces. When knowledge becomes treasure, the value of it is meaningless if everyone has it. But there's a problem: the spread of information is limitless. If we

tell a number of people something, then they all have it. So, the purpose of the information revolution is to put a value, a price on information and add to the rituals of learning by technologizing it so that few may have it. In the context of the present attempt to make the grand transition to this new era, we have come to see what this means: it is a way of recapitalizing the past and to undo what Lucifer or Prometheus did. Think of the whole complex of modern telematics as one gigantic, central, country-spanning intelligence and counter-intelligence agency. This also means that everyone outside this information economy is doomed, and that, perhaps, is half the world's population. This is important to remember.

It is said that the speed of generating and processing messages inside of a computer may be faster than in the human brain... that's one way of looking at it. But, in fact, the permissible messages—their content and form—in a computer are enormously different than the message traffic inside of a brain, especially if one considers the development costs (which are in their way a function of time and energy).

The application of abstraction to things or people creates problems. One can say two, four, six... obviously the next number should be eight. But, we can also pick any number at all, make that the next step after six, and invent a logical proof for that choice. A logical proof can be invented to justify *any* arrangement. (We are moving toward a consideration of time-series in a modern, quantized, relativized, financial, informationalized context.)

There are values, variables, with a multiplicity of identifiers, from different yet convergent frameworks, assigned to the stored-up residues of past, present and future human activity. It may be a genetic identifier, a financial identifier, a cliometrical identifier, a literary identifier, a physical identifier. The arrangements of history and the sequence of the buildup of capital of all sorts (taking into account the falsified and adjustive historiography as common practice: for instance, CIA or Church historiography) is somewhat like a problem in scheduling information traffic in a computer. It must be controlled by timers managing sub-routines, moving and saving bytes, using loops, querying memory, all contributing to the flow of traffic; done as events happen, after events happen, before events happen; a sort of time-travel. Given something abstracted,

but accepted as an act of faith and so lived-by as a pool of credit, one can fill in any history one wants.

But in order to do so requires that one overcome deviant memories and histories. One has to fight to control the history, its event, its passions, its humans, its meaning. This we surely know: people died miserably to contribute to that pool. Defining the meaning of that pool becomes a political and ideological fight over good will. The winner writes history.

The derivation or invention of any series takes place both in historical contexts and according to "deeper needs." But these "deeper needs" are not to be found in nature, or "Man," but are the shared desires of a small part of the world's population who constantly fine-tune the ancient methodologies of series/simultaneity-making. The "facts"—whatever those are—or processable specifications, establish a background theory for those "facts." The accumulation of many forms of capital is required, each as a contribution to the information economy; for we are no longer in that age when the wishes, ceremonies, sacrifices and incantations of priests and shaman seemed to control the universe... although the sacrifices still continue.

For capital to be accreted and stored, there must have been sets of people arrayed in some time-sequence, laboring to build it up (and also wasting it) during the historic process of production, circulation, consumption, storage and reproduction for that subset of humans who are series-makers and remembrancers. Certain goods may have decayed, but they can still be stored eternally, retrieved, called up as information.

There's a limit to how long actual grain can be stored, but there's no limit to how long we can store the abstractions standing for the grain. It is possible to sell a ton of grain harvested in Pharaonic times now. The only thing is that it cannot be *eaten*, only bought and sold perpetually. If the buyer and seller agree, one can sell the Pharaonic grain and use the money to buy real grain. Perhaps it is only the designator, "Pharaonic grain" which throws us. Can't we sell a cargo of grain a thousand times, symbolically moving it from port to port without that cargo actually moving?

At issue is the relation of symbols, information to the non-informational world. What happens if the informational world collapses? Panics, depressions, bubbles, inflation are all *informational* collapses. The non-existent crowds out the living.

If we have a pool of symbolic capital which stands for—and is used for—stored energy, stored value, stored time, stored space, dreams and aspirations, then we implicitly have an accompanying population-continuity and *population-simultaneity*. It may be fictional but can also be considered a storage of real and fictional genetic sequences. We may consider how real people adapt to their changing environments, but we must also think about how fictional populations adapt to material environments and how real populations adapt to fictional environments. For if they are valued, their fictional lives impinge on the lives of the truly living.

What sort of time-sequence-storage does a genetic sequence in any one human represent? What we are supposed to have is life, enormously compressed; a serial simultanized, represented by pools of credit. The pools of credit are as folded up as any crumpled helix of gene-strings... and if the production of engineered humans becomes possible—given enough money (taken from where?) to suspend the laws of nature—capital and genetics can be compared, even equated. A look at the bio-engineering markets is in order. Where do these fictional populations "live"? On everted globes, on satellites and space colonies—or ribbon planets, in chip architecture, on paradisaical islands before, beyond or at the end of time itself? What operations must we do with these time series/simultaneities, these lives, real and false? But what's time?

We have been bound by several perceptions of time, subject to various revisions. We have been tied to the tyrannous cycle of aging, risings and settings of suns, rounds of seasons (and seen the priests control those rounds, inserting themselves between us and the sky), birth, growth, death: *felt* duration. Our biological clocks can be fooled.

The perception of time became industrial gradually, introduced in the 15^{th} century or so. Time's continuity was fragmented into equal lengths, matched up against factory and production ties; unit time, unit goods, unit prices, unit consumption, units of exchange, but all arranged into the cheerful, progressive, accumulatory one-way-up trajectory. This vision was introjected into the consciousness of those inhabiting the industrializing world. It is being introduced now into the consciousness of those inhabiting the underdeveloped world.

Time zones were created in relation to the sun's passage, marking the business day and year: market time. But all renegotiated time-schema retained this long range trajectory, the primal beginning and the ultimate end.

Enter, just before the industrial revolution, the modern magicians. First wave: mathematicians, scientists, logicians, topologists (and technicians), the Founding Fathers of the New Age, *circa* the 17^{th} and 18^{th} century... followed quickly by accountants and business topologists, the time and money managers.

But Leibniz and Descartes were primarily mystics; Galileo faked the results of experiments. As for Newton, the evidence is that he was more interested in gnostic/astrological/alchemical/hermetic thought than science. In astrological thought, for the stars to affect life, and conversely, *instantaneous* transmission of forces are required. Perhaps for Newton the enterprise of regularizing the universe was required to give a sound and calculable foundation to astrology. The astrological requires order and regularity as well as an orderly medium for the transmission of heavenly signals affecting human life, thought and destiny. Newton tried to formulate a precise scientific methodology for dating events, using Scripture and Greek myths. For Newton, time was teleological. He related time to a history of royal, Hebraic dynasties. He matched up time, considered abstractly, to a special kind of ethnic/dynastic genetics (although he didn't use those words). He felt that the ancient Jews had secret knowledge which filtered down to the Pythagoreans. He considered the music of the spheres a metaphor for the law of gravity. He believed that the dimensions and configuration of Solomon's Temple concealed alchemical formulae which corresponded to a divine unity in nature. He explored sacred geometry, practiced alchemy (along with Robert Boyle), and was of course that perfect kind of compulsive dualist in all things. Newton was also alchemically and financially involved with gold; he was Master of The Mint. Given this, Newton's "beginning" is religious, extrapolated to Nature.

Or maybe he wanted regularity and predictability because he lost money in speculation.

How much better than Velikovsky was Newton?

It was this complex of thought upon which the reconstructions in relativity and quantum physics are based.

With the introduction of artificial light, divisions into day and night begin to end. With sealed, climate-controlled environments, the seasons begin to become irrelevant. The conversion of the natural world into the artificial world, from the raw to the processed, continues. For some the world is already the atemporal control room of a space ship where the ever-chilled, perpetually running, energy-consuming computers, spinning out their fantasies, are attended.

14

Einstein's thoughts (building on and reconstructing Newton, the alchemist's thought) on simultaneity become instructive; as do the thoughts of modern bankers as they scan their electronic spreadsheets. For bankers and physicists meditate on states of simultaneity, relative to those who do not, *cannot* have access to this distance-insensitive equipment. This is to say, bankers enjoy abstract immortality in relation to the banked; along with quantum physicists and metaphysicians and magicians.

For Einstein, a number of events can be considered to be taking place at the same time—but only in relation to an observer recording different signals from those events and timing them with coordinated clocks.[1] Everything depends on the observer, the recording instruments and relative accumulations of knowledge (the instruments being a manifestation of assumptions built into them) and speeds of transmission to determine what looks like simultaneity.

Simultaneity has nothing to do with *where* those events are happening (unless you are being shot at from two directions), but rather *when* they are perceived. Perception is a function of distance and the tools required to transmit knowledge. A corporation—our chimera, in the *contemplation* of law, this society of the anonymous and hidden, an organic being (more than the sum of activities of individuals and groups), with stored-up misery-and-energy, lives converted to credit—may be scattered over a wide geography and over time. All things in it, of it and about it may be considered simultaneous from the point of view of an auditor contemplating this balance sheet. When the accountant's sheet is computerized, constantly receiving information from all over the world and interconnected with the product of statistical projections from all over space and time, then all operations are happening simultaneously; including invested-in future events, since they are handled in the present.

[1] Compare the delicate timing of an international arbitrage operation which requires relative speed—or relative simultaneity—and at the same time, requires relative ignorance—or relative distance—on the part of one's opponents.

Similarly, it is said that any complex of genetic material contains the complete history of the organism and all preceding organisms (a genetic archeology, but still alive). Through the process of combination and recombination of its memory elements—amino acids, etc.—since it contains all past, probable, potential and possible organisms, even pre-organisms; and considering the elements and combinatorial rules of, say, English (rules which are derived after the language is mature), are subject to the same operations, containing all past and future literary works... even those that Shakespeare forgot to write. Implicit in all these observational operations is the notion of the simultaneity-observer of all genetic and/or linguistic and/or monetary possibility. And thus genetics, if seen as information, is the remembrance of things past (all the organic—and inorganic—universe, all the realized and unrealized beings, objects and forces) which generate the organisms, which invent various schema of remembrance, which then remember the complex that recollects it.

But for Einstein there was an upper limit: the speed of light. The quantum physicists, introducing indeterminacy and the intervention of the observer and his instrumentation, implied that in a certain sense *all* events were in fact simultaneous, regardless of clocks, for they had distributed Mind into the universe, a notion Einstein rejected.

Let's take a side trip to paradise and consider time there. What happens before the beginning—or after the end—is a question to which Kabbalists and gnostics address themselves. This problem has been transmitted right down into modern times in a new form: what happened *before* The Beginning, the Big Bang (itself a construct open to doubt)?

All matter, energy, space and time (and thus all possibility) was contracted into a dimensionless point (or nothingness)... so the mythic tale goes. Infinite mass; for if the point was susceptible to measurement, even of the most miniscule kind, then its mass was less than infinite. If all matter, space, motion, energy, time—and potentially, perhaps inevitably, all life—in the universe was massed into this dimensionless point, then there could be no time or space *outside* this dimensionless, infinite-massed point. Infinitely compressed matter and energy (which included, potentiality, all life) meant that there was no one to measure it, not even any automated measuring tools... so all Mind was there too.

Perfect simultaneity, *but not objective simultaneity*, which, being involved with signals, distance and time, couldn't be measured. It was therefore eternal inside the dimensionless point, a feature of all paradises.

Time is not a term that stands by itself, nor does any other term: all terms are multireferential, bootstrapping every other term into the air where it hovers like some plasma, contained away from the apprehension of most people. But the multi-referentiality (as well as the breakdown into terms of a complex of things) indicates the intervention of mind inside the universe. If Mind is an emanation of that pre-moment—physical, chemical, biological, monetary, literary, religious—it might be possible to *remember* this paradisaical past now, as we *remember*, say, Eden; a lower-level and later paradise. It is out of logic, the mathematics, the equations—a form of metaphorical activity—the statistical retrojection—a specialized and leached-out form of memory—the observation of the distribution of matter in space, and the Red Shift, that we might infer, and remember, the Big Bang.

It is over this Big Bang that modern physicists, ancient priests and shaman, magicians, Kabbalists and communications artists come together.

Given this compulsive activity—this associative, similizing, metaphoric, organizing, disorganizing, ordering, concentrating, distributing, interventionary, aesthetic activity of humans—and the compulsive necessity to lay on one hundred and forty four interpolations where there appears the slightest gap (indeed to invent gaps), we can also say that all economic observations contain the purified metaphysical and stored-up simultaneous record of all activity. And we can add that the genetic material is not only an information-analogue, but a factory and clock analogue: the gamete's growing becomes an analogy to the ever repeated evolution, a biological mini-Big Bang.

Since all credit is meaningless unless linked to an active, perpetually moving market; linked to people to believe in it and to the institutions they inhabit; given these massive flows of *perceptions*, symbols and signs standing for life, space, factories; and given the increasing velocities; we have reached the age of Einsteinianism in business, approaching (as in Dante's Paradiso), simultaneity *inside* this system and serial, laborious time and aging (the post-paradisaical universe) *outside* the system. With the arrival of the

computers and high-speed communications—with perpetually operating, around-the-world-all-time-online-markets—time and time-zones, for some speculators, mean less and less... but are needed more and more.

The zones, after all, are merely a hangover of local dawns and sun-settings, a way to start and end the business day (but at the same time have reference to eternity). For those, time becomes a manipulable commensurable, a function of price to be adjusted seasonally, daily, hourly, minutely to the financial needs of different credit/time/zone-spanning topologies. Linked-up high-speed computers and telexes, with their internal and communicating velocities, working all the time to coordinate long and short term messages, become like the matching up of different infinities.

Now, it is said, *all* can be linked: financial markets, factories, laboratory work, electrical grid systems, voice conversations, graphic displays, online-in-real-time accounting systems, tax structures, banking operations, brokering, trading programs, games, military and political scenarios, telemedical diagnostic and treatment-delivery networks, point-of-sale processors, home banking and trading, data-retrieval... all change the notion of time and timing. The restlessness of these unsleeping telematic devices negates out older senses of time. The movements of humans, matched up to the *movement of the records of humans and their endeavors*, change the notion of time, timing and human behavior. Real time begins to dance in time to telecommunicated computer time; capital-containing time-movements/time-containing capital movements. The human cycle of production and consumption falls out of line with the informational cycle of production and consumption. Life is driven by these abstractions, and fictional populations are more suited to survive at these speeds than humans. It becomes bizarre when time becomes not only mensurable, but something that can be correlated to a set of logic games.

After the reconstruction, or remembrance of the Big Bang, time was said to move only in one direction: "forward." An anomaly. This asymmetrically was bothersome. After all, the universe is electromanichean. Then it was found, possibly, that for sub-atomic particles time may be bi-directional, an analogy deduced from the assumed bi-polar nature of charged particles. A question: why should time only go "forward," along a "line," as if trying to move

away from—or perhaps forward into—an enormous pool of pre- or post-existent, paradisaical pre-creation. If there are chronons—positive, forward-moving time-particles—then there should be anti-chronons—negative, backward-moving time-particles. (Or on the other hand, maybe the observational equipment, the human, subject to time, could not perceive time any other way—except in dreams—and thus projected this time, operationally, imposing—as mind imposes—a certain order in the universe.)

But, if time is moving forward, and matter is moving outward—expanding, attenuating, inflating—then entropic disaster faces us and preoccupies some small, but influential set of thinkers. It is astonishing that some far-off heat-death of the universe should affect this subset with despair, as if they were faced with a black and dusty cosmos a mere ten or twenty years from now. This hints at a religious or at least an ideological sensibility. The crisis demands reconcentration and reunification, these new forms of calculational and accumulative ideology which permeates all forms of thought. There is also a peculiar aspect to this thought; a sort of despair. If the universe perpetually expands, or if it is steady-state, or expands and contracts in cycles, all seems "purposeless." Now we are not merely talking about religious thinking, but scientists have voiced these concerns. Purpose, as well as the imposition of order in all things, is negentropy.

This crisis, this terror of conceptual, informational, ideological inflation, is seen in finance, physics, cosmology, genetics... the universe-picture collapses for the physicists. All the functions of esoteric calculation-magic to keep the universe alive emerges in their logic-compared-to-the-universe. The banker's loans default, their world system is threatened with collapse, just as a star, using its energy too freely, burns out too quickly, collapsing back on itself into a black hole. The banker must reschedule or re-time his loans, or at least reform the calenders of his debtors... although he cannot retime his debtor's lives. For the banker and the physicist, the universe must balance, all things in it, thus time itself; they must hold their two-aspected world together. For the banker it may be necessary to reschedule or slow down time.

Can this be accepted by those living in a debtor—low-energy, low-mass—nation, since the tyranny of their bodies may not respond to this new schema? They cannot suspend their bodily functions and await the paradise of debt payoff or redemption in a

hundred years. Therefore, the bankers must play games with time, population (genetics) and space. The physicists and cosmologists also reschedule time, making statistical projections and retrojections, equating (like the banker) all time with that contained in a massified and concentrated microworld which they can then manipulate with ease.

Operations can be performed with time-quanta that distort our sense of what time is. We can add it; we can subtract it; we can make it go sideways, crowd centuries into minutes. How much time was spent by Dante, going through hell, purgatory and heaven on that Easter triad of days, 1300: subjective time inside these three realms as against objective time outside of it? If time can be accumulated, can it be sold? Truly sold as a commodity? Can it be consumed, metabolized? In some sense, yes. How? By making it into a commodity; the businessman's trick. Commodity means "the measured against." Is time, like other commodities, deliverable? We sell time-sharing... dut those are, after all, metaphors. We can sell it as interest. We sell money, we loan money, and if we are striving for a profit, time becomes expressed in interest rates already embedded in money. All money, all that is valued, contains time; both the time of its existence and the time incorporated into it. But, to buy it is still not to *live* it.

Debt redemption is the redemption of time-price.[2] It is performance in production, events-to-come-treated as if they had already happened. Time is delivered from then to now. Ridiculous? If quarks are confined in larger particles and cannot be separated, but nevertheless calculated with as if separated, why not time? No one has ever seen a free quark; why not confined chronons? Matching time to value, we monetize it, but in a "confined" manner.

There can be no such thing in our current financial system as a static pool of money, or near-money. Since it is restless, it has velocity; and if it has velocity, then it traverses space—what is velocity without space?—in a variety of ways. A meter is now defined in terms of light travel. It was discovered that a rigid measuring rod shrunk, and so gained mass, in the direction of the movement relative to a measuring rod in a slower timeframe. Speeding clocks also slow up in the direction of velocity. We may

[2] A famous work on slave cliometrics is called Time on the Cross. After the original time on the cross came the journey into another space and the resurrection.

also say that money, in perpetual motion, if massed, slows up time relative to slower moving money; or conversely, time inside a massed and concentrated pool of money slows up as the velocity of money increases. So now so many fraction-seconds of light traveled equals a meter, based on the assumption that light-travel is a constant in any time-frame. The same operation applies to money, which can define space (if not pure space, then at least real-estate). Increase the velocity (requiring what amounts of energy and investments?) to the speed of light and mass will begin to become compressed into smaller and smaller spaces approaching nothingness, infinite mass, and at the same time will be relatively eternal. Time, from the point of view of someone's going slower, appears longer. Infinity—but relative infinity. Immortality—but relative immortality. And when the speed of light is transcended (or possibly when there is enough treasure-energy piled up) then time might go backwards. We have arrived at the conditions of the black hole.

If we can talk about dollars per time-unit, we can now also talk about time-units per dollar. If we change our rates, we can talk about more dollars per time-unit and more time-units per dollar. If inflation takes place, value drops or dollars per item increases, and therefore rates increase to compensate. Or conversely, velocity also contributes to inflation. By the same token, chronons per unit can be inflated. Inflation creates time. We approach immortality.

If this seems like an intellectual game, without consequence in the real world, we must consider the effects on people of short and long-term debt, defaults, accelerated payments and production, in which the whole cycle must be sped up in order to repay. Either people work faster (and live for shorter periods of time) for less pay, or fewer people work at faster rates (aided by the ghost army embedded in robotics and computers).

The speed of light is the ultimate standard: the limit, Einstein's *primum mobile*. Since everything is defined in terms of everything else, there can be no such thing as a *primum mobile* other than the one those who set the standards impose on us. While time is closely linked to light and the traversal of space, if we link time to compound interest formulae, the parameters change. While we have been reticent, resistant to play with time because cycles of hunger, fatigue and death drain us, it is happening nevertheless; in our practice. But biological time still lurks somewhere in our

perceptions; yielding to an artificial immortality terrifies us, like submitting ourselves to heaven and hell. It should be remembered that an infinite amount of money must be spent in order to become equivalent to an infinite amount of mass and energy, to an infinite amount of space, lives, energy, history, time... high technology and capital intensivity compresses the mass of commodities. Capitech-intensivity increases its mass-energy-time-velocity in relation to a slower-moving starvation world.

All operations that can be performed with credit also indicate a relative immortality; for the possessor of the accumulation of credit possesses a huge accumulation of stored energy-lives, time, in a very small space: a great mass, which, because it still can't be metabolized, must manifest itself in certain expenditures: cars, houses, military potlatches, estates, hotel rooms, airplanes, pomp. This, of course, is reckoning backwards; we are deriving certain laws to explain the insane behavior of the rich. And yet, a dream persists: if one could only store enough mass-accumulation, then you can store, perhaps, enough time in a small enough space to transcend, or at least reach the speed of light. The question here is, of course, *real*, *actual* immortality (for whom and at what price to everyone else?)...

The difficulty lies in any human's being able to *metabolize* an extreme amount of time, or mass, or energy, or velocity, or convert information (which is also a function of all these terms) to something like flesh... convert energy, etc., into usable energy in an assimilable form. (As Ahab, an insatiable hunter, desiring a sort of immortality, dreamed of swallowing the power of the sun concretized in the symbol of the White Whale, Moby Dick.) Thus, in the abstract and therefore in the real world, the rich create a vacuum around them by sucking up the abstractions, the information standing for the energies of the world, which then siphon off the actual energies of the universe.

But there is something saving after all. The real, ultimate constant may not be the speed of light at all, but *felt duration*; after all, give or take a little of the average lived life: the felt duration of people in different time and speed frames seem subjectively to be the same (although no one knows) even though the person in the fast lane is said to live æons longer. It is such calculations that produce vast masses in time and timer-space, creating a blind impasse, the existence of the concept of black holes, out of which no

light or energy escapes... which yield amusing stories to frighten and amuse the young, but does not yield any Magellan's passage to an India-Paradiso.

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If the *mythology* of the past is *ever-present*, at least in the *memory* (distant signals presently felt, but not in any order), then it too is simultaneous; even though the event is long gone. Seen this way, event—and thus time, and thus life—become merely informational; that is to say, an abstraction that can be handled in a non-real way with real effects. This is, after all, what dreams and surrealism are all about. A financial institution is not only an information-handling and communicating company these days, but a clock, an observatory with "eyes" that see electronic impulses in which all the events it scans are simultaneous and fused. It is a dream state.

As we continue to struggle on toward demonstrating this unified field theory as it is in practice, we see we have arrived at a dangerous, earth-devouring system of thought and illusion. We take the whole development of modern cosmological and physical theory to be, at the present time, a function of the *culture* of modern transnational capital. When a certain level of interconnectedness is reached, what will happen is that the universe's symbolic energy (affecting real energy systems) will move so fast that it will burn itself out, explode into a nova (a cosmological financial-informational bubble), collapse and compress back into a black hole... leaving the universe outside quite the way it was for billions of years.

It is the logic of this mode of thinking that produces these weird and surreal visions. Welcome to Laputaland.

In the past, magical systems held the notion that there was a link between the microcosm (what happened in people's minds) and the macrocosm (what happened in the universe). The macro affected the micro. If one had the magical tools, then the micro could affect the macro. Electrical levers were substituted for magical levers. But the dream of *magical* control has never been exorcised. We are still caught in a quasi-metaphysical system; one that expends enormous resources and money. It is this dream of intellectual magic that drives the present information revolution: the grasp for power and control. The thought of a small sub-set

of the world's population devastates the earth. Perhaps, after all, modern capitalism is a great factory for the production of angels.

Illusion dominates. It doesn't matter yet since the information doesn't even have to be true.

The ground is eaten out from beneath us. We will take Berkeley, Kant and the whole rout of idealists along to the stars, lured by worlds we have pre-populated but cannot reach.

The dream time is upon us.

Brooklyn Sol Yurick & Anticipation of the Night A fire sale at Bear Stearns. Markets in turmoil. Sub-prime disasters. IRAs and TDAs drained overnight. Crises of modern times but forseen, at least in its potentiality and broadest strokes, by Brooklyn author Sol Yurick. I remember reading Behold Metatron, the Recording Angel, an essay by Brooklyn author Sol Yurick, published by Autonomedia (Foreign Agents Press) back in 1985. I think I picked up my copy in Park Slope's Community Books, back in the day. Yurick also is the author of The Warriors, made into a classic, apocalyptic gang film, as well as the excellent novels Fertig, The Bag, Someone Just Like You, Richard A. and Confession, and other articles and essays. Behold Metatron is heavy stuff, relentlessly visionary, the material problem seen through a lens of advanced capitalism and electronic philosophy. Picture *Wired Magazine* crossed with *Fortune Magazine* but edited by William Blake. Metaphysics, economics, art and intellect of an high order, coalescing into an interpretation of an emerging electronic universe. Forget Al Gore,[1] perhaps Mr. Yurick conceptualized, if not anticipated, the Internet, globalization, the flow of information and data across galaxies of cable and wireless realms, sometimes directed, sometimes chaotic, but always having impact. Mr. Yurick "... The old philosopher's stone could convert base metals into gold. Now humans, real estate, social relations are converted into electronic signs carried in an electronic plasma. the dream of magical control has never been exorcised. Perhaps, after all, modern capitalism is a great factory for the production of angels." In 1988, the journal *Social Text* published Mr. Yurick's The Destiny Algorithm which appeared to further mine the cybernetic/human nexus. Globalization and the 'net got its philosophic underprinnings where else, Brooklyn NY.

—the Amazon.com description for Metatron[2] *by Sol Yurick.*

[1] In a March 9, 1999, interview with CNN's Late Edition with Wolf Blitzer, Al Gore was discussing his history as a senator who extensively supported internet development. A sentence said by Gore in the interview, "I took the initiative in creating the Internet," became a widespread meme around Y2K. The joke was that Gore claimed to have invented the internet. — Salitter Workings Editor

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