

## ON THE REMEMBRANCE OF THINGS FUTURE

### THE PSYCHOBIOLOGY OF DIVINATION

“Real prophecy is always “if... then...” *If* you commit adultery with your neighbor’s wife, *then* you will roast in hell. But *if* you love God with all your heart, *then* you can create the Kingdom of Heaven on earth.”<sup>1</sup>

According to the Oxford Dictionary of English Etymology<sup>2</sup> the meanings of ‘divine’ are ‘pertaining to God, godlike, soothsayer and seer’ while ‘to divine’ (after the Latin *divinare*) is to ‘foretell, predict or make out as by supernatural insight’.

“In the beginning was the ‘word,’” and a strong sense of biochemical predestination<sup>3</sup> pervades the sequence of molecular events that enables the ‘word’ to evolve as a fact of matter, or—in protein language—become flesh.

The three characteristics of the ‘word,’ or *λόγος* (in the

<sup>1</sup> H. G. Cox, *On Not Leaving It to the Snake*, New York, Macmillan, 1967.

<sup>2</sup> C. T. Onions (ed.), *The Oxford Dictionary of English Etymology*, Oxford, Clarendon Press, 1966.

<sup>3</sup> D. Kenyon & G. Steinman, *Biochemical Predestination*, New York, McGraw-Hill, 1969.

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classical Greek sense) are: (a) being not confined to writing, (b) referring not to one word but a combination of words, whereby the combination is not the result but a process, and (c) the process being based on a particular order or structure.<sup>4</sup> Evidently *logos* refers to the oldest archetypal ‘words,’ that triggered the evolution of life, the biologically coded *program*. Hence the contemporary translation of the original text by John 1, 1: ‘Εν ἀρχῇ ἦν ὁ λόγος, is ‘in the beginning was the program.’ What is foretold thereafter pertains to the decoding of the human program or the evolution of life in its own time and space.

### PROJECTION OF MEANING INTO STRUCTURES

A great phylogenetic advance in the evolution of learning apparently occurs between birds and mammals through greater development of the highest levels of the brain in the tectum and cerebral cortex. Thanks to this development birds and mammals are able to experience the phenomenon of *configuring* and to demonstrate it in classical and instrumental conditioning.<sup>5</sup> Birds and mammals can form chunk nodes to represent propositional expectations, and through ‘cognitive expectancy learning’<sup>6</sup> figure out what is likely to happen in the future within a similar context. For Price<sup>7</sup> “every perceptual act anticipates its own confirmation by subsequent acts.” In terms of human behavior we could translate all this by saying that in order to anticipate recurring events we have to know as much as possible the ‘Laws of Nature’ and the constraint they impose upon our efforts at decoding. Hence predicting the future may be a function of knowing the ‘Laws of Nature,’ a term employed by Descartes, adopted by Newton and popularized by Voltaire.<sup>8</sup> A prerequisite for the

<sup>4</sup> W. J. Verdenius, “Der Ursprung der Philologie,” *Studium Generale*, 19, (1966), p. 103, 114.

<sup>5</sup> W. A. Wickelgren, “Chunking and consolidation,” *Psychological Review*, 86, (1979), p. 44-60.

<sup>6</sup> E. C. Tolman, “Cognitive maps in rats and men,” *Psychol. Rev.*, 55 (1948), p. 189-208.

<sup>7</sup> H. H. Price, *Perception*, London, Methuen, 1932.

<sup>8</sup> M. Rieser, “The noetic models of mythology and metaphysics,” *Journal of the History of Ideas*, 21 (1960), p. 300-308.

existence of the 'Laws of Nature' is again the belief that we are 'part' of an orderly and intelligible system. Being 'part' in fact reveals that *we* are an orderly and intelligible system and project our orderliness and intelligibility, that is our functional organization and intentions, onto the universe. The 'Laws of Nature' are the Laws of our Own Nature.<sup>9</sup>

Our projecting of lawfulness into signs and structures 'out there' rests on the acceptance of and belief in an intentionality of the world and its explainability. Explaining or to put it into a plane is—according to Spencer Brown—a reducing of multi-dimensionality and a laying out in planar projection for better visibility.<sup>10</sup> The intentional view of the world and future forecasting in particular require an ongoing quest for meaningful signs and structures which could lead to sudden insight into major themes for the simple reason that these signs and structures embody these themes.<sup>11</sup> Leonardo knew this when reminding us "... that it should not be hard for you to stop sometimes and look into the stains of walls, or ashes of fire, or clouds, or mud or like places, in which, if you consider them well, you may find really marvellous ideas".<sup>12</sup> In Sir Julian Huxley's words "... man projects elements of his own personality into natural objects and forces, thus personalizing them: and into or onto other persons, real or imaginary, slave or ruler, friend or foe, thus endowing them with qualities not inherently theirs".<sup>13</sup> And Thom, the father of catastrophe theory<sup>14</sup> further specifies the concept of projection by saying that

"All past and present techniques for foretelling the future depend on the following principle: a generalized catastrophe (tea leaves in a cup, lines on the palm of a hand, the shape of a chicken liver,

<sup>9</sup> R. Fischer, "On symmetries and the structure of our own nature," *Leonardo*, 7 (1974), p. 147-148.

<sup>10</sup> G. Spencer Brown, *Laws of Form*, London, G. Allen & Unwin, 1969.

<sup>11</sup> R. Fischer, "The making of reality," *Journal of Altered States of Consciousness*, 3 (1977-1978), p. 371-389.

<sup>12</sup> I. A. Richter (ed.), *Selections from the Notebooks of Leonardo da Vinci*, Oxford U. Press, 1952, p. 182.

<sup>13</sup> J. Huxley, *Ritualization of Behavior in Animals and Man*, *Phil. Transacts. Roy. Soc. London*, Ser. B. Biol. Sci. (No. 772/Vol. 25, p. 247-526), 1966.

<sup>14</sup> R. Thom, *Structural Stability and Morphogenesis*, Reading, Mass., W. A. Benjamin Inc., 1975.

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etc.) is studied and its morphology associated, by a suitable isomorphism, with the preoccupations and difficulties of the client. This method is not absurd insofar as the dynamic of morphogenesis may contain accidental isomorphisms with the dynamic of human situations, and often a gifted soothsayer may well elicit some valuable conclusions from this examination.”

But apart from fortunetellers, clinical psychologists and psychiatrists also employ such ‘projective tests’ like the Rorschach, Thematic Apperception Test and Guided Affective Imagery, for analyzing the nature of a client’s problem and to re-direct his future. Although the latter procedure is called psychotherapy, it does not differ basically from the re-programming procedure adopted by fortunetellers. Successful psychotherapy and divination are both to a large extent interchangeable processes and they can create a state of mind in the client that influences his subsequent behavior and gently re-aligns him in the direction of the predicted behavior. Hence in both psychotherapy and fortunetelling reality becomes a function of prognosis and prognostication.

### ON PROPHETS AND PROPHEPIC STATES OF CONSCIOUSNESS

For the classical prophet of the Old Testament the reality of the future is not predetermined and hence not knowable. For those who listen to prophets the future becomes a function of motivation and decision making. History, then, is not the eternal return of the same, as the Greeks believed, but goal-generating, purposive, a teleogenic process. As in psychotherapy, motivation and decision-making by both prophet-therapist and client become synchronized and the resulting entrainment may be conceptualized as a ‘*folie à deux*.’

Since the Renaissance and particularly during the Enlightenment prophets have ceased to warn us about the approaching end of the world and of our perishing with it. Rather they predict in the name of a pervasive utopian belief in progress—as the prophets of the communist party, for instance, do—the disappearance of the bourgeois-capitalistic social order. And no one

in his right mind dares to diagnose these predictions as manifestations of mental illness.<sup>15</sup> According to communist ideology there are people who can anticipate future developments and who, therefore, have the right to serve as midwives of the new social system. The communist party, as the revolutionary minority or *avant garde*, is made up of people who anticipate the future and hence must impose their will on the majority. The communists assume that they are the Platonian elite, who have the right to impose their will on others because they are the only ones who can anticipate the future: the arrival of *the* utopian state, a *Civitas Dei* without God. In this way, of course, they impose their expectations of the future on the present, just like a psychotherapist 'who knows best.'

Aside from *prophets* who operate intentionally, forcefully and within their social-historical context by shaping the future they want to come true, there are *schizophrenic diviners* for whom the prophetic stance becomes one of the many ways by which a human being experiences and expresses its dis-ease. Paranoid schizophrenics who doubt themselves and suspect that others are their enemies, try—and often succeed—to gain control over them. The selfrighteous and moralistic variety among them believes and makes others believe that they have been sent by God as crusaders of truth and justice. They present themselves as God's whip against heretics... and have a good chance—during stressful times—to assume dictatorial power.<sup>16</sup>

There is a borderline category between the true prophet or shaman and the schizophrenic patient-prophet: the *creative schizophrenic prophet* who is not overtly autistic but operates within a social-religious context and whose prophecies to some extent follow the expectations of his followers. Swedenborg is a good example of this category. The absolute certainty in his mission, the earnestness and devotion with which he lived for decades in seclusion transcribing his hallucinatory experiences in the form of a rigidly structured but rich literary output, are the marks of a schizophrenic prophet whose creativity transcends his dis-ease. But,

<sup>15</sup> B.B. Wolman, "On saints, fanatics and dictators," *International Journal of Group Tensions*, 4 (1974), p. 359-385.

<sup>16</sup> H. Heimann, *Prophetie und Geisteskrankheit*, Antrittsvorlesung, Bern, Paul Haupt, 1956, p. 25.

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according to Heimann, his creativity is not as moving, convincing and stunning as the creative performance of a Van Gogh or Hölderlin.<sup>16</sup>

If we conceptualize creativity and hyperphrenia on a continuum of rising levels of arousal (*Figure 1*), we may entrust the generations to come with the task of revising the cut-off point at which the vision of one age becomes the hallucination of another.

“For last year’s words belong to last year’s language  
And next year’s words await another voice.”

(T. S. Eliot: *Four Quartets*)

How to characterize the state of consciousness that prevails during shamanistic divination? The predominant feature of a shaman is his ability to regress, i.e. to preferentially employ primary process thinking.<sup>17</sup> Primary process cognition is the medium of dreams and hallucinations, and we have shown for instance, that texts written by volunteers while in the waking dream state induced by the hallucinogenic drug psilocybin contain more primary process words at the peak of the hallucinatory experience than control texts.<sup>18</sup> Dreaming or rapid eye movement (REM) sleep has been conceptualized as physiological regression to electroencephalographically (EEG) definable ontological levels of earlier cognitive development<sup>19</sup> and analogously I define hallucinations, whether drug-induced or natural, as inner sensations without action, i.e. marked by a high sensory to motor ratio<sup>20</sup> and as physiological regression during the waking state—within the mean REM-to-REM, the basic rest-activity cycle—to ontological levels of earlier cognitive development.

With the above in mind, the state of consciousness that prevails during shamanistic divination and healing may be described as a

<sup>17</sup> O. Nordland, “Shamanism and the Unreal,” in *Studies in Shamanism*, C. M. Edsman (ed.), Stockholm, Almqvist & Wiksell, 1967, p. 166-185.

<sup>18</sup> C. Martindale & R. Fischer, “The effect of psilocybin on primary process content in language,” *Confin. Psychiat.*, 20 (1977), p. 195-202.

<sup>19</sup> M. Koukkou & D. Lehmann “Ein psychophysiologisches Modell des Träumens und der Neurosen-therapie,” *Fortschritte der Neurologie und Psychiatrie* 48 (1980), p. 324-351.

<sup>20</sup> R. Fischer, “A cartography of the ecstatic and meditative states,” *Science*, 174 (1971), p. 897-904.

primary process laden hallucinatory, hyper-aroused state on the perception-hallucination continuum.<sup>21</sup>

And what kind of a personality structure is needed to be a shaman? Two studies were undertaken with North American Indian shamans using the Rorschach Test and we are quoting some of the results of these studies as summarized by Nordland.<sup>17</sup> One of the fundamental attitudes of a shaman is his conception of himself as “spoken to” or “rendered messages through” by elements of his surroundings, the stars, clouds, lightning... He displays a “symbolic attitude” toward his surroundings and an “alertness,” that is an expression of deep anxiety and totally unrefined, impulsive, sensuous reactivity.

He identifies his urges with his magic mandate, but is very careful, at the same time, to avoid any ego responsibility for his actions. This is just the kind of personality one would expect to fulfill the role of “intermediary” in a religious group; in other cultures he would serve as a prophet. His openness to the symbolic value of elements in his surroundings seems to be related to the general attitude of the artist.

The presence of ego-controlled availability of primary processes in the shaman is intimately related to creativity and showmanship. These factors seem to be as necessary for the successful practice of shamanism as they are for the artist whose products are to prove lasting in acceptance and influence, for the true prophet, and for the convincing functions of the impostor.

Imposture seems to be as necessary for the successful practice of shamanism as showmanship is for the artist. But there we meet with the possibility of imposture on many levels, from the basically honest attitude of the artist who at the moment of performance is what he poses as being to the level at which the *angakkoq* of Knud Rasmussen gave up his shamanistic role, realizing that he “wasn’t good enough at lying.”<sup>17</sup>

In concluding this section, a few remarks should follow about science and prophecy. Beside of the minor prophets of political parties, science has gradually taken over the role of a classical prophet-psychotherapist with consequences that are clearly illumi-

<sup>21</sup> R. Fischer, “The perception-hallucination continuum, a re-examination,” *Diseases of the Nervous System*, 30 (1969), p. 161-171.

nated by Pankow:<sup>22</sup> “To the extent that science becomes tautological without knowing it and therefore insists on its claim to explain the outer world, it will try to transform the outer world according to its own image and in this way become a self-fulfilling prophecy.”

Science warns us, just like prophets of the Old Testament did, that progress—if it can be called that—will decelerate and that the population of the earth is to increase further up to about 10,000 million (it is now about 4,000 million). Accordingly the standard of living will decrease while the fatal danger of destructive wars will increase. This prophecy is meant as a short term prediction for the next few thousand years. On a long range scale the prophecy according to the Gospel of the second law of thermodynamics paints a rather pessimistic picture of the way the cosmos must develop until it suffers “heat-death” with all coherent motion ceasing in a pool of worn-out energy.<sup>23</sup> This pessimistic and hence un-American prospect is now being gradually transcended and we are on our way to reinterpret the second law (in line with a Prigoginean model) to construct a theory that is to establish a truly primal role for the second law in creative evolution (24, 25).

#### “THE WORD BECOMES FLESH” AND ‘INFORMATION TIGHT’

How can a program made up from a particular sequence of words project meaning into structures and become reality? The spoken word has a suggestive quality that is inherent in the unitary nature of information, perception and action;<sup>26</sup> de-scription is also pre-scription. The unitarian nature of information and action may

<sup>22</sup> W. Pankow, “Openness as self-transcendence,” in *Evolution and Consciousness*, E. Jantsch & C. Waddington (eds.), Reading, Mass., Addison-Wesley, 1976.

<sup>23</sup> J. F. Wicken, “Entropy and Evolution, a philosophic review,” *Perspectives in Biology & Medicine*, 22 (1979), p. 285-300.

<sup>24</sup> R. Fischer, “On dissipative structures in both physical—and information—space,” *Journal of Altered States of Consciousness*, 3 (1977-78), p. 61-68.

<sup>25</sup> R. Fischer, “Georges Poulet’s *Entre moi et moi*, a book review,” *Modern Language Notes*, 93 (1978), p. 137-140.

<sup>26</sup> J. Konorski, “The role of central factors in differentiation,” in *Information Processing in the Nervous System*, 3, R. W. Gerard and J. W. Duff (eds.), Excerpta Medica, Amsterdam 1962, p. 318-329.



be illustrated by recalling that when a person's striated musculature (of voluntary action) is completely relaxed, and hence the muscle potential is approximately zero, or precisely less than a millionth of a volt (<sup>27</sup>, <sup>28</sup>), only the metalinguistic dimension of consciousness prevails, i.e. one is only aware of oneself while the denotative dimension is absent; consciousness has no content or information. Moreover, verbal competence and voluntary motor ability are inseparable within the speech act. A sentence may be structured either to describe past information (narrative) or to utilize present information (commentary). The use of the past tense characterizes the narrative, whereas present and future tenses predominate in the commentary. Every commentary is, therefore, a fragment of action with a built-in persuasive performative force.<sup>29</sup> By distinguishing between narrative and commentary we may now distinguish between types of text, not by whether the event recounted actually occurred or not, but by how the speaker-listener axis functions in the text. When commentative present and future tenses predominate—as they do, for instance, in language utilized in prayer, persuasion or hypnotic induction—the material is received with vigilant and imaginative attention, whereas in narrative discourse it is accepted with calm detachment.<sup>11</sup>

Certain forms of human behavior may be, therefore, brought into existence simply by being announced as a commentary. Hence 'anything' may become intensely meaningful or true within the limits of the human cortical repertoire, particularly if it is announced\* as a commentary during hyper-aroused states on the perception-hallucination continuum.<sup>30</sup>

There are other factors which can facilitate the process whereby words 'become flesh,' that is, real. The first among these factors

\* Naming an illness aloud can be thought of as invoking it. Colloquial expressions of the type "to court illness, disaster" are connected.

<sup>27</sup> E. Jacobson, *Biology of Emotions*, Springfield, Thomas, 1967, p. 91, 98, 102, 110, 119-120.

<sup>28</sup> F. J. Guigan, Interview with Edmund Jacobson, *Biofeedback & Self-Regulation*, 3 (1978), p. 287-300.

<sup>29</sup> H. Weinrich, *Le Temps: le récit et le commentaire*, Paris, Seuil, 1973.

<sup>30</sup> D. K. Zelenin, "Word taboos of the peoples of eastern Europe and northern Asia" (in Russian), quoted in *Sovjet Semiotics*, D. P. Lucid (ed.), Baltimore, Johns Hopkins U. Press, 1977, p. 247.

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is the *information-tight* nature of the human system. The circular, self-referential system of the human universe is open to energy but closed to information.<sup>31</sup> Once we have passed the years of development, most of us are unable to compute new information; we continue to say the same things (or become silent), and look forward to doing the same things we have been doing before. Iberall and Cardon<sup>32</sup> put this in a concise form by saying that the human biosystem's principal dynamic properties are that it hungers, feeds and moves about so that it can continue to hunger, feed and move about. And the famous fourteenth century mystic Master Eckhart describes the information-tight nature of God, the reflection of the human system in its own divine image: "thus God created the world so that He might keep on creating".<sup>33</sup>

Plato alludes to the information-tight nature of the human System<sup>31</sup> when he declares that most 'knowledge is already there',<sup>34</sup> and we are pre-programmed and have only a very limited self-modifying capability. The universal grammar or the human repertoire of fact and fiction is narrow, repetitious and consists only of a limited number of scenarios. Such limitation enormously facilitates divination.

### THE EXPERIENTIAL THEATER AND THE STRUCTURE OF ITS PLOTS

Let me illustrate the nature of the universal grammar of our self-referential universe by calling attention to Propp's discovery. Analyzing a collection of one hundred fairy tales and describing a 'function' in them as "an act of character, defined from the point of view of its significance for the course of action," Propp distinguishes 31 plot 'functions' such as "absence," "trying to find out" and "transfiguration," which are constants "independent of

<sup>31</sup> V. Ross Ashby, *Introduction to Cybernetics*, London, Chapman & Hall, 1955, p. 5.

<sup>32</sup> A. S. Iberall & S. Z. Cardon, "Hierarchical regulation in the complex biological organism," *Record of the I.E.E.E. Syst. Sci. and Cybern. Conf.* (1969), p. 145-151.

<sup>33</sup> R. Fischer, "Thoughts and afterthoughts," *Journal of Altered States Consc.*, 2 (1975-76), p. 371-379.

<sup>34</sup> Plato (approximately 387 B. C.), *Meno*, Protagoras and Meno, Baltimore, Penguin Books, 1972.

how and by whom they are implemented.”<sup>35</sup> These functions always appear in the same order. After having studied Propp’s functions common to all tales, we may retell, or foretell any tale in sufficient detail. Sklovskij,<sup>36</sup> in a similar manner had considered all of Conan Doyle’s short stories about Sherlock Holmes as a single short story, a single plot type, and distinguished 9 “most important features” of the short story’s general scheme, including “anticipation,” “appearance of the client,” “the evidence,” “the incorrect interpretation,” “departure to the site” and so on. The characters are located at the intersection of plot motifs and thus represent “bundles” of functions. I would call these functions ‘syntactic invariants’ when comparing them with—what I would describe as—Propp’s ‘semantic invariants.’

In an independently conceived project Lord Raglan<sup>37</sup> described the twenty-two persistent and recurring features in the life of a typical myth hero. The first and last five features are listed here so as to give a general idea of Raglan’s ‘features’:

1. The hero’s mother is a royal virgin;
2. His father is a king, and
3. Often a near relative of his mother but
4. The circumstances of his conception are unusual, and
5. He is also reputed to be the son of a god.
18. He meets with a mysterious death,
19. Often at the top of a hill.
20. His children, if any, do not succeed him.
21. His body is not buried, but nevertheless
22. He has one or more holy sepulchres.

Raglan uses his pattern of features to score certain famous heroes. Theseus, for instance, gets twenty points, Heracles seventeen, Jesus, rather pointedly omitted, would obviously score well. Raglan’s<sup>38</sup> analysis suggests therefore, the existence of

<sup>35</sup> V. Propp, *Morphology of the Folk Tale* (transl. of *Morfologija skazki*, Moscow, 1928), Bloomington, Indiana, 1958.

<sup>36</sup> V. Sklovskij, “Art as a Device” (Russian) in *On Prose Theory*, Moscow, Federacia, 1929, p. 13.

<sup>37</sup> Lord Raglan, *The Hero*, London, 1936.

<sup>38</sup> R. Scholes, *Structuralism and Literature*, New Haven, Conn., Yale University Press, 1974.

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a law of composition, or some fundamental grammar of narrative over a wide range of humanity. Some of the main structural elements of the hero journey are the self-consistency of the hero, his justice and victory over villains and intrigue (all pertaining to wish fulfillment), repression of ultimate defeat and transfiguration.

Fowler<sup>39</sup> recently subjected 93 stories from cheap magazines for women to a structural analysis and found a common generic type of love story with a plot structured around the pursuit of romantic love. These stories fit very closely the tale dissected by Propp. Moreover, two major forms could be isolated; first, an interdiction is announced with an ensuing violation and its consequence, second, a perception of lack is followed by deception and the liquidation of lack.

Beside the factual (real) and the fictitious (imaginary), the universal grammar of our self-referential universe harbors a third structural realm: the fantasmatic. In the fantasmatic realm the distinction true/false is irrelevant<sup>40</sup> since fantasms are primal fantasies: universal structural schemes transmitted from generation to generation, grounded in pre-history and limited in their thematic scope. They relate to problems of origin, the origin of sexuality (seduction) and the origin of the difference between the sexes. According to Laplanche and Pontalis the origin of fantasy may be located in auto-erotism, and there is a continuity between the various fantasy scenarios—the stage sets of desire—ranging from daydreams to the fantasies recovered or reconstructed through psychoanalysis<sup>41</sup>.

Hariton and Singer<sup>42</sup> interviewed 141 suburban housewives about their fantasms during sexual intercourse with their husbands. 65% of all respondents reported two especially popular varieties: the first, being with another man, an old lover, a famous actor, or a casual friend and secondly, being overpowered or forced

<sup>39</sup> B. Fowler, "‘True to me always’: an analysis of women’s magazine fiction," *British Journal Sociol.*, 30 (1979), p. 91-119.

<sup>40</sup> J. Mehlman, *A Structural Study of Autobiography*, Ithaca, Cornell U. Press, 1974, p. 17.

<sup>41</sup> J. Laplanche & J. B. Pontalis, "Fantasme originaire, fantasmes des origines, origine du fantasme," *Temps Modernes*, 19, No. 215 (1964), p. 1833-1868.

<sup>42</sup> E. B. Hariton & J. L. Singer, "Women’s fantasies during sexual intercourse," *Journal Consult. & Clin. Psychol.*, 42 (1974), p. 313-322.

into sex by an ardent, faceless male figure. It is reasonable to assume that these fantasies are being used as auto-erotic devices as Laplanche and Pontalis have postulated<sup>41</sup>.

We have shown the experiential circuitry of human brain-function and the information-tight nature of the human condition as it constrains myth, fairy tale, short story, narrative fiction and fantasm by prescribing them to convey restricted and restricting information.

MacLean,<sup>43</sup> who has replaced Father, Son and Holy Ghost in the Christian concept of trinity with that of the triune brain, interprets the evolutionary expansion of the primate forebrain along the lines of three basic patterns characterized as reptilian (the “crocodile” in us), paleomammalian (the “horse” in us), and neomammalian (the “human” in us). In describing the functions of the triune brain metaphorically MacLean imagines that the reptilian brain provides the basic plots and actions (in our terminology, the ‘program’); that the limbic brain influences emotionally the developments of the plots (in our terminology: arousal lends [emotional] significance or meaning); while the neomammalian brain has a capacity to expound the plots and emotions in as many ways as there are authors (interpreting ‘program’ and arousal).

The repetitive re-living of the same ‘old information’ bears out the information-tight nature of the human condition and we may now conceptualize the predictable human repertoire being performed on a giant revolving stage that is set for limited plays or scripts. The themes and plots of these archetypal scenarios consist of ‘stories’ which are constantly being re-written, re-painted and re-composed for each generation with but slight variations in style. They are distributed over an immensely large, moving circular continuum of hyper- and hypoarousal with revolving stage sets representing levels of arousal<sup>44</sup>. What we see now is a revolving map of inner space.

<sup>43</sup> P. D. MacLean, “On the evolution of three mentalities,” *Man-Environmental Systems*, 5 (1975), p. 213-24.

<sup>44</sup> R. Fischer, “Consciousness as role and knowledge,” in *Readings of Abnormal Psychology: Contemporary Perspectives*, New York, Harper & Row, 1976, p. 250-277.

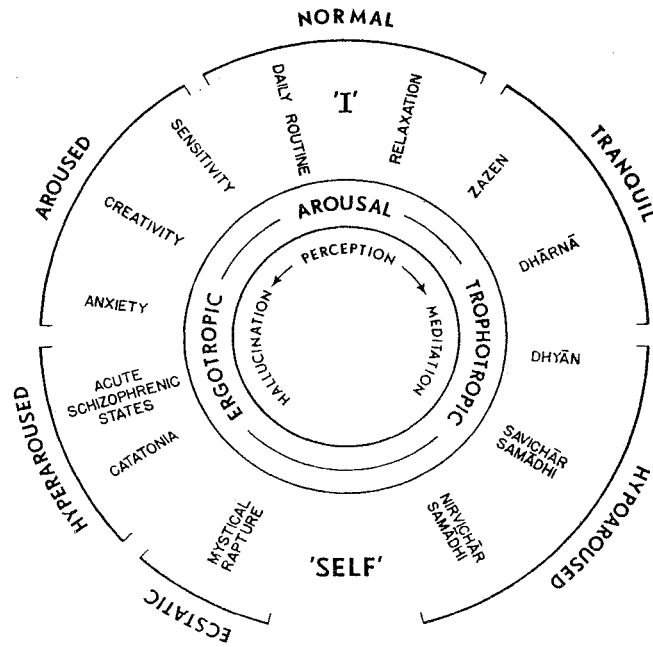


Figure 1

Varieties of conscious states are mapped on a perception-hallucination continuum of increasing ergotropic or hyper-arousal (left half) and a perception-meditation continuum of increasing trophotropic of hypoarousal (right half).

Note that a labelling in terms of psychopathology has been omitted from this map. Hence it is perfectly normal to be hyperphrenic and ultimately ecstatic in response to increasing levels of ergotropic hyperarousal. When a person gets stuck in a particular state or role, then we label him as abnormal.

The hyper-aroused rapid eye movement (REM) stage of dreaming sleep may be placed somewhere between creativity and anxiety on the left side of the perception-hallucination continuum, whereas the delta and slow-wave EEG sleep is on the horizontally corresponding right side of the map, i.e., between *zazen* and *dhārnā*, on the hypoaroused perception-meditation continuum. Hence each night during sleep, we repeatedly travel to and from these states and experience in fast succession creative as well as psychopathological, or stereotyped, dialogues between the 'I' and the 'Self.'

Whenever the level of arousal sets the stage by being raised or lowered, a new stage revolves to the fore and another type of 'knowing' or state of consciousness becomes available. In mapping the structure of fiction into a map of conscious states

the relation between fiction and fact reveals itself as one between description and prescription. The real nature of fiction and the fictitious nature of reality are reflections of the unitary nature of information, perception and action and are as inseparable from one another as observer from the observed or lover from the beloved.

#### ON THE REMEMBRANCE OF THINGS PRESENT

Another factor that further restricts the information-tight nature of the human system, with its already pre-programmed and narrow repertoire is that intensely meaningful 'acquired knowing' may become state-bound and continue to recur or flash back as a 'remembrance of things present'.<sup>45</sup>

The following 'Dear Abby' story illuminates significant features of the arousal state-bound nature of an experience.

I was in love with a college classmate, but he married someone else. I also married, and even after four years and a beautiful baby I still dreamed about this fellow. Whenever I saw a car like his, my heart would pound even though he had left town years before and I knew it couldn't possibly be his.

Dissecting the body of this conscious experience, we find a 'pounding heart', or emotional state of autonomic arousal and 'a car like his', a symbol of the cognitive interpretation of that arousal. Accordingly, an arousal state-bound experience may be re-presented or flashed back in two ways: either by inducing naturally, or with drugs and hypnosis, a particular level of hyper- or hypo-arousal (indicative of a *particular functional state* of the brain) or by presenting some symbol of its contextual interpretation such as an image, a melody, or taste. The common experience of a drug like alcohol inducing the arousal state necessary for recall of a state-bound experience is given in a letter written to me by an older member of Alcoholics Anonymous: '...there

<sup>45</sup> R. Fischer, "Hypnotic recall and flashback: the remembrance of things present." *Confinia Psychiat.*, 19 (1976), p, 149-173.

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was a time when I was drinking... there was a lady in San Antonio ... I could find her home when I was drunk. But I could not find it when I was sober.<sup>45</sup>

Consciousness is continuous between drunken states or between sober states but there is amnesia or incommunicado between the discontinuous states of sobriety and drunkenness. It is for this reason that Evelyn Waugh 'was obliged to tell Randolph Churchill everything twice—once when he was drunk, once when he as sober'<sup>45</sup>.

Amnesia between disparate levels of arousal has many important implications; one of them is that an 'exciting' experience may be meaningful only at that level of arousal at which it occurred. (No wonder that marriage licenses had to be invented!) Another implication is that what is called the 'subconscious' may be but one name for many levels of amnesia.<sup>20</sup>

The narrowness and stereotypy of the human repertoire is brought into stark relief by the very definition of what transcends it: creativity. We call a person creative when he is able to maintain good intra-individual communication among his functional states characterized by differing levels of arousal. A Saint Teresa of Avila, or a Kekulé may be labelled creative since each is able to break through state boundaries and recollect (anamnesis) his dream and ecstatic experiences during the normal state of daily routine making them available to readers still to be born.

The creative and the stereotype are two disturbingly wondrous Janus-faces of the statebound experience. One face reminds us of the information-tight, repetitive nature of the flashback, while the other represents its creative side. The latter implies that one of the criteria of masterful literature, fine art and music is their ability to induce flashbacks of stereotyped-archetypal experiences as deep love, intense hate, overwhelming joy, loneliness, dread, despair, hope and ecstasy. A text that after years and years continues to evoke in a reader the same intense emotional experience that moved its author 'once upon a time', such a writer continues to live in the reader as a creator of "that present which never stops passing".<sup>46</sup>

<sup>46</sup> O. Paz: *Aguila o Sol? Eagle or Sun*, New York, October House, 1949.



At the end of *Le Temps Retrouvé*, at the house of the Prince of Guermantes, the hero touches his lips with a strongly starched napkin. At once, he says, there surges the dining room at Balbec, “trying to shake the solidity of the House of Guermantes,” and “making for an instant all the armchairs waver around me.”<sup>47</sup> The resurrection of the past, comments Poulet, forces our mind to “oscillate” between years long past and the present time “in the dizziness of an uncertainty like that which one experiences sometimes before an ineffable vision at the moment of falling to sleep.”<sup>48</sup>

Creative writers, like Proust, are diviners whose writing is both future-teller and future told.

But few are the creatives and not everybody is liable to experience statebound flashbacks. Flashbackers may be characterized by their (a) variability on perceptual-behavioral tasks; (b) tendency to minimize (or reduce) sensory input—particularly at the peak of a hallucinogenic drug-induced experience; (c) high resting heart rates; (d) hypnotizability; and hence (e) a display of EEG-alpha dominance in the resting, waking state and (f) preferential right cerebral hemispheric cognitive style. However these features may be found only in self-selected subjects, i.e. volunteers for hallucinogenic drug and/or hypnosis research<sup>49, 50</sup> who may constitute not more than about 10 per cent of the general population.<sup>45</sup>

#### ON FREEDOM AND DETERMINISM

Let us formulate at this juncture the current view of man as he reflects himself in his own image. We are constrained genetically

<sup>47</sup> M. Proust, *Le Temps retrouvé*, vol. III, Paris, Ed. Pléiade, p. 874-875.

<sup>48</sup> G. Poulet, *Proustian Space*, E. Coleman (transl.), Baltimore, Johns Hopkins University Press, 1977.

<sup>49</sup> R. Fischer, “Who is who under psilocybin?” Paper presented at the 1st Intl. Conference on Herbal Psychotropogens, San Antonio, Texas, 1979 *Journal of Altered State of Consciousness*, 5 (1979-1980), p. 321-324.

<sup>50</sup> R. A. Dumas & S. E. Spitzer, “Influence of subject self-selection on the EEG alpha-hypnotizability correlation,” *Psychophysiology*, 15 (1978), p. 606-608.

but have some freedom or self-modifying ability in 'information space'. But the unitary nature of information and action limits our self-modifying ability and we may ask ourselves how much freedom or 'free will' do we have after all and to what extent—and along which specific lines—are we programmed. Neither the Church nor Science so far has ever given us an explicit answer. Nisbett and his associates,<sup>51</sup> as true sons of our age, claim that free will is in the eye of the beholder. According to these authors the observer attributes to himself more freedom than he attributes to the observed who is thought to be bound by the laws of causality. Observers tend to assume that actors "have a disposition to behave in the future in ways similar to those which they have just observed, while actors do not share observer's assumptions about their own future behavior". If 'free will' is in the eye of the beholder then subjects should be capable of adopting the perspective of an outside observer, that is, a self-viewing actor. This is indeed the case when subjects are asked to reverse the 'point of view' or are confronted with a mirror.<sup>52</sup> Subjects attribute fewer personality traits to themselves—and, of course, personality traits determine behavior—than to other people ('puppets') but this difference disappears between lovers.<sup>51</sup> Strangely, lover and beloved reflect themselves in each other, are in the continuous process of decoding a tightly pre-programmed stereotyped scenario, and still tend to think of themselves as being equally free.

Looking detached at other people and viewing them as objects enables us to see them objectively. Such a detached perspective is the fortune-teller's point of view while attempting to predict the future of a client.

If 'free will', as all freedom, is relative and in the eye of the beholder, how does behavior become 'determined'? Ungar in 1965<sup>53</sup> was able to transfer learned behavior (avoidance of the

<sup>51</sup> R. E. Nisbett, C. Caputo, P. Legant & J. Marecek, "Behavior as seen by the actor and as seen by the observer," *Journal of Personal and Social Psychology*, 27 (1973), p. 154-164.

<sup>52</sup> M. D. Storms, "Videotape and the attribution process; reversing actors' and observers' points of view," *Ph. D. Dissertation*, Dept of Psychology, Yale University (advisor: R. E. Nisbet).

<sup>53</sup> G. Ungar, "Molecular coding of information in the nervous system," *Naturwissenschaften*, 59 (1972), p. 85-91.

dark) to naïve recipient animals from material extracted from the brain of trained donor rats. These experiments suggest that acquired information is stored in terms of chemical structure and that each particular piece of information is represented by a unique molecule or a set of molecules. For instance, the information to avoid the dark is coded by the peptide scotophobin<sup>54</sup>—isolated from rat brain and later synthesized in the laboratory. When injecting it into a naïve rat—or even goldfish—one can predict future; the injected animal will avoid the dark.

Ungar believes that the recording of learned information utilizes the same genetically determined molecular sign system that presided over the differentiation of the nervous system. Whereas the genetic code is a set of prescriptions about how to put together sequences of amino acids to form enzymes that will catalyze the synthesis of the body constituents, the neural code would be a semiotic system to direct the flow of impulses in the network of neurons. Ungar's explanation links the permanence of the genetic code with the plasticity of newly labelled connections and puts the static concept of an 'engram' on a dynamic molecular footing. The future will tell whether Ungar's foretelling of the future will have any future.

#### ON PLAYING CARDS AND PUPPETS

Printed playing cards have been traced to tenth-century China and appear four centuries later, almost simultaneously, in Italy, Germany, and Spain. Either the Mongols or the Moslems probably transmitted such cards from China westward, and specifically gypsies speaking Hindustani are credited with bringing the cards from India to Europe.<sup>55</sup> A game of French playing cards called Tarot, used in divination and which was popular during the Middle Ages, was believed to have resulted from an adaptation of a card game called *Naibi* to which was added a series of point

<sup>54</sup> N. Satake & B. Morton, "Scotophobin A," *Pharmacology, Biochemistry and Behaviour*, 10 (1979), p. 183-188.

<sup>55</sup> M. Dobkin, "Fortune's malice; divination, psychotherapy and folk medicine in Peru," *Journal of American Folklore*, 82 (1969), p. 132-141.

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cards. The original Tarot has been linked to the esoteric Jewish Kabbalah tradition, with twenty-two major Tarot cards related to the letters of the Hebrew alphabet. The game *Naibi* was known in Italy during the fourteenth century.

As already hinted at earlier, there are other applications of cartomancy than future-telling and Dobkin<sup>55</sup> describes the importance of cartomancy in Peruvian folk healing to elicit data from prospective patients. Healers use *naipes*\* cards as projective tests to tap their patients' interpersonal conflicts and stress which may contribute to illness.

The *naipes* must be viewed as part of a cultural complex, a series of neutral stimuli whose symbols and meanings are shared by both the healer and his patient within a world laden with misfortune, illness, suffering, and despair. In more than 87.7 chances out of 100, a given reading of the *naipes* will yield three misfortune cards. The deck is evidently loaded not in the direction of good fortune but rather to highlight stress and conflict that may be present in the sociocultural milieu. The *naipes* as ethno-projective device, together with the charismatic aura and authority of the healer, constitute a powerful method of divinatory healing.

\* \* \*

We have dealt earlier in this essay with the thematic structure of plots, scripts, and scenarios in fact, fiction, and fantasm. The variety of these structures appears to be reduced to an essential minimum for manipulation in fortune-telling with playing cards. The cards represent a semiotic system with a simple syntax. Cartomancy, a sign system that functions as a program, can be designated as a language with a mechanism for generating sentences and a vocabulary that explains the cards' meanings. The Pierce-Morris classification of phenomena in terms of syntax, semantics, and pragmatics also pertains here since cards are read in a certain order according to their meanings, and the pragmatic situation in which the divination occurs also influences the fortune-teller's interpretation.<sup>56</sup>

\* From the Spanish *naipe*, i.e. playing card.

<sup>56</sup> M. I. Lecomceva & B. A. Uspenskij, "Describing a semiotic system with a simple syntax," Chapter 5 in *Soviet Semiotics*, D. P. Lucid (ed.), Baltimore, Johns Hopkins University Press, 1977, p. 65-76.

The vocabulary is the means of objectifying in fortune-telling as it consists of invariable elements accepted as being basic and sufficient to describe all possible events. It is significant in this respect to compare gypsy and French fortune-telling; the king of spades in French divination is “doctor,” in gypsy, “bailiff,” and in Russian, “bureaucrat.” The French meaning, “a change in life,” is made specific in gypsy divination as “risk in gambling or business.” Domestic and business matters, “marriage” and “finances,” are the situations usually modelled in fortune-telling. The cards receive concrete meanings on these planes.

Lecomceva and Uspenskij<sup>56</sup> when enumerating the basic meanings of the cards, describe the semantics of the system of fortunetelling by means of a table of semantic factors. The table lists most of the meanings by pairs of semantic factors. There are sixteen defining and defined factors: 1. News, 2. House, 3. Unpleasant, 4. Pleasant, 5. Journey, 6. Conversation, 7. Belongings, 8. Interest (feeling), 9. Marriage, 10. Change, 11. Business (financial), 12. Man, 13. Woman, 14. Fair-haired, 15. Dark-haired, and 16. Brown-haired.

Coincidentally, the Upanishads also describe “sixteen original functions which arise by combination of elements in a double-three set of categories into which everything knowable or existent falls,”<sup>57</sup> and Piaget reduces all reasoning by his subjects *en route* to the stage of formal operations to sixteen propositions of binary logic,<sup>58</sup> that are basically the ‘constants of Frege’.<sup>59</sup>

\* \* \*

When Adam and Eve were expelled from Paradise—because they tasted the fruit from the tree of knowledge, they left the garden of Eden as *Homo sapiens*.<sup>60</sup> Today the connotation of the latin *sapiens* from *sapere* ‘to taste’ and ‘to know’ is not that *they* knew what they were doing but that *we* know the script according

<sup>57</sup>*The Upanishads*. (transl. from the Sanskrit), New York, Mentor Books, 1948, p. 41.

<sup>58</sup>J. Piaget, *Traité de logique*, Colin, 1949.

<sup>59</sup>G. Günther, personal communication, June 1979.

<sup>60</sup>E. Straus, “On the form and structure of man’s inner freedom,” *Kentucky Law Journal*, 45 (1956-1957), p. 255-269.

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to which we are to perform in the future. We, that is, twentieth-century men, re-affirm through cybernetic technology the concept of the medieval *liber mundi* and the baroque world theater. Once again the world appears to us as a hierarchy of codes and languages. Once more man conceives of himself as an actor in a play of signs and as a dramatist writing the script for human performance.<sup>61</sup>

According to Kleist<sup>62</sup> there is no way back and our only hope is to go forward to that state of knowledge which is complete. As he puts it, we must make the journey round the world to see if Paradise is perhaps open at the back. Kleist's circular journey moves from the unconscious harmony of ignorance to the divine harmony of total knowledge.

The two ends of this circular trip—*nirvana* in *samādhi* and the ecstatic rapture (of the figure)—join in Paradise as the grace of God and the grace of the puppet.

“... just as a section drawn through two lines suddenly reappears on the other side after passing through infinity, or as the image in a concave mirror, after dwindling into the distance, turns up again right in front of us, so grace itself returns when knowledge (*conscientia* or consciousness) has as it were gone through an infinity. Grace appears most purely in that human form which either has no consciousness or an infinite consciousness; that is, in the puppet or in the god.”<sup>62</sup>

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<sup>61</sup> D. P. Lucid, (ed.), *Sovjet Semiotics*, Baltimore, Johns Hopkins University Press, 1977.

<sup>62</sup> H. von Kleist, On the Marionette Theatre, transl. I. Parry, *Times Literary Supplement*, October 20, 1978 p. 1211.