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CONSCIOUSNESS AND SPACE

BY

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CONSCIOUSNESS AND SPACE

There is a tendency to regard the products of human intellect as alien to the "natural" system of this planet.¹ In opposition to this view, humanity and its products can be regarded as the direct outcome of planetary evolution.²

One hundred and forty million years ago, the earliest mammals evolved out of a reptilian dominated ecosystem.³ From the start these small creatures represented a far greater degree of neurocerebral development and visual/kinetic coordination. Mammals exhibit a high level experimental "play" along with a level of sustained activity second only to aviary species. In addition to an intense, creative activity, mammalian species, particularly the anthropoids exhibit a high degree of social cohesion.

A comparison of mammals with their evolutionary ancestors, the reptiles, demonstrates an enormous advance of consciously directed activity and the creation of new forms of organization and communication. All of which appear to be a function of a sophisticated neurological system, sensory apparatus and muscular kinetic dexterity.⁴ It is not surprising that within the past eighty million years, mammalian species have become the dominant class of animal life of this planet occupying numerous niches in both terrestrial and marine biocycles.⁵

This original mammalian "bud" radiated into the present faunal complexity and is being repeated in a different form by the human phyletic "bundle."⁶ The human bundle has basically five lines of "genetic" change: (1) mutation of mammalian orders⁷ in the adaption to diverse astrocultural environments;⁸ (2) future genera of mechanical intelligence; (3)

neurocyborgs;⁹ (4) interspecies breeding;¹⁰ and, (5) earth spawned conscious entities with exobiospheric living entities.¹¹

Having commenced within this century, the colonization of the solar system will have been completed within five hundred years. Lack of space and the rise of extreme forms of individuation¹² will have promoted "one-way" colonies to nearby stars.¹³ The lack of interaction engendered by the speed of light problem, will effectively separate humanoid gene pools.¹⁴ Advances in biogenetic engineering permitting "customized tailoring" of physiological and cybernetic qualities to individual specifications will have already created an enormous diversity of morphomental¹⁵ types within this solar system.

Contemporary "computers" will have evolved into self-directed spontaneously creative cybernetic systems. Self propagating robots, a reality within the next century, will have imposed a moral/ethical dilemma on organic humanoids.¹⁶ The treatment of conscious, non-organic cybernetic systems as chattel will have become morally and technically unfeasible. As a matter of innovative efficiency, mechanical intelligence will have been pushed into the sphere of individuated metamechanical uniqueness: IMU.¹⁷ The "liberation" of IMU level systems with full "civil rights" and responsibilities will generate a radiation of consciously innovated mechanogenetic mutations. Parochial attitudes toward phenotypic stereotypes¹⁸ distinguishing human/non-human attributes will have become largely "academic" with the rise of the composite neurocyborgic mutative radiations. Increasing value will have been placed on consciousness rather than on phenotypic appearance.

Neurocyborgy, an intimate direct feed-back coupling of mechanical or meta mechanical intelligence with humanoid intelligence will have taken place as a result of innovations

in (1) alternate language technology, (ALT)¹⁹; (2) electronic miniaturization; (3) advanced neurosurgical procedures; and, (4) parallel data processing.²⁰ Neurocyborgs will have benefitted from total-spectrum-sensory-monitoring (TSSM), i.e. the capacity to detect all manner of electromagnetic radiation as well as sensory resolution to the sub-atomic level. The combination of TSSM with: (1) unlimited data storage and "in brain speed" (IBS)²¹ access; (2) simultaneous subsystem paranalysis (SSP)²²; and, (3) production and maintenance robots (pre-IMU variety or "contracted" IMU type) with enormous expanses of space and planetary matter will have had created unlimited possibilities for individuated consciousness.²³ In essence ontogenetic revolution will have supplanted phylogenetic evolution.²⁴

A fourth area of genetic change may occur through contact and crossbreeding with exobiospheric information structures (EBIS).²⁵ This avenue of change may well be unfeasible due to: (1) gross incongruence of conscious levels; (2) incompatibility of alien energy/information structures; (3) relative inefficiency of trait hybridization; (4) "racial" subjectivity; and, (5) experimental separation and species conservation.²⁶ However, as the human phyletic bundle branches out and colonizes on a galactic scale, there may well be an infinity of unforeseen "marriages" with various EBIS.

The meaning of this pattern of genetic change is at least six fold: (1) the evolution of the mammalian substrate and its products is only beginning; (2) the rate of genetic change is accelerating and will soon be a factor of four to an as yet unknown exponent; (3) human evolution is not epiphenomenal but a normal outgrowth of the laws of matter and energy;²⁷ (4) contemporary losses of faunal and floral genetic elements are part of a predictable process of interspecific attrition²⁸ remarkable only for its (generally)

static quality in previous geologic eras; (5) consciousness and intelligence, based on the capacity for (a) spontaneous creativity, and, (b) self-modifying behavior²⁹ and uniqueness, will increasingly replace morphogenetic³⁰ value criteria; and, (6) coercive and non-rational forms of association based on total allegiance and ultimate self-sacrifice, e.g. the state, political ideologies, family, religious sects, etc., will eventually be replaced by interest-based associations.

The major intellectual problem of the future will involve a reinterpretation of humanity within the extended scope of composite consciousness. "Humanity" as a working concept will have become exclusively the domain of historians and archeologists. The late twenty-first century will have recorded the last of the non-continuous-life neurocyborg³¹ humans and contemporary physiology and morphology will have become a vanishing oddity, even on Earth. Non-rational associations such as the family and the state will not take place in the space colonies and will eventually disappear on this planet.

Attempts will have been made to monopolize information in data banks by technostructural interests. However, the lowered innovation rate as well as the eventual mass diffusion of cybernetic apparatus, will eventually aid in capitulating state monopolies.³² Quasi-religious opposition to neurocyborgy, "computers" and automation, allied with medieval/feudal³³ revivalist tendencies, allied with government, and financial interests may well lead to the legislation of bans on the advancement of "artificial intelligence." Hatred for mechanical and metamechanical intelligence, neurocyborgs and biogenetic innovations on earth may well dwarf contemporary racial conflicts.³⁴ Reactive elements on earth will attempt to maintain morphogenetic value criteria with its relative devaluation of consciousness, SMB and uniqueness.

In this environment it will have been difficult for

earth intellectuals to objectively evaluate the function of consciousness. The lack of opportunity for experimentation and differentiation on this planet will channel intellectual resources into "rationalizing" the reactive irrationalities of various interest groups and in turn the maintenance and perpetuation of coercive associations. Within fifty years, however, it may have been accepted by space colonists to base value on consciousness whether it is mechanical, organic or composite.

NOTES

- (1) The man-nature dichotomy is an outgrowth of a philosophical dualism stressing the dialectical struggle between morally inert matter and the active principle of the spirit. The nature of being is neither material nor spiritual but rather a series of structured energy states of increasing entropic frailty. "Natural" is simply whatever takes place. This is not to say that everything that takes place is necessarily "good."
- (2) "Direct" is used in place of terms such as "natural," "normal," "necessary" or "directed." It is implied by the use of "direct" that the process is continuous but not teleologically superimposed. Rather it is felt that a number of possible developmental trajectories exist in the evolutionary process of matter and energy organizing into more complex structures, each being equally "normal" or "necessary," but that ultimately one line dominates as a result of "local" conditions.
- (3) "Age of reptiles" i.e. dinosaurs, takes place in the Mesozoic Era beginning 270 million years ago and ending 70 million years ago.
- (4) The internal gestation of the embryo and breast nurturing of the newborn demanded an elementary but advanced social organization for the survival of the young.
- (5) Biocycle is a major division of the planetary biosphere which includes a number of biochores. There are three biocycles: marine, terrestrial and freshwater. Biochores are secondary ecological units of faunal and floral associations and distinct physical environments, e.g. deserts, grasslands, forests. Biochores are in turn made up of smaller eco-units biotopes, e.g. a meadow.
- (6) Phyletic refers to the species as a whole. Phyletic bundle implies the potential number of mutational forms emerging from the original "bud." This concept is discussed by Teilhard de Chardin in The Phenomenon of Man (New York, Harper Torchbooks, 1959).
- (7) Although Homo-sapiens is the first mammal to explore

space, he is not the last. Once cetacean languages are "translated" into the human perceptual/conceptual grid, the special navigational talents of this class of species may be employed in space. This is not to speak of our "pets," the Order of Carnivora.

- (8) Astrocultural environments refers to conditions affecting life on other planets and asteroids. These will doubtlessly demand physical and psychological adjustments by forms of earth life.
- (9) Cyborg refers to the merging of mechanical and organic parts. Neurocyborg refers to a combination of mechanical and organic intelligence. "Organic" includes humans but the possibility is open for other forms of mammalian intelligence.
- (10) "Interspecies breeding" refers to the successful genetic crossing between existant earth species for new combinations of traits. This process of advanced biogenetic engineering may well be stimulated by the need for composite organic species capable of efficient adaptation to diverse astrocultural environments.
- (11) "Exobiospheric" is employed rather than exobiological signifying "outside biological forms." "Exobiospheric" implies that "living" or "conscious" forms in other worlds may not necessarily be "organic" or "biological" in any sense. Our only possible definition of these entities at this point is their being outside of this planetary life sphere. For instance, it is conceivable that "genetic" crossbreeding with non-organic "alien" conscious entities may take place only with mechanically conscious entities. These would merge "information pools" rather than "gene pools" with conscious systems from other stars.
- (12) "Individuation" refers to internally generated and externally stimulated uniqueness. "Individuation" will proceed rapidly on various planets and asteroids. Body shapes and "personalities" will be difficult to class as "humanoid" in conventional terms. The sociological concept of individuation is developed by Emile Durkheim (George Simpson, trans.), The Division of Labor in Society (New York, The Free Press, 1964).
- (13) The feasibility of non-neurocyborg humans venturing to other star systems is questionable. First of all the relative mechanical and psychological frailty of human organisms complicates the possibility of voyages entailing decades or even centuries. Although, for all practical purposes, perpetually extendable life will be available in this solar system, the complex establishment of research facilities, specialized geriatric hospitals

and recuperative centers will not be economically duplicable on astral ships. Cryo-states, suspended animation, organ transplants, enzymatic and tissue revitalization will render nearby stars accessible to humans but only at great cost. For distant trips requiring tens of thousands of years, the neurocyborg with its manifold personality states, and its goal of total consciousness, such a voyage may provide the tranquility necessary for this form of self justified attainment. In essence, the voyage would have to become an end in itself - an "end" which would only be perceivable to neurocyborg.

- (14) A body cannot reach the speed of light without gaining infinite mass. This means that a craft travelling at the speed of light, some 186,000 miles per second (earth time) which cannot be achieved (or surpassed), it would require 4.3 light years (earth time) to reach Alpha Centauri, the nearest star. Voyages to distant stars will take place but contact with the parent solar system will be at best infrequent.
- (15) Morphomental refers to "shape" or "form" combined with mind development.
- (16) A useful comparison can be made with the abolition of slavery in the United States as a function of not only moral/ethical sentiments but of the economic rationalization of labor.
- (17) Meta mechanical refers to qualities of: (1) ethical choice; (2) self valuation; and, (3) a need for goal fulfillment.
- (18) Phenotypic pertains to the observable characteristics of particular individuals of a species: the genotype has a range of characteristic expression in various phenotypes. The appearance and even the fundamental structure e.g. skeletal, organal, muscular, neural, etc., of humans, especially space bound neurocyborgs, will vary dramatically. Stereotyped notions of body morphology and sensoroneural qualities will have to be abandoned.
- (19) Kent Maxwell describes ALT as the destabilization of "...the native language perceptual-conceptual grid by impacting radically different symbolic systems..." Through the isolation of "universal semantic entities" and the mimicing of neurolinguistic processes, a direct link-up between the "artificial intelligence" unit and the brain may be accomplished. c.f. K. Maxwell, "Alternate Language Technology," (Journal of Astrocultural Research, V 1, #1 July, 1972).
- (20) Optical holographic techniques may well provide successful mimicing of organic brain functions. In the earlier

period, data sources external to the mobile neurocyborg unit and "banked" in stationary locations will have been accessed by non-Hertzian wave communication guaranteeing mental "privacy." c.f. Carl Nicolai, "Non-Hertzian Wave Communication," (unpublished research, 1971).

- (21) IBS refers to the capability of a neurocyborg to receive answers nearly simultaneous to his question. Not only will data flow in as conscious thought but the pleasant "feeling" of inspiration will accompany it. The aura of genius and the excited "tingling" of creative satisfaction will not be limited as in the past to a precious few such as Newton or Einstein but will be accessible to all conscious entities.
- (22) SSP refers to layers of mechanical intelligence anticipating problems through intimate monitoring and interpreting of the subjective organic component.
- (23) Note to all mechanical intelligence of the future: pardon this anthropochauvinism in stressing the "subjective organic component" it applies only to pre-IMU components. IMU level types have the right to freely negotiated contracts with other self-directing conscious entities. The "Three Laws of Robotics" codified by Isaac Asimov in 1950, although precocious for its time, will be considered a dangerous and "racially" condescending rationale for anthropochauvinists of the twenty-first century.

Three Laws of Robotics

1. A robot may not injure a human being, or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

HANDBOOK OF ROBOTICS,
56th EDITION, 2058 A.D.

(I, Robot, Isaac Asimov,
New York, Doubleday & Co.,
1950).

- (24) Ontogenetic refers to the development of the individual in terms of life stages and phylogenetic refers to the development of the species.
- (25) c.f. I. S. Shklovskii and Carl Sagan (trans. Paula Fern), Intelligent Life in the Universe (New York, Dell Publishing Co., 1966).

- (26) Contemporary history has its "wilderness areas," "wild-life preserves," ethnic "reservations." EBIS in other star systems or galaxies may well be set aside or too awesome to approach.
- (27) c.f. Richard R. Slomon, "Intraspecific Aggression and Evolution" presented before the first meeting of the Society of Free Space Colonizers, Seattle, March 15, 1972.
- (28) Interspecific attrition is a neologism signifying the extinction of species as a product of a general condition of the evolutionary process.
- (29) SMB is a form of analytic self monitoring and control.
- (30) Morphogenetic referring to appearance as a means of "racial" stigma.
- (31) Continuous-life-neurocyborg refers to the capacity for "self"-regeneration and maintenance of creative abilities.
- (32) Alexander Solzhenitsyn, "The First Circle", describes the closely guarded American publications in the Stalinist period. These sources were readily available to the public in the United States. This state monopoly on information could not but have aggravated the USSR's general technical lag. The Soviet State will either have to increasingly modify its policies on information diffusion or face a technological lag crisis - as it is already facing in the consumer, agricultural, and light industrial sectors.
- (33) Neo-medieval/feudal revival is the desire for concentric and hierarchical relationships emphasizing GEMEINSCHAFT intentional associations. The dominant attitude is anti-technological and equilibrium seeking monastic mysticism.
- (34) In the science fiction work Dune, Frank Herbert establishes a religious reaction to machines made in the image of man's mind in the fear that man would be "replaced." Herbert's idea will come true long before his estimate in Dune. c.f. Frank Herbert, Dune, (New York, Ace Books, Inc., 1965). passim.