The Pursuit of Autonomy

Interdisciplinary Observations to Human Consciousness

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I) Introduction

In consciousness research, two rival sets of theories can be recognized: (A) Scientific material interpretations of consciousness are based on axioms that view consciousness in the context of highly advanced intentional processing of information in which subject-object relations evolve, and (B) humanistic interpretations of consciousness are based on axioms that view consciousness in the context of, say, "centered pulsations" that enable a conscious agent to act from his or her center of awareness. In this paper I will argue for the selection of axioms that favor humanistic interpretations of consciousness.

The term "consciousness" occurs in different disciplines with a variety of different meanings. The Greek term *syneidesis* had been used by Alexander of Aphrodisias in order to identify one's recognition of the perceptions in one's soul. The Latin term *conscientia* had been used by Thomas Aquinas in reference to joint-knowledge and three other designators of conscience that point into the direction of religious morality. In the Greek tradition, consciousness was rooted in an individual's efforts to apply his intellect for purposes of divine knowledge. In contrast, medieval interpretations of consciousness are rooted in divine grace and in obedience to divine law. The term *cogitatio* had been used by René Descartes who had designated with this term a reference to absolute knowledge that is beyond any doubt. Generally, one can recognize specific properties that are associated with the concept of consciousness. Such properties are to be found either in the realm of introspection and self-awareness, or in the realm of morality and divine law, or in the realm of reason and rational law. A sound theory of consciousness must be able to integrate all three aspects in a meaningful way.

C O N S C I O U S N E S S

syneidesis	*conscientia*	*cogitatio*
Alexander of Aphrodisias	Thomas Aquinas	René Descartes
perceptions in one's soul	joint-knowledge	absolute knowledge
Introspection Self-awareness	Morality Divine law	Reason Rational law
intellect	religion	science
meditation	*faith*	*language*

Table 1: Meanings of "consciousness."

In contemporary literature about consciousness, one can find warnings about any premature attempts to define "consciousness" without an adequate theoretical framework that would set the stage for a definition. For example, Patricia Churchland (1988, p. 283) calls for a *genuine theory* that "fits in with other parts of psychology and neurobiology, and is experimentally based." Others, such as Dan Dennett (1991, p. 455) talk about building theories with new metaphors of consciousness, and Lawrence Weiskrantz (1988, p. 183) reminds his readers that definitions are "the final product not the starting point of enquiry." Such contemporary warnings seem to overlook the numerous concepts and theories that had been used throughout mankind's intellectual history in order to discuss human consciousness. These concepts range from traditional forms of *states of consciousness* to contemporary phenomenological theories, or to functionalist models in cognitive science (such as artificial intelligence, neuroscience, and connectionism). It is a historical fact, that the models or concepts used for discussing consciousness are closely related to metaphors that reflect the ideological values of a society (Jaynes 1990, pp. 2 ff).

Today, society is predominantly ruled by the dictates of science. As a consequence, such models of consciousness are currently in vogue that complement scientific methodologies. Reducing this complex subject matter to such methodologies would resemble an oversimplification. I find it both justifiable and beneficial to discuss consciousness with reference to the intended applications of our knowledge about consciousness. A few basic questions will help one to specify the context of one's intentions: "Why do I want to know about consciousness?", "How will I use my knowledge of consciousness?", "How do I justify the application of my knowledge?"

Since the beginning of Western philosophy (approximately 600 B.C.), a correlation between knowledge and its political applications was openly recognized and appreciated. With the rise of technology, we have learned to accept that scientific knowledge supposedly is outside the realm of values. Major criticism about so called value-free sciences had been presented, for example, in historical materialism, historicism, and existentialism.

Nevertheless, the shaping of human life continued to take place in the image of science. Three centuries later it was clear to everyone that an unrestricted application of scientific knowledge has nearly wrecked this planet beyond repair. In addition to this realization we are now in the process of learning that human beings and "intelligent" machines supposedly operate on basically the same principles. Inevitably, we must ask ourselves, "Who benefits from these circumstances?"

Conscious - System - Application

Operational mode	*self-control*		*social control*	
	⌐	÷	⌐	÷
Individual applications	cosmic self-awareness	societal self-awareness	subject-agent-relations	
Societal mode	collective individualism	hierarchical individualism	hierarchical functionalism	
Resource utilization	cooperation *motivation*	competition *law*	control *eugenics*	

Table 2: Spectrum of priorities for the application of consciousness.

I do not claim to have given a complete description of the problem of social control, nor do I claim that the selected subjects (AI, connectionism, Shaivism), are the only factors that need to be considered. Nevertheless, they are representative for demonstrating my argument that human growth starts with the recognition of oneself in the context of the universe. I will argue that such a recognition is helpful to avoid the misapplication of scientific knowledge for purposes of social control.

II) Preparing the hardware: Artificial Intelligence (AI)

In the context of AI, the pursuit of autonomy is sought in the construction of machines that are capable to solve "intelligent" tasks with a precision and accuracy that is beyond human efficiency. "Intelligence" is reached if a machine can be programmed in such a way that it could perform several steps in a rational operation without any further input from the human operating such a program. The most powerful contractor for and beneficiary of advances in AI- research is the United States Department of Defense (Dreyfus and Dreyfus 1986, pp. 11 ff). Over the next few decades, the United States will spend trillions of dollars to create a military environment that is largely controlled and operated by self sufficient artificial agents. Military managers and political managers alike expect from machine intelligence the kind of infallible obedience to their commands that can never really be assured in human beings.

Digital machine intelligence displays consciousness in the meaning of "logical circuitry." It is a common assumption for many researchers, that

> the mystery of the mental is *no greater than* the mystery of the heart, the kidney, the carburetor or the pocket calculator (Lycan 1987, p. 44).

Certainly, this view is opposed by many phenomenological or other related philosophers, who insist to maintain additional categories as necessary designators for human consciousness such as *introspection*, *intuition*, or *motivation*. It appears to me that advanced knowledge of these additional categories enables an individual to remain an autonomous agent, deciding his or her own fate in the context of motion and unity. Such *unmeasurable autonomy*, however, is an undesirable quality for scientific research. Here, a "third-person-perspective" is appreciated, in which a scientist can control the selection of data to be experienced by a subject.

A recent attempt to combine scientific demands with phenomenological claims had been presented by the philosopher Daniel Dennett, who builds his empirical theory of consciousness on a "heterophenomenological" stance, which is, in less fancy terms, simply a scientist's traditional claim to operate from a neutral viewpoint. Dennett (1991, p. 83) argues that the

> deviation from normal interpersonal relations is the price that must be paid for the neutrality a science of consciousness demands.

Contrary to Dennett, I believe that an essential aspect of human consciousness is an individual's realization of cosmic self-awareness. Such a realization necessarily does not allow for a neutral observer stance, since self-awareness leads to both a monistic ontology and social categories supporting collective individualism. To my understanding, Dennett is saying that the complexity of human cognitive systems has to be reduced to the limited controllable responses that can be measured in a clearly defined environment. Dennett (1991, pp. 201 - 206) puts this idea in somewhat blunt terms:

> Just as we learned to milk cows, and then domesticate them for our own benefit, so we learn to milk others' [...] minds (cf. also p. 252).

Following such rhetoric, it appears to me that cognitive replicates are a welcome hypothesis for functionalist models of human consciousness. The functionalist view in AI allows scientists to meet an ultimate challenge, which is the reproduction of functional structures that lead to consciousness. Whether or not such a hardware actually *displays* consciousness, *resembles* consciousness, or merely *overrides* human consciousness, cannot be determined yet.

III) Preparing the grammar: Connectionism

Our search for meaning in a seemingly meaningless world has led human beings to a variety of lifestyles that often contradict each other. Cultural conditioning and continuous youth recruitment are established ways to ensure dominance of some lifestyles over others. For example, recent anthropological research suggests that

> hallucinogenic drugs have historically played a major role in the transformation of adolescent boys and girls into fully participating members of adult society (Grob and Dobkin 1992, p. 122).

Certainly, in modern industrial societies, hallucinogenic drug use is prohibited and its function is replaced with more subtle ways of initiation, such as, for example, television, prescription drugs, or psychoanalysis. Modern expertise is presented in scientific terminology. Thus, contemporary youth is being initiated to accept such didactic devices in the interpretation of human consciousness that ensure advancement of ongoing research projects. As a consequence, the youth is encouraged in learning to see himself in relation to advanced computers. Emotional states and mental processes are explained in terms of computational psychology, which is not restricted to the formalist view of information processing

> which involves the serial application of explicitly stored formal-syntactic rules to explicit, and localizable, symbolic representations (Boden 1988, p. 251).

Instead, computational psychology benefits from connectionism. Margaret Boden (1988, p. 256) argues that connectionist systems satisfy the general criteria of computationalism, and therefore "connectionist models fall within the broad genre of computational psychology."

Among other research objectives, connectionist computer models also utilize Parallel Distributed Processing (PDP) in order to simulate (or replicate) language learning. Now, we must keep in mind that language is one of the three axes, along with meditation and faith, that is historically recognized as an aspect of consciousness. PDP attempts to solve the problem of missing semantics in artificial intelligence. In addition, connectionism also develops new theories of language learning for human beings. For example, English as a Second Language is taught in such a way that a student will have confidence to apply his or her language skills in a functional way, but the student does not have much knowledge about grammar, style, or rule awareness in the new language. Likewise, conceptual thinking in human beings appears to be decreasing, as we continue to build expert societies based on a functionalist approach. Instead, an individual learns to function well in a new environment within the given parameters of expected behavior, without really having the ability to understand the underlying structure for his performance. As a consequence, the youth's initiation into

consciousness does not have to take place as a private realization of self-awareness. Initiation in computational expert societies relates to the youth's ability of structural comprehension that can be utilized for new and advanced computational program designs.

The pursuit of autonomy in connectionism is sought in the development of semantic categories that allow us to simulate not only intentional features but also sensory features of mental states. In functionalist expert societies, these categories can be imposed on individual subjects for purposes of social regulation.

IV) Preparing self-awareness: The doctrine of vibration

In his seminal critique of the "qualia-debate," Dan Dennett (1988, pp. 42-77) recognizes four properties that are related to qualia: (1) ineffable, (2) intrinsic, (3) private, and (4) directly or immediately apprehensible in consciousness. These properties are valuable designators of our conscious states. However, I will argue that they cannot be attached to emotional, intellectual, or sensory states of information processing. It would resemble the fallacy of begging the question if we were to associate conscious states with this kind of processing, thereby reinforcing our chosen scientific methodology. Similarly, also Johnson-Laird (1988, p. 366) identifies self-awareness as depending on

> a recursive embedding of models containing tokens denotating the self so that the different embeddings are accessible in parallel to the operating system.

Contrary to these viewpoints I suggest to expand our understanding of consciousness and self-awareness by actually engaging in one of the many methodologies that are suggested in traditions outside the scientific paradigm in order to enable a scientist to anticipate additional categories of discourse.

The first axis of consciousness (see table 1) relates to an individual's ability to experience self-awareness that is free of thought constructs. As a representative example for this aspect of consciousness, I have selected The Doctrine of Vibration as it is taught and perceived in Kashmir Shaivism. This doctrine stresses the importance of experiencing the vibration or pulse of consciousness.

> Every activity in the universe, as well as every perception, motion, sensation or emotion in the microcosm, ebbs and flows as part of the universal rhythm of the one reality, which is *Siva*, the one God Who is the pure conscious agent and perceiver. According to the Doctrine of Vibration, man can realize his true nature to be *Siva* by experiencing *Spanda*, the dynamic, recurrent and creative activity of the absolute (Dyczkowski 1987, p. 21).
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> *Spanda* is the spontaneous and recurrent pulsation of the absolute, objectively manifest as the rhythm of the arising and subsidence of every detail of the cosmic picture that appears within its infinite expanse. At the same time, *Spanda* is the inner universal vibration of consciousness as its pure

perceptivity which constitutes equally its cognizing subjectivity and agency. Common to all these systems is this liberating insight into the nature of the outer recurrence of reality through its manifest forms as an expression of its inner freedom and inherent power. It is for this reason that it is possible to move from the world of discourse of one system to that of another to form a single universe of expression (Dyczkowski 1987, p. 24).

It would be a meaningless task for a scientist to associate qualia with *Spanda*. Nevertheless, I believe that an individual's cultivation of reflective awareness that is free from thought constructs is a beneficial practice for such scientists that are interested in the study of human consciousness. A premature fixation on the second and third axis of consciousness (see table 1) will separate a scientist from empirical data related to the intersubjective experience of one's existence that is outside the realm of language, emotion, or sensory perception. It is this understanding of self- identity that will enable a scientist to conceive of additional categories in the study of consciousness. The transition from a purely functional interpretation of consciousness that is limited to scientific methodologies towards an experiential interpretation of consciousness that will enhance the design of advanced methodologies is a necessary step for a successful theory of consciousness. The traditional "neutral-observer-model" in science may not hold as an appropriate tool for consciousness research. The dissociation from one's own conscious states in subject-object relations cannot implement the required self-referential qualities that are constituents of conscious agents. Here, a transition from subject-object relations to subject-agent relations (as indicated in table 2) is a necessary step that follows the requirements of a limited scientific paradigm. In other words, consciousness research will automatically use other individuals as subjects for the collection of research data. This in return already reinforces a limited view on consciousness, since an individual subject has been reduced to an object. In The Doctrine of Vibration, cognizing subjectivity is coupled with agency, but agency does not restrict itself to methodological demands. Self-identity is neither understood as an impersonal '*atman*' nor as a Superego, but rather as one's own being.

> *The soul's inherent and authentic attribute is cognizing subjectivity coupled with agency.* Yet although it is thus both the agent and knower, the soul is nowhere identified with an ego-consciousness even though it is said to be a state of pure perceiving subjectivity. In this way the soul is not confused with the individual subject set in opposition to its object (Dyczkowski 1987, p. 27, italics mine).

V) Conclusion

I consider the pursuit of autonomy to be a necessary quality of conscious systems - whether artificial or human. Computer technology has enabled scientists to design powerful devices capable of simulating "conscious" behavior. Cognitive scientists claim that artificial intelligence is by no means a *simulation* of consciousness, but is actually synonymous to the performance of human systems. Phenomenologists and related philosophers maintain that this

claim is premature until clear definitions for and reproductions of *intentionality*, *introspection*, *motivation*, *intuition*, etc., can be demonstrated in artificial systems. These demands are in return researched in computational psychology and connectionism, in order to develop a terminology that brings artificial systems closer to the neurophysiological processes of the human brain. A complete rational analysis of conscious systems will give the scientific expert two significant keys: (1) the production of advanced AI-systems, programmed to perform specific tasks with a precision and excellence that surpasses human labor, and (2) the possibility to painlessly override such neuro-transmitters in human systems that are normally self-activated for purposes of self-awareness. Scientists inspired by these prospects have chosen from a spectrum of priorities for the application of their consciousness such applications that lead to hierarchical individualism, in full realization that any political management of social control will use this knowledge for strategic eugenics.

I have argued that a utilization of consciousness that is free of thought constructs might lead an individual to a state of awareness that will allow him or her to achieve cosmic self-awareness. Such a realization will provide a stimulating challenge for the political systems to come, and I believe that it will be a further step in the development of humane societies.

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