

Title: DISCRETE STATES OF CONSCIOUSNESS

Author: Charles T. Tart, Ph.D.
Associate Professor of Psychology,
University of California at Davis,
and
Director, Institute for the Study of
Human Consciousness, San Francisco

Presented at: American Association for the Advancement
of Science, 140th Meeting,
San Francisco

Time: Morning, Feb. 26, 1974

Place: Sheraton Palace Hotel

Program: AAAS Section of Biological Sciences,
The Psychology of Consciousness

Convention address: Berkeley, 526-2591

Distribution: Direct mail to colleagues

© 1974 by Charles T. Tart

Note: Only copies of the summary are available at the time of the meeting. A full copy of the paper may be obtained by sending a reprint request to the author, c/o Psychology Department, University of California, Davis, Ca. 95616.

OUTLINE

Introduction

Ordinary Consciousness is a Construction

Attention/Awareness

Structure

Interaction of Structure with Attention/Awareness

Interaction of Structures with Structures

Developmental Construction of Ordinary Consciousness

The Spectrum of Human Potentialities

The Spectrum of Experiential Potentialities

Discrete States of Consciousness

Terminological Problems

Mapping Experience

Discreteness of States of Consciousness

Stabilization of a Discrete State of Consciousness

Subsystems Comprising Discrete States of Consciousness

Predictive Capabilities of the Theory

Individual Differences

Induction of a Discrete Altered State of Consciousness

Induction Operations

Induction Steps

Falling Asleep

Methodological Hazards of Operationalism

The Use of Drugs to Induce Discrete Altered States of Consciousness

Non-Drug Factors

Physiological and Psychological Effects

Major Psychedelic Drugs

Observation of Internal States

Discrete States of Consciousness and Identity States

Ultra-Complex Subsystems and Systems

Stability and Growth

Strategies in Studying Discrete States of Consciousness

Methodological Consequences of the Theory

State-Specific Sciences

Summary

SUMMARY

This paper presents a theoretical framework for understanding some aspects of human consciousness, particularly the areas called states of consciousness and altered states of consciousness. The theory casts light on a variety of areas, such as psychedelic drug use, which are not being treated well by conventional approaches.

We begin by noting that our ordinary state of consciousness is not something natural or just given but a highly complex construction, a specialized tool for coping with the environment and others, a tool that is useful for some things but not very useful for others. Sixteen basic theoretical postulates, based on human experience, cover the materials from which a state of consciousness is constructed.

The basic postulates start our theorizing with the existence of a basic awareness, and a more refined awareness of being aware, self-awareness. Because some volitional control of the focus of awareness is possible, it is referred to as attention/awareness.

Further basic postulates deal with structures, those relatively permanent structures/functions/subsystems of the mind/brain which act on information to transform it in various ways. Arithmetical skills, e.g., constitute a (set of related) structure(s). The structures of particular interest to us are those which require some amount of attention/awareness to activate them. Attention/awareness acts like a psychological energy in this sense. Most systems for controlling the mind come down to ways of deploying attention/awareness energy so as to activate desirable structures (traits, skills, attitudes, etc.) and deactivate undesirable structures.

Psychological structures have individual characteristics which limit and shape the ways in which they can interact with one another. Thus in

considering systems built of psychological structures, the possibilities of the system are shaped and limited by both the deployment of attention/awareness energy and the characteristics of the structures comprising the system. The human biocomputer, in other words, has a large, but limited number of possible modes of functioning.

Because we are born as human beings, creatures with a certain kind of body and nervous system operating on spaceship earth, a very large number of human potentialities are in principle available to us. But we are born into a particular culture which selects and develops a small number of these potentialities, actively rejects others, and is ignorant of most. The small number of experiential potentialities selected by our culture, plus some random factors, constitute the structural elements from which our ordinary state of consciousness is constructed. We are at once the beneficiaries and the victims of our culture's selectivity. The possibility of tapping and developing latent potentials outside the cultural norm by going into an altered state of consciousness, by temporarily restructuring our consciousness, is the basis of the great interest in this area.

The terms state of consciousness and altered state of consciousness have been used, too loosely, to mean whatever is on one's mind at the moment. The new term discrete state of consciousness (d-SoC) is proposed for scientific use. A d-SoC is a unique, dynamic pattern or configuration of psychological structures, a d-SoC is an active system of psychological subsystems. Although the component structures/subsystems show variation within a d-SoC, the overall pattern, the overall system properties remain recognizably the same. In spite of subsystem variation and environmental variation, a d-SoC is stabilized by a number of processes so it retains its identity and function. By analogy, an automobile remains an automobile whether on a road or in a

garage (environment change), whether you change the brand of spark plugs or the color of the seat covers (internal variation).

Examples of d-SoCs are our ordinary waking state, non-dreaming sleep, dreaming sleep, hypnosis, alcohol intoxication, marijuana intoxication, and some meditative states.

A discrete altered state of consciousness (d-ASC) refers to a different d-SoC than some baseline state of consciousness. Usually our ordinary state is taken as the baseline state.

A d-SoC is stabilized by four kinds of processes: (1) loading stabilization, keeping attention/awareness energy deployed in habitual, desired structures by loading the person's system heavily with appropriate tasks; (2) negative feedback stabilization, actively correcting the functioning of erring structures/subsystems when they deviate too far from the normative range that insures stability; (3) positive feedback stabilization, providing rewarding experiences when structures/subsystems are functioning within desired limits; and (4) spoilage stabilization, spoiling the ability to function of structures/subsystems whose operation would destabilize the system.

In terms of current psychological knowledge, ten major subsystems (collections of related structures) which show important variations over known d-ASCs need to be distinguished, viz: (1) Exteroceptors (sense organs for sensing the external environment); (2) Interoceptors (senses for knowing what our bodies are feeling and doing); (3) Input Processing (automated selecting and abstracting of sensory input so we perceive only what's "important" by personal and cultural, consensus reality standards); (4) Memory; (5) Sub-conscious (the classical Freudian unconscious plus many other psychological processes going on outside of our ordinary d-SoC, but which may become directly conscious in various d-ASCs); (6) Emotions; (7) Evaluation and Decision Making (our cognitive, evaluating skills and habits); (8) Time Sense (the construction

of psychological time and the placing of events within it); (9) Sense of Identity (the quality added to experience that makes it my experience instead of "just" information); and (10) Motor Output (muscular and glandular outputs to the external world and the body). These named subsystems are not any sort of ultimates, but convenient categories to organize current knowledge.

Our current knowledge of human consciousness and d-SoCs is highly fragmented and chaotic. The main purpose of the proposed theory is organizational, as it collects and relates many formerly disparate bits of data, as well as having numerous methodological implications for guiding future research. It makes the general prediction that the number of stable d-SoCs available to humans is definitely limited (although we have not come anywhere near understanding those limits). It further provides a paradigm for making more specific predictions which will sharpen our knowledge about the structures and subsystems that make up human consciousness.

The theory stresses the importance of studying d-SoCs in individuals because of enormously important individual differences. If we map the experiential space two people function in, one may show two discrete, separated clusters of experiential functioning, two d-SoCs, while the other may show continuous functioning throughout both regions and the connecting regions of experiential space. The first must make a special effort to transit from one region of experiential space, one d-SoC, to the other, the second makes no such effort and does not experience the contrast of pattern and structure differences associated with the two regions, the two d-SoCs. So what is a "special" state of consciousness for one person may be an everyday experience for another. Great experimental confusion results if we do not watch for these differences. Unfortunately, many widely-used experimental procedures are not sensitive to these important individual differences.

Induction of a d-ASC involves two basic operations which, if successful, lead to the d-ASC from the baseline state. First we apply disrupting forces to the baseline state, psychological or physiological or drug actions which disrupt the stabilization processes discussed above, either by interfering with them or by withdrawing attention/awareness energy from them. Because a d-SoC is a very complex system, with multiple stabilization processes operating simultaneously, induction may not work. A psychedelic drug, e.g., may not make a person enter a d-ASC because psychological stabilization processes hold the baseline state stable in spite of the disrupting action of the drug on a physiological level.

If induction is proceeding successfully, the disrupting forces push various structures/subsystems to their limits of stable functioning and then beyond, destroying the integrity of the system, disrupting the baseline d-SoC. Now patterning forces are applied during this transitional, disorganized period, psychological or physiological or drug actions which pattern structures/subsystems into a new system, the desired d-ASC. The new system, the d-ASC must develop its own stabilization processes if it is to last.

Deinduction, return to the baseline d-SoC, is the same process as induction. The d-ASC is disrupted, a transitional period occurs, the baseline d-SoC is reconstructed by patterning forces.

Psychedelic drugs like marijuana or LSD do not have invariant psychological effects, even though much misguided research assumes they do. Within the context of the present theory, such drugs are seen as disrupting and patterning forces whose effects take place in addition to other psychological factors, all mediated by the operating d-SoC. Consider the so-called "reverse tolerance effect" with marijuana, where new users consume very large quantities of the drug at first with no feeling of being "stoned", in a d-ASC, then start using much smaller quantities regularly to get into the d-ASC of being stoned. It is not paradoxical in this framework, even though it is paradoxical from the

standard pharmacological approach. The physiological action of the marijuana is not sufficient to disrupt the ordinary d-SoC until additional psychological factors also disrupt enough of the stabilization processes of the baseline d-SoC to allow transition to the d-ASC. These additional psychological forces are usually "a little help from my friends", the instructions for deployment of attention/awareness energy given by experienced users who know what functioning in the d-ASC of marijuana intoxication is like. These instructions also serve as patterning forces to shape the pattern of the d-ASC, to teach the new user how to use the physiological effects of the drug to form a new system of consciousness.

Methodological problems in research are discussed from the point of view of this theory, such as the way in which experiential observations of consciousness and transitions from one d-SoC to another are made, and shifts in research strategies that this theory calls for. The theoretical framework can be applied within our ordinary d-SoC to deal with identity states, those rapid shifts in the central core of our identity and concerns which we overlook for many reasons, such as unacceptability of contradictions in ourselves, but which negatively influence so much of our daily life. Similarly the theoretical framework indicates that latent human potentialities may be developable and usable in various d-ASCs, so that learning to shift into the d-ASC appropriate for dealing with a particular problem may be seen as psychological growth. At the opposite extreme, certain kinds of psychopathology, such as multiple personality, can be treated as d-ASCs.

One of the most important consequences of the theory is the deduction that we need to develop state-specific sciences. Insofar as any particular d-SoC, whether a culture calls it "normal" or not, is a semi-arbitrary way of structuring consciousness, a way that loses some human potentials while

developing others, then the sciences we have developed are one state of consciousness sciences. They are limited in some important ways. Our sciences have been very successful in dealing with the physical world, but not very successful in dealing with particularly human problems, psychological problems. If we applied scientific method to developing sciences within various d-ASCs, we would have sciences based on radically different perceptions, logics, communications, and so gain new views complementary to our current ones.

The search for new views, new ways of coping, through the experience of d-ASCs is hardly limited to science: it is a major basis for our culture's romance with drugs, meditation, Eastern religions, and the like. But infatuation with a new view, a new d-SoC, tends to make us forget that any d-SoC is a limited construction, there is a price to be paid for everything we get. It is vital for us to develop sciences of this powerful, life-changing area of d-ASCs if we are to optimize benefits from people's growing use of them and avoid the dangers of ignorant or superstitious tampering with the basic structure of our consciousness.