ON THE USES OF COMPUTER-GENERATED REALITIES: A RESPONSE TO BEGELMAN

Charles T. Tart, Ph.D.

Charles T. Tart, Ph.D., is a Professor of Psychology at the Davis Campus of the University of California and a Senior Research Associate of the Institute of Noetic Sciences in Sausalito, California.

For reprints write Charles T. Tart, Ph.D., Psychology, University of California at Davis, Davis, California 95616.

I am pleased that my article on the World Simulation Process and the implications and potential applications of computer-generated virtual reality (CGVR) has stimulated thoughtful reflection, such as that expressed in Begelman's letter. Technological progress in VR development has been much faster than I anticipated in the article (Tart, 1990) published only last year, so the sooner we think about potential uses and abuses of this major new technology, the better.

Begelman raises issues in three main areas: (1) the philosophical implications and bases of my paper; (2) applicability of the World Simulation Process model to ordinary people and patients; and (3) potential clinical applications of CGVR. The philosophical issues seem to be Begelman's main interest.

(1) With regard to the philosophical bases of my paper, Begelman attributes an absolutist Kantian or identity theorist position to me (saying "...he believes it.") that I do not hold. To do this, he badly distorts what I actually said and sets up a straw man in my place, for reasons unclear to me.

As the basis for his discussion, Begel ran quotes from my paper that:

> The accepted modern understanding...indicates that we do not experience the outer world directly, but indirectly. (Tart, 1990, p. 227)

His ellipses leave out my immediate, parenthetical qualify

"(which I think is actually incomplete in important ways, but that is not germane to our discussion here - see [Tart, 1990a])." Perusal of the reference cited would have further shown that I believe the "widely accepted psychoneural identity hypothesis" I noted is just that: widely accepted, both explicitly and implicitly, in the scientific, psychological, and psychiatric, if not the philosophical communities, but not necessarily true.

It is fine with me if Begelman wants to discuss Kantian views or the psychoneural identity hypothesis, but there is no need to misrepresent my views of the issue in order to do so. It is ironic, considering I suspect that my actual views may be closer to Begelman's than those he attributes to me.

I did not elaborate on my position in the paper since I felt *it unnecessary* to do so in a context that primarily stressed potential investigative and clinical applications. For those curious regarding my current position (subject to change, of course, if new data come in), it is that an *empirically testable dualism* makes the most sense of our total, contemporary knowledge about the functioning of the mind. I believe that the psychoneural identity hypothesis is useful but seriously limited in its applicability, because it cannot account for important, empirically observable facts. That is, consciousness, as we ordinarily experience it, involves *a systems emergent, a* qualitatively unique outcome of the interaction of both a "nonphysical" someth ingwhich words like "mind"or "spirit" gropingly refer to, *intensively interacting with.* the physical, electrochemical processes of body, brain, and nervous system. The interested reader can see the Tart, 1990a reference for a formal exposition of this approach. Computer-generated *VR is a* useful *model* (not a well-articulated theory yet) for this interactive dualism approach, for the interactive *combination* of person (analogous to mind) interacting with CGVR (analogous to body, brain, and nervous system) shows emergent properties and has experiences not obvious from knowledge of either system alone.

(2) With regard to the use *of* the World Simulation Process model for ordinary persons and patients: *certainly we* arc in relatively good touch with many aspects of everyday physical reality the vast majority of the time. Otherwise, we should all be run over by cars or otherwise dead. But as any good observer of humans, as well as clinicians, can see, individuals can have beliefs about the world and others in it that may be markedly at variance with the "common sense" or physically instrumented view of what is happening. Not that the common sense view is always accurate, of course. Further, numerous psychological studies have shown in detail that we often do not experience the world as having certain characteristics which we then consciously and deliberately *interpret* in the light of conscious belief systems. Rather, we *see,* we automatically perceive the world as corresponding to our (often implicit) belief systems. Any introductory psychology text will provide numerous illustrations of this, in other sensory modalities as well as the visual one.

Many paranoids (and we "normals"), for example, will, at least some of the time, "see" suspicious facial expressions of others or the like, expressions involving perceived "physical" components that a camera would not show. The World Simulation Process approach, with its CGVR analog, is a novel

216

and stimulating way of conceptualizing how automated, usually unconscious interpretive processes often intervene between the physical stimulation of sensory receptors and the final conscious experience. As Begelman quotes me, "Although these neural events..." (at the receptors) "are initially related to external world events, this relationship may be greatly altered by the time we deal with the final neural events comprising consciousness " (Tart, 1990h, p. 227).

Thus much that is taken as simple "perception" is indeed construction and interpretation of the neural signals originating at sensory receptors, mistakenly experienced as an automatic, seamless process of apparent simple perception of the physical world. It is an important, indeed vital, task of philosophy, psychology, psychotherapy, personal growth, and sonic meditative disciplines to break down this automatized process, so we can observe the differences between what we actually sense of the physical world around us (within the physical limits of our receptors) and the automatized interpretations presented as apparent simple perceptions that we normally experience. This is the practical and clinical application of the World Simulation Process approach, regardless ofitsultimate philosophical assumptions or implications.

(3) As to potential applications of CG1R, my first example with a paranoid patient was intended to be provocative, as CGVR will be a very powerful technology which, if misapplied, could indeed worsen psychopathology. Further, I am not a practicing psychotherapist myself, so I hope to stimulate skilled clinicians to propose dozens of ways to use the GGlR technology more usefully and effectively than those 1 suggested.

As to the accuracy of any CGVR simulation of a person's experienced reality, Begelman misses an important point of my paper, although he quotes my question, "Can you now understand your client's reality better?" An individual patient, whether paranoid or suffering from many other kinds of psychopathology, who is reasonably cooperative and intelligent, could tell the therapist, "No, your idea of my experience in CGVR is all wrong, you don't understand me!" and then go on to the more important step of suggesting just how the CGVR simulation could be reprogrammed until a good experiential fit is obtained. Then we will have a therapist and/or researcher who will have a better understanding of the individual clients' experiential world. ■

REFERENCES

Begelman, I).A. (1991). Virtual realities and virtual mistakes: A comment on Tart. *DISSOCIATION* IV, 214 - 215.

Tart, C.T. (1990a). Psi-meditated emergent. interactionisrn and the nature of consciousness. In R. Kunzendorf & A. Sheikh (Eds.) *The Psychophysiology of Menial Imagery: Theory, Research, and Application,* pp. 37-63. Amityville, New York: Baywood.

Tart, C.T. (1990b). Multiple personality, altered states, and virtual reality: The world simulation process approach. *DISSOGIATION* III, 222-233.