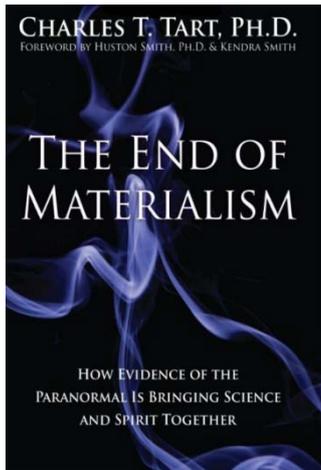


BOOK REVIEW



Charles T. Tart

*The End of Materialism:
How Evidence of the Paranormal is Bringing
Science and Spirit Together* ✦

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Review by Ulrich Mohrhoff

In his latest book, *The End of Materialism*, one of the founders of transpersonal psychology looks at research findings “about most major parapsychological phenomena and some less-researched but farther-out phenomena” (p. 6) — research to which he has made significant contributions. His verdict: “the implications of the most rigorous kind of research in scientific parapsychology show that we humans have qualities that open to a reality of the spiritual” (*ibid.*).

The End of Materialism was written “to help those who've experienced conflicts between their spiritual and scientific sides” — to show that “we can be both scientific and spiritual, and not have to artificially separate the two” (*ibid.*): “you can be scientifically oriented and yet seek and value personal spiritual experience and growth without the doubt and conflict generated by regarding yourself as ‘irrational,’ ‘unscientific,’ or ‘crazy’” (p. 8).

This book is not a scientific book per se, as are most of my earlier books and articles.... Nor is it a spiritual book per se; I'm not a natural inspired by deep experiences. This book is a product of seventy years of my full humanity and complexity: scientific, humanistic, spiritual, skeptical but open — and personal, when that helps illustrate points. What's worked for me is certainly not "The Way," but the conflicts I've experienced and the insights I've had are those of many others, so they can help some people, and are worth sharing. (p. 6)

In the early 1980s Tart designed an experiential exercise for his classes and workshops. Dubbed the Western Creed, it was intended “to sensitize spiritual seekers to some of the major cultural attitudes and obstacles we moderns share in our search” (p. 23). To do this exercise, you read out to yourself the following text, without intellectually

analyzing it, pausing a few seconds at each dash to take note of your bodily and emotional reactions.

THE WESTERN CREED (p. 28)

I BELIEVE — in the material universe — as the only and ultimate reality — a universe controlled by fixed physical laws — and blind chance.

I AFFIRM — that the universe has no creator — no objective purpose — and no objective meaning or destiny.

I MAINTAIN — that all ideas about God or gods — enlightened beings — prophets and saviors — or other nonphysical beings or forces are superstitions and delusions —. Life and consciousness are totally identical to physical processes — and arose from chance interactions of blind physical forces —. Like the rest of life — my life — and my consciousness — have no objective purpose — meaning — or destiny.

I BELIEVE — that all judgments, values, and moralities — whether my own or others' — are subjective — arising solely from biological determinants — personal history — and chance —. Free will is an illusion —. Therefore, the most rational values I can personally live by — must be based on the knowledge that for me — what pleases me is good — what pains me is bad —. Those who please me or help me avoid pain — are my friends — those who pain me or keep me from my pleasure are my enemies —. Rationality requires that friends and enemies — be used in ways that maximize my pleasure — and minimize my pain.

I AFFIRM — that churches have no real use other than social support — that there are no objective sins to commit or be forgiven for — that there is no divine retribution for sin — or reward for virtue —. Virtue for me is getting what I want — without being caught and punished by others.

I MAINTAIN — that the death of the body — is the death of the mind —. There is no afterlife — and all hope of such is nonsense.

Tart writes that “[a] rather small number of people, maybe 5 percent or less, report ... that they really enjoyed the creed, that it gave them a feeling of great relief!” (p. 29)

Since there were no moral or spiritual standards they had to live up to, they were free of the guilt of not measuring up! I suspect that at least some of these people may have been too thoroughly indoctrinated in the "You're a miserable sinner who has to try to be good but will never make it, because you're too flawed and weak, so you're going to hell!" style of religion. Materialism, a total rejection of all spiritual ideas, would indeed seem to be a relief and an intelligent psychological defense maneuver in such cases.... Better oblivion than eternal damnation; better meaninglessness than hopeless sin and failure. (pp. 29–31)

It is sad to learn that in this day and age there are still people who find relief in such a creed. Nonetheless, before celebrating the end of materialism, an acknowledgment of its service to humanity might be in order. As Sri Aurobindo wrote in his magnum opus *The Life Divine* (Sri Aurobindo Ashram Trust, Pondicherry, 2005, pp. 12–13, ↗),

it is well that we should recognise the enormous, the indispensable utility of the very brief period of rationalistic Materialism through which humanity has been passing. For that vast field of evidence and experience which now begins to reopen its gates to us, can only be safely entered when the intellect has been severely trained to a clear austerity; seized on by unripe minds, it lends itself to the most perilous distortions and misleading imaginations and actually in the past encrusted a real nucleus of truth with such an accretion of perverting superstitions and irrationalising dogmas that all advance in true knowledge was rendered impossible. It became necessary for a time to make a clean sweep at once of the truth and its disguise in order that the road might be clear for a new departure and a surer advance. The rationalistic tendency of Materialism has done mankind this great service.

The vast majority of people, though, react to the Western Creed experiment with sadness. Typical responses are: "By the end, I found myself wondering, if people really believe this way, why do they stay alive?," "I'd just rather not be a part of this reality," "I have a sunken feeling in my stomach," "I feel very unmotivated," "I feel very selfish." In addition, people are often shocked to see that, while they consciously think of themselves as spiritual, parts of them still believe much of the Western Creed.

As a matter of fact, I find myself in agreement with one particular item of this creed (without being shocked), viz., the affirmation "that there are no objective sins to commit or be forgiven for — that there is no divine retribution for sin — or reward for virtue." To my mind, the concepts of sin, divine retribution, and reward for virtue form very much part of the "perverting superstitions and irrationalising dogmas" mentioned by Sri Aurobindo.

Tart wonders if by "applying essential scientific method to the phenomena of religion and spirituality" it might be possible to separate "any real and important essence of spirituality from the superstitions and distortions of the ages" (p. 36):

Could we thus create a refined spirituality and religion that would continue to give us a basis for human values, while leaving the superstitions, outmoded ideas, and psychopathologies behind? (*ibid.*)

As Tart is of course well aware, the trouble with science is that it "is practiced by human beings, beings who, like the rest of us, are fallible" (*ibid.*).

As I've observed it in my career, and as I think psychologist Abraham Maslow would have agreed, science can be practiced in a way that makes it an open-ended, personal-growth system for the practitioner or one of the most effective and prestigious neurotic defense mechanisms available. (p. 12)

This is how Maslow himself put it (as quoted by Tart, p. 54):

Science, then, can be a defense. It can be primarily a safety philosophy, a security system, a complicated way of avoiding anxiety and upsetting problems. In the extreme instance it can be a way of avoiding life, a kind of self-cloistering. It can become in the hands of some people, at least, a social institution with primarily defensive, conserving functions, ordering and stabilizing rather than discovering and renewing. (*The Psychology of Science*, Harper & Row, New York, 1966, p. 33)

Tart supplements Maslow's insight with his own observation that the same is true for spiritual systems:

They can be open-ended, error-correcting growth systems, opening new, vital knowledge and compassion for self and others, or they can be used as neurotic defense mechanisms, protecting users from real spiritual growth while allowing them to feel superior to ordinary people and "spiritual" at the same time. (p. 55)

Tart is equally aware that "the most essential aspect of science (as opposed to scientism)," its "insistence on *direct experience* — on *observation, data, and facts* — as having the ultimate priority in understanding, even though supplemented and interpreted by reason" (p. 42) does not guarantee the truth of its findings:

How do you tell who are the reliable observers and who aren't? How do you separate the facts, the data, from interpretations that are reported as if *they* were the data? (p. 45)

Tart nevertheless believes in a self-correcting mechanism that is built into science itself:

This is where the social nature of knowledge refinement, of essential science and common sense, come in... You discipline yourself to have full and honest communication about each step of the process with peers, people who are also knowledgeable about and interested in the same areas that you are. You tell them exactly what you observed under what conditions, you share the steps of the reasoning that led to your theory and its logical structure, and you reveal what predictions your theory makes and how well these predictions are or aren't supported by new observations of data. As a reward for your sharing, your peers' observational and reasoning abilities supplement and extend your own. Yes, they may be biased in some ways also, but it's unlikely that (in the long run) they'll all have exactly the same biases you do, so some will see things you might miss. (p. 49)

This may be sufficient to reach agreement among people who are knowledgeable about the same area that you are, but it ignores the possibility that people who are knowledgeable about a different area reach, by the same mechanism, conclusions that are pertinent to both areas yet in conflict with your own conclusions. As was stressed not least by Michael Polanyi (*Personal Knowledge*, see excerpts in this issue of *AntiMatters* ♠), there is also the very real possibility that a group of people with *nearly* the same biases may *reinforce* their "common denominator bias" and only mutually correct divergences from their common denominator.

Even as he affirms that the social, interactive aspects of science make it "much more powerful [than it would be without them] and, in the long run, self-correcting of errors" (p. 50), Tart recognizes that the long run

can sometimes be very long — dozens or hundreds of years — when implicit, deep-seated attitudes affect the thinking and work of most scientists, as they often do. (pp. 50–51)

If the self-correcting mechanism of science acts that tardily, then I'm afraid we may reach the end not only of materialism but of science itself before the necessary corrections take place. Tart fails to take account of another very real possibility, viz., the possibility that the rational, scientific manner of dealing with reality may be superseded by the evolution of a more direct, suprarational way of knowing and acting

— see “Evolution of Consciousness according to Jean Gebser” in *AntiMatters* 2 (3) 2008 ↗.

As if to undermine his own optimism with regard to the possibilities of science, Tart proceeds to take a look “at some of the ways people use knowledge tools to actually avoid learning new things or getting better understandings of old things” (p. 54).

The proper understanding and functioning of skepticism is greatly confused ... by the existence and activities of numerous *pseudoskeptics*, people who claim to be skeptics — people interested in getting at the truth while doubting that current explanations are adequate — but who are really adherents to and advocates of some other belief that, they believe, already has all the necessary truth. Such pseudoskeptics call themselves skeptics because of the high prestige of that term, rather than more accurately labeling themselves as, say, “believers in System M” who don't like the facts or ideas you're talking about and want to discredit you to defend System M. They're debunkers, missionaries, advocates. *Believers*, however, isn't a high-status word in intellectual circles, so they prefer to call themselves skeptics....

The typical pseudoskeptic will argue that your parapsychological results must be wrong and the result of sloppy experiments, wishful misinterpretations, or downright dishonesty by your subjects or even by you, because what you're claiming is *scientifically impossible*. The pseudoskeptic thus casts himself as not only a seeker of truth but also an expert in the relevant scientific disciplines for judging your work. (pp. 64–65)

As one of the early psychic researchers, the distinguished English philosopher Henry Sidgwick, noted,

We have done all we can when the critic has nothing left to allege except that the investigator is in [on] the trick. But when he has nothing else left to allege, he will allege that. (p. 65)

Tart takes it as a compliment to his experimental designs when the pseudocritics end up claiming that he must be incompetent or that he or his subjects must have cheated. In the fifty years he has been studying and working in the field of parapsychology,

there have been lots of attacks on it from pseudoskeptics. These debunkers are sometimes high-status scientists in other fields, but they don't bother to actually read the published reports of the experiments in parapsychology's refereed scientific journals, much less get their hands dirty by doing any experiments themselves. Indeed, I can think of only one longtime pseudoskeptic who has shown some knowledge in demonstrating he has actually read many of the reported studies, and too many colleagues have told me about times they got him to admit in public debate that he was wrong about some point, only to find him making the same point in his next public talk or article. (p. 67)

The following throws a revealing sidelight on the social dynamics of prejudice against open investigation of the paranormal:

My grant application was turned down by a major scientific-funding organization. It was their practice to include the comments their anonymous referees had made in evaluating each submission. All the comments on mine were negative and, to my mind, prejudiced and shallow. Months later I met a prominent psychologist at a national convention, who asked me how my grant application had gone; he'd really liked the

proposal. I had no idea he even knew I'd made such an application. It turned out that he'd been one of the referees and that his response had been enthusiastic but had disappeared from the reviews by the time they were sent me. (pp. 107-108)

In his discussion of the more pleasant aspects of parapsychological research, Tart pays particular attention to the phenomenon of precognition. One of the most impressive overviews of precognitive studies ever carried out was published by parapsychologist Charles Honorton and psychologist Diane Ferrari. They carried out what has now become a sophisticated way of assessing bodies of research literature on any phenomenon, a meta-analysis.

Honorton and Ferrari looked at all the multiple-choice-type precognition studies published from 1935, when the methods for testing precognition were just evolving, through 1987. (The studies of precognition in the twenty years since their analysis strengthen and extend their conclusions.) In the English-language scientific literature, they were able to find 309 separate studies, reported on in 113 articles.... The combined results of the studies produced odds against chance of 10 septillion to 1. What's a septillion? It's 10 with 24 zeros after it. To put it more simply, it's preposterous to believe that these cumulated precognition results were due to chance! (pp. 132-133)

One of the common arguments for rejecting evidence for psi phenomena is the so-called file-drawer problem. Studies that have yielded no interesting results are often not even submitted for publication; they just stay in a file drawer.

Honorton and Ferrari tested how many unsuccessful, unpublished precognition studies there would need to be to bring the cumulative results of the published precognition studies back down to chance results. They estimated it would take 14,268 studies to do so. Given that there have never been more than a few people at a time working in experimental parapsychology, there's no way there could've been so many unsuccessful studies carried out. (p. 134)

It used to be common practice in many ESP studies not directly concerned with precognition to score results for possible precognition. This scoring was done simply by examining the correlations between the responses in a series of tests and the respective targets of the *next* test. Instead of comparing target *k* with response *k*, where *k*=1,2,3... numbers the tests in the series, one compared the later target *k*+1 with the earlier response *k*. Tart did this kind of analysis, and it was a real shock for him to discover that there were massive amounts of precognition in his own laboratory data.

And just to challenge my mind further, the massive precognition in my study was in the form of *psi-missing*, or scoring way *below* what would occur by chance. The higher a percipient's score on the real-time, present-time target she was intending to correctly call, the more she missed the plus-one target, the target just ahead in the future. (p. 137)

Many experiments have been done in which students instructed to be percipients were first given a questionnaire asking about their belief in ESP. This made it possible to divide them into *sheep*, the ones who believed in ESP, and *goats*, the ones who didn't. Often the overall score wasn't significantly different from chance, but if the sheep and the goats were scored separately, an interesting pattern emerged.

The sheep, the ones who believed in ESP, scored above chance, often significantly so, all on their own. The goats, those who disbelieved in ESP, scored below chance, also often

significantly so, on their own, and the difference between the sheep's and goats' scores was significant....

Think now: how can you score significantly below chance? I've been able to think of only one way to do this and never heard anyone propose any other way. Most of the time you may be just guessing, but once in a while you, or rather some unconscious part of you, have to use ESP to correctly identify the target and then influence your conscious mind to call anything but the correct target. It's as if your subconscious, for example, uses ESP to know the target's a five this time and then influences you to call any number but five.

Psi-missing always amazes me when I think about it. I know that in ordinary psychological functioning, we often show distorted perceptions and thoughts that uphold our beliefs and prejudices. Here, in extraordinary functioning, or psychic functioning, the mind unconsciously manifests a "miracle," ESP, to support its belief that there are no miracles and no ESP. (pp. 137–138)

Here is how Tart and his coexperimenters felt when they encountered evidence of psi-missing in the course of their experiments:

Time after time, as experimenter or sender, you'd turn on the randomly selected target so that the "ready" light came on in the middle of the percipient's console and, via closed-circuit television, you'd see the percipient immediately reach up and stop his hand right over the correct target. You'd immediately begin "mentally shouting" (no actual sounds were allowed, of course), "Push it, push it, push that button! You're right!" only to watch the percipient move his hand away to other targets, come back and hover over the correct target again and again, and then finally move his hand suddenly and push the wrong button!

All of us senders had fantasies about being able to administer electric shocks then! This would've been unethical under the social contract we had with our experimental percipients, but it was perfectly obvious that the percipient (or at least the percipient's hand) knew the correct target; how could he go and push the wrong button? (p. 107)

In an attempt to make sense of the existing body of positive precognition results, Tart proposes a process he calls *transtemporal inhibition*. He thinks of it as a temporal analog to the neurobiological process of *lateral inhibition*, by which an excited neuron or nerve cell reduces the activity of its neighbors. Lateral inhibition is what makes being poked with the tip of a pencil feel like being poked with the tip of a pencil, in spite of the fact that touch receptors on all sides of the pencil's tip are stimulated as well. In general it is a process that enhances boundaries — for instance, a boundary between differently lit or differently colored regions of the visual field.

It isn't quite correct, though, to think of the proposed process as a *temporal* counterpart to lateral inhibition, for the latter is known to enhance not only spatial boundaries but also temporal ones — for instance, the moment in time at which an area of the visual field lights up. A larger stumbling block for Tart's proposal is the lack of any underlying structure or process; nothing corresponding to the neurobiological structures and processes underlying lateral inhibition is known or even proposed. Nor is it clear why Tart chooses to dub his proposal *transtemporal inhibition*, given that lateral inhibition works in both the spatial and the temporal domain, and given that the existing body of positive remote viewing results is as unexplained as are the precognition results. If one

postulates, as he does, an aspect of mind that isn't "localized in the here and now" but, instead, is "more 'spread out' in space and time, so it's in contact with objects and processes that aren't here and now" (p. 145), then whatever it is that ordinarily keeps us "in the now" might as well be what ordinarily keeps us "in the here."

In fact, what Tart is proposing hardly differs from the "filter" theory of F.W.H. Myers. For Myers, our ordinary waking consciousness amounted to a relatively small selection of psychological elements and processes from a more extensive consciousness, the "subliminal self." William James, Myers's friend and colleague, also spoke variously of the brain as straining, sifting, canalizing, limiting, and individualizing the larger mental reality behind the surface. And Henri Bergson likewise suggested that the function of the nervous system was in the main eliminative; for him the problem was not how perception (and memory) arises, but how it became limited, in the case of individuals, to their own experience, and furthermore limited to their own experience in the here and now. Finally, in the very recent past, Kelly *et al.* (*Irreducible Mind: Toward a Psychology for the 21st Century*, Rowman & Littlefield, Lanham MD, 2006) — see the review in *AntiMatters* 1 (1) — once again proposed that we should be "thinking of the brain as an organ which somehow constrains, regulates, restricts, limits, and enables or permits expression of the mind in its full generality."

Having looked at the massive evidence for "the big five" — telepathy, clairvoyance, precognition, psychokinesis, and psychic healing — Tart shifts his theoretical focus to one of the less-researched and farther-out phenomena, the so-called "out-of-body" experiences (OBEs). Here his

"best guess" theory is that in some OBEs, the mind may, at least partially, really be "out," located elsewhere than the physical body and sensing (via some form of ESP) from this extra-bodily location. (p. 221)

The question that should have been addressed first is whether the mind is *normally* located at (or in) the physical body. Not that the necessary theoretical tools are missing from his investigation, though, for Tart finds it

useful to think of our ordinary consciousness as a process that creates an ongoing, dynamic *simulation* of reality, a world model, an inner theater of the mind, a *bio-psychological virtual reality* (BPVR) ... "in" which consciousness dwells. The most obvious example of this process is the nocturnal dream. There we live in an apparently complete, sensory world, set in dimensions of space and time, with actors and plots. Indeed, most of the brain mechanisms that construct that dreamworld are probably by and large the same mechanisms that construct our waking world... (p. 223)

Unfortunately Tart doesn't seem to use this insight to move sufficiently far away from naïve realism's ambit, for he regards the BPVR as "a complex construction" that is "strongly determined by the physical nature of our bodies and the world" (*ibid.*). One ought to keep in mind, especially when dealing with a subject as arcane as psi, that all we know about our bodies and the world belongs to our BPVR. What Xenophanes wrote in the 6th century BCE is as true today as it was then: "Even if a man were to represent to himself the world exactly as it is, he could not discover that this is the case." Before one could claim that our BPVR is "strongly determined by the physical nature of our

bodies and the world,” one would have to know the meaning of “the physical natures of our bodies and the world” qua *determinants*, rather than qua *features*, of our BPVR. Since we aren’t in possession of such knowledge, that claim lacks scientific cash value.

Tart acknowledges this by admitting that he doesn’t know what “ultimate reality” is:

we should first realize that the ordinary feeling that we're "in" our bodies (usually our heads) is a construction, a world simulation, that happens to be an optimal way to ensure survival most of the time, but that this construction isn't necessarily true in any ultimate sense. I don't know what ultimate reality is, but it's helpful to remember that, just as a person using a high-quality, computer-generated virtual reality simulator forgets where his physical body actually is and becomes experientially located "in" the computer-generated world, it might be that our "souls" are actually located somewhere else, but we're so immersed in the BPVR our brains generate that we think we're here in our bodies. This is a crazy idea, but it helps to remind us that the experience of where we are isn't a simple matter of just perceiving reality as it is. (p. 224)

The tautological (and hence vacuous) remark that that world simulation “happens to be an optimal way to ensure survival most of the time” must be seen for what it is: an uncalled-for nod to a scientific doctrine. It reveals the extent to which Tart remains committed to certain parts of the Western Creed. Apparently it was easier for psychologists and philosophers like Myers, James, and Bergson to resist the “fallacy of misplaced concreteness” with regard to conceptions of space and time, to use Whitehead’s felicitous phrase, than it is for contemporary psychologists and philosophers after another century of materialist indoctrination.

Tart’s idea isn’t crazy at all; it is crazy only in the context of the “consensus reality ... we ordinarily live in” (p. 223). However, it fails to take into account that the concept of “being located” may lose its meaning when separated from experiential space. It might be closer to the truth to view space, as Kant proposed, as being “located” within our minds, in which case our minds aren’t located at all (and thus cannot be “actually located somewhere else”).

Kant, in his turn, failed to take account of the possibility that the spatial aspect of the experiential world is dynamic rather than static, as Jean Gebser came to realize and stress ↗. For Gebser, the world’s dimensions emerge along with, and as characteristics of, emergent consciousness structures. Because our present, *mental* structure features 1+2 spatial dimensions (viewer-centered depth and lateral extent), we experience a world of three-dimensional objects *perspectively* — that is, from a specific location. The preceding, *mythical* structure was two-dimensional and *unperspectival* in the sense that it lacked spatial depth. The concept of matter — in the sense of a “stuff” that “occupies” space and is capable of existing by itself, out of relation to consciousness — became possible only with the advent of the mental structure. The newly emerging *integral* structure will perceive the world *aperspectively*, by being coextensive with space, through an identity of the perceiver with the perceived that leaves no room for a distance between perceiver and perceived.

If Gebser’s integral structure of consciousness doesn’t present reality as it is in itself, out of relation to consciousness (perhaps because there isn’t anything that exists out of

relation to consciousness), it certainly presents reality more completely than does the mental structure. From the integral self's point of view, the only distances that exist are the distances between spatially located objects. The individual self, being coextensive with space, isn't separated from spatially located objects, nor, being coextensive with space, is it separated (at least not spatially) from other individual selves. It follows that there is no such thing as *telepathy*, and there is no such thing as psychokinesis, in the sense of a direct action-at-a-distance of consciousness on matter.

If the emergence of the integral structure is a possibility, its capacities must already be latent in individuals who are still using the cognitive tools of the mental or even the mythical structure. The premature manifestation of integral capacities in such individuals must then be another possibility. On the other hand, a mentally conscious individual cannot understand even its normal capacities *integrally*, in terms of the normal capacities of a consciousness that hasn't yet emerged. How then will it attempt to understand its *exceptional* capacities? Still tied conceptually to the material matrix from which it has — according to the consensus reality rooted in the mental reality simulation¹ — evolved, it will view its normal experiential reality as being “generated by our brain and senses”:

So when someone has an out-of-body *experience*, this may well be another semiarbitrary, constructed simulation of whatever reality actually is. That reality might be that mind is located somewhere other than the physical body, and may or may not use ESP to learn about the "outside" place where it is, rather than its being completely absorbed in the brain and nervous system simulation of the physical reality around the physical body. Putting this in more traditional spiritual terms, we may have a soul, a nonphysical center of identity and consciousness, and while it's normally completely occupied with the physical-reality simulation generated by our brain and senses, sometimes it may travel elsewhere. (p. 224)

If the physical-reality simulation is generated by our brain and senses, then our brain and senses are understood as parts of the reality creating the simulation; the simulation will then be of the reality around the physical body. In the case of someone having an OBE, on the other hand, the simulated reality is of “somewhere other than the physical body” rather than of the reality around the physical body. Inconsistencies of this kind won't go away as long as one thinks of the brain ambiguously sometimes as part of the simulating reality and sometimes as part of the reality simulated.

Dualistic conceptions of reality are plagued by the same inconsistencies. When Tart describes his “kind of generalized spiritual view, generalized to include the basics of what I know of the essences of world religions rather than sticking to anyone spiritual system” (p. 70), he includes “all the elements of the materialistic view” (p. 71) — as if these elements were not strongly dependent on how they are interpreted — materialistically or spiritually. He justifies this inclusion by not thinking that “any major spiritual

¹ What is implicitly called into question here is not the evolution of mental consciousness but the notion that it has evolved from a *material* matrix, given that the reality of matter, according to Gebser, is confined to the mental consciousness structure.

system would be naive enough to ignore the importance of physical laws or the structure and functioning of the brain and body in affecting us” (*ibid.*). It is however one thing to include the laws of physics together with their minimal instrumentalist interpretation, to use terminology introduced by philosopher of science Michael Redhead, but quite another to include them together with a full-fledged materialistic interpretation. By the same token, it is one thing to include the well-established correlations between neurobiological data and experiential data but quite another to include them along with a full-fledged materialistic interpretation of the neurobiological data. Giving a full-fledged materialistic interpretation to the neurobiological data and a less than full-fledged materialistic interpretation to at least some of the experiential data obviously leads to some kind of dualism, but this may be no more than an instance of “garbage in – garbage out.”

Tart characterizes his postulated dualism as “emergent” (p. 72). I suppose this isn’t exactly what he means since, in general terms, dualism is the idea that, for some particular domain, there are two fundamental kinds or categories of things or principles. Given that dualism is an *idea*, if mind is emergent, then so is dualism as a matter of course.

Tart’s dualistic model of reality features “auto-clairvoyance” (mind reading the physical state of the brain) and “auto-PK” (mind using psychokinesis to affect the operation of the physical brain). Auto-clairvoyance creates

a bio-psychological virtual reality, or BPVR.... We ordinarily live “inside” this simulation; we identify with it and mistake it for a direct and complete perception of reality and ourselves. (p. 240)

Isn’t this exactly the mistake that Tart makes when he regards the simulation as “derived from and expressing” not only “our ultimate, transpersonal nature” but also “our physical nature, and the external physical world around us”? (*ibid.*)

As mentioned, it was a real shock for Tart to discover that there were massive amounts of precognition in his laboratory data. Why should precognition be more shocking than other forms of psi? Writes he:

I find the idea of precognition, where the inherently unknowable future can sometimes be known, so incomprehensible that I just never think about precognition in a serious way. I say the words about it that the evidence logically compels me to say, but the idea doesn't really touch me or affect my way of living. And even though I've long intellectually accepted the idea that precognition could be real, I've never let it affect my living my life on the assumption that free will is a reality. To reason that we have no free will, that it's all an illusion, makes life both senseless and boring. (p. 136)

Tart’s reasoning involves a *non sequitur*. If it were possible for me to know the decisions I am making before I make them, then indeed it could not seem to me that I am making them freely. But the laboratory precognition data suggest no such thing. They concern events that are out of the subjects’ control, not influenced by the choices they make. Nothing with regard to our freedom of choice is implied by the precognition of such events. On the other hand, these laboratory data might be interpreted actively, in terms of PK influencing future events, rather than passively, in terms of received

information about future events, and in this case they suggest that our free will ranges *farther* than we tend to suppose. (For a deep discussion of the relation between consciousness and time in general, and of precognition in particular, see “Towards the supramental time vision,” a chapter of *The Synthesis of Yoga* by Sri Aurobindo reproduced in this issue of *AntiMatters* ↗.)

Tart maintains a website devoted to transcendent experiences that scientists have reported. *The Archives of Scientists' Transcendent Experiences*, or TASTE (<http://www.issc-taste.org> ↗), “lets scientists express these experiences in a psychologically (and professionally) safe space.” *The End of Materialism* includes a fascinating after-death-communication (ADC) report by Joe Waldron, who received his PhD in Psychology from The Ohio State University in 1975, has been a professor of psychology, and was a Distinguished Research Professor at Youngstown State University in Ohio. This report is reproduced, along with an introduction to TASTE by Tart, in a separate article in this issue of *AntiMatters* ↗.

It turns out that ADCs after losing a loved one are quite common. According to Tart, a majority of people have had them.

By and large, they never talk about them to others, knowing they'd be considered crazy as a result of their grief. By never talking about them, they help maintain the belief that it's not "normal" to have such an experience. (p. 254)

For many decades Tart has been well placed to know about this:

... over the years many scientists, once they've realized I'm a safe person to talk to, have told me about unusual and transcendent experiences they've had. Too often I'm the first and only person they've ever spoken to about their experiences, for fear of ridicule from their colleagues and of adverse, prejudicial effects on their careers. Such fears have, unfortunately, too much of a basis in fact. There are a lot of scientists with negative intentions deliberately trying to suppress their colleagues, even if it's mainly the automatic manifestation of the social conditioning of our times rather than deliberate nastiness. A real interest in, much less actual research in, the spiritual and the psychic has too often been a career killer in the academic and scientific worlds. (pp. 365–366)

I completely agree with Tart that “most forms of scientism” — only most? —

have a psychopathological effect on too many people by denying and invalidating the spiritual or transpersonal longings and experiences that they have. This produces not just unnecessary individual suffering but also attitudes of isolation and cynicism that worsen the state of the world. (p. 241)

But when he writes that

in these days when scientism has so thoroughly undermined the capacity for religious belief in so many, most of us need something more than teachings on what spiritual systems believe: we need supportive, empirical, scientific evidence for giving energy to spiritual ideas... (p. 245)

then he seems to me putting the cart of science in front of the horse of spirituality. There is no scientific evidence without an interpretation of the scientific data, and it is only a spiritual interpretation of the scientific data that can “give energy to spiritual

ideas.” Thus I fear that “the main thrust of this book, looking at scientific evidence that makes it a reasonable strategy to invest in spirituality” (*ibid.*) is ill-conceived.

Tart is of course right again when he writes that

Many of us have been hurt by what we believe is science, by the power of beliefs like those expressed in the Western Creed... a widespread social put-down that has invalidated our spiritual hopes and dreams and told us we're fools. We've been hurt not only in the sense of feeling like fools but also in possibly feeling on a deeper level that we've missed out on what's really important, missed out on the higher things of life, or have experienced neurotic suffering as the spiritually affirming and materialistically denying parts of our minds struggle. Consequently, there's a lot of understandable antiscience feeling and anti-intellectualism in our times. Many people thus tend to think that science is the enemy! But it's not the essential method of science that has hurt us; rather, it's scientism, a materialistic and arrogantly expressed philosophy of life that pretends to be the same as essential science but isn't. (p. 38)

One understands why Tart feels indebted to science:

a lot of my neurotic shortcomings stem from or were reinforced by church doctrines, such as feelings of being inherently sinful, a nagging feeling that no matter how good I am it'll never be enough, and a pervasive shame about my body and sexuality that has taken many years to largely overcome. In many ways I was forcibly brainwashed in being taught my religion when I was too young to really understand and make choices. (p. 9)

It is also to its credit that

by the formal, rational rules of science, which have worked so well in understanding the physical world, *human beings occasionally have experiences and show certain behaviors that cannot be reduced to materialistic explanations and that look like fundamental aspects of a spiritual nature.* (p. 36, original emphasis)

While this is an essentially negative result, telling us that materialistic explanations do not always work — they never do when pursued sufficiently far — it nevertheless justifies taking a scientific stance:

you can take a basically scientific stance toward life and still legitimately claim that, using rigorous kinds of scientific procedures, the human mind shows properties that underlie what we think of as spiritual. That's the underlying theme of this book. I took up as my life's work the challenge of applying science to refine our knowledge of the spiritual... (*ibid.*)

Thankfully, Tart does this without invoking quantum mechanics, evincing instead a healthy dose of skepticism in this regard.

I have brilliant colleagues who are involved in thinking about psi phenomena in quantum-theory terms, but I'm required by intellectual honesty to remind them occasionally that their quantum approaches don't yield any more psi phenomena in experiments than approaches of any other sort. (p. 113)