Commentary on "Does Paranormal Perception Occur in Near-Death Experiences?"

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EDITOR'S ABSTRACT AND NOTE: In this commentary, Charles Tart critiques Keith Augustine's deconstruction of Pam Reynolds's near-death experience (NDE) while undergoing cerebral aneurysm surgery using the hypothermic cardiac arrest ("standstill") procedure. However, after drafting this initial response to Augustine's paper, family medical problems prevented Tart from researching and polishing his comments as thoroughly as he would have wished. He has approved our publication of this commentary but regrets that it is not up to his usual standard.

KEY WORDS: near-death experience; hypothermic cardiac arrest; life after death; brainstem auditory evoked response; electroencephalogram.

I would like to address inaccuracies and misleading statements in Keith Augustine's discussion of Pam Reynolds's near-death experience (NDE). In Augustine's discussion of this NDE, he wrote that "The case soon became infamous." His use of the term "infamous" is biased and unscientific reporting, and already prejudges the case. A sentence later he continued: "But it has been sensationalized at the expense of the facts, facts that have been continually misrepresented." However, he did not provide any evidence either that this case has been sensationalized or that the facts have been misrepresented; this is another *a priori* dismissal.

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Augustine wrote that Reynolds's NDE "is in fact best understood in terms of normal perception operating during an entirely nonthreatening physiological state." This is an odd way to characterize being effectively dead with only the hope that the equipment and surgeons will pull you back. Later he wrote: "Before going into surgery, Pam was fully aware that she would be taken to the brink of death while in the standstill state." That would certainly make the surgery a pretty threatening condition from a psychological perspective.

Augustine argued that it is misleading to claim that Reynolds's NDE occurred during her hypothermic cardiac arrest, when her electroencephalogram (EEG) and evoked potentials showed no brain activity:

> it is quite clear that Reynolds did *not* have her NDE during any period of flat EEG. Indeed, she was as far as a patient undergoing her operation could possibly be from clinical death when her OBE began.

This statement is biased and incorrect. Sabom reported that the veridical parts of Reynolds's NDE occurred before cardiac "standstill," but her description "They were feeding me" implied quite clearly that her NDE went on all through the standstill, to and beyond the reinfusion of warmed blood. I am not sure of the relevance of Augustine's statement that "she had no cerebral cortical activity for no longer than roughly half an hour." Thirty minutes of complete cardiac arrest and absent brainwaves are certainly sufficient to raise questions about her ability to think clearly and perceive accurately during that period.

Augustine implied deceptive motivation to Sabom: "Despite accurately reporting the facts, Sabom himself encouraged these misrepresentations." Might Sabom's description simply be ambiguous rather that intentionally misleading? Augustine provided as an example of Sabom's deception: "Though he informed the reader that Reynolds's experience began well before standstill, he revealed this incidentally, so that a careful reading of the text is required to discern the point." On the contrary, Sabom made it quite obvious that her NDE began well before cardiac standstill.

Augustine further accused Sabom of erroneously implying that Reynolds's NDE occurred when she was dead or near death, quoting him as writing:

> But during "standstill," Pam's brain was found "dead" by all three clinical tests – her electroencephalogram was silent, her brain-stem response was absent, and no blood flowed through her brain.

> Interestingly, while in this state, she encountered the "deepest" near-death experience of all Atlanta Study participants.

Augustine viewed these comments as an attempt to mislead, but Reynolds's description of her NDE occurring up to and beyond warmed blood infusion makes Sabom's inference quite reasonable. It is unreasonable only if one ignores experiential evidence and assumes that Reynolds's NDE was over before cardiac standstill. Augustine went on to argue:

> As Sabom's own account revealed, her standstill condition had absolutely nothing to do with the time when we *know* that her near-death OBE began: a full two hours and five minutes before the medical staff even began to cool her blood, during perfectly normal body temperature (see Figure 1)!

Augustine has a valid point here about timing. The bone saw cutting was done around 9:00, total standstill at 11:20, and Sabom's presentation of Reynolds's NDE did not seem to fill all that time. However, Reynolds's own account of her NDE suggested that many things occurred during that period about which Sabom did not ask her.

Augustine was guilty of his own misrepresentation in his description of the blocking and monitoring of Reynolds's hearing: "A standard electroencephalogram (EEG) was used to record activity in her cerebral cortex, while small earphones continuously played clicks into her ears to elicit auditory evoked potentials (AEPs), a measure of activity in the brain stem." This is a major distortion of the facts. Augustine counted on everyone knowing that "small earphones" do not fit very tightly, and that sound from the room can leak in around them. But Sabom specifically described them as "small molded speakers," and molding to an individual ear canal is like wearing ear plugs that shut out sounds much more effectively. Augustine also neglected to mention the 100-decibel level of these clicks, which is the level of sound of a full symphony orchestra playing really loud, masking room noise quite effectively. Because Augustine knew that these were molded speakers, he appeared to be deliberately misrepresenting facts to bolster his own case, just as he accused Sabom of doing.

Augustine wrote that he "did a little research on the matter" and concluded that Sabom's claim that Reynolds could not hear was false. He discovered that patients being evaluated for brain tumors sit in a soundproof room and wear headphones to measure their auditory evoked potentials:

> But a soundproof room would be unnecessary if the earphones used to measure AEPs "occlude the ear canals and altogether eliminate the possibility of physical hearing." It is theoretically possible that the earphones used in 1991 made physical hearing impossible, whereas the earphones used today do not. However, that would be highly unlikely because it would be far cheaper for medical institutions to continue to invest in the imagined sound-eliminating earphones, rather than soundproofing entire rooms to eliminate external sounds. As Gerald Woerlee pointed out, "earplugs do not totally exclude all external sounds, they only considerably reduce the *intensity* of external sounds," as demonstrated by "enormous numbers of people ... listening to loud music played through earplugs, while at the same time able to hear and understand all that happens in their surroundings."

This is a clever argument, but it is unsupported by any data. I have tried muff-type headphones, which are not as tight a seal around the ear as molded speakers would be, and with 100-decibel sound piped in I could not hear anything of a conversational level in the room around me. Critics should try this instead of just imagining what is or is not possible.

Augustine also discounted Reynolds's account of her experience because she did not provide positive visual descriptions of everything that happened: "Given such vivid 'perceptual capabilities' during her OBE, we would expect there to be no confusion about what Reynolds saw during the experience." But this is an arbitrary statement. Obviously, people can be confused in ordinary vision, especially looking at unfamiliar things.

Augustine later made much of a minor error in Reynolds's description of the bone saw used to cut open her skull, namely that the groove she described in the saw's handle was not where she described it as being: "it is telling that the one visual observation that Reynolds (almost) could not have known about other than by leaving her body was the very detail that was *not* accurate." Instead of all this supposition, it would be more useful to have some empirical studies of how people describe the bone saw after a brief glance. I thought Reynolds's description was pretty accurate.

Augustine continued this theme: "If Reynolds had truly been out of her body and perceiving, both her auditory and visual sensations should have been accurate." Here Augustine assumed a certain model of OBEs and NDEs that is not necessarily correct. He continued: "it is interesting that Reynolds reported uncertainly about the identity of the voice she heard when her OBE began: 'I believe it was a female

voice and that it was Dr. Murray, but I'm not sure.'" As I noted, normal perceptions are often unclear, so Reynolds's uncertainty about the identity of Dr. Murray is of no evidential value.

He dismissed her observation that only part of her head was shaved on the grounds that

> she could have guessed this at the time of her experience, but there is no need even for that assumption in order to account for the reported observation. Surely Reynolds would have noticed this soon after awaking from general anesthesia, by seeing her reflection, feeling her hair, or being asked about it by visitors. And she certainly would have known about it, one way or the other, by the time she was released from the hospital.

This argument basically accuses Reynolds of lying about what she claimed to have seen – a convenient way to throw out data, but hardly scientific. He went on to suggest that Reynolds

> may have learned (to her surprise) that her head would be only partially shaved in a consent briefing *prior* to her experience, but "filed away" and consciously forgot about that information, given so many other more pressing concerns on her mind at the time. That would be exactly the sort of mundane, subconscious fact we would expect a person to later recall during an altered state of consciousness.

But this is certainly an odd claim: is Augustine asserting that altered states deal only with the mundane?

Augustine also discounted Reynolds's account of her NDE because of the time lapse between its occurrence and its reporting:

> although he did not give the exact date of the operation, Sabom reported that the procedure took place in August 1991. He later told us that he interviewed Reynolds for the first time on November 11, 1994 (Sabom, 1998). That left more than three years between the dates of Reynolds's NDE and Sabom's interview, plenty of time for memory distortions to have played a role in her report of the experience.

To say this is to throw away all the common reports by NDErs that their experience is vividly remembered, along with the statistical evidence of no significant alteration in NDE memories over years (Alvarado and Zingrone, 1997–98; Greyson, 2007; Lange, Greyson, and Houran, 2004; Lester, 2003; van Lommel, van Wees, Meyes, and Elfferich, 2001).

Augustine argued that Reynolds "did not need to *guess* what the bone saw sounded like, since she probably heard it as anesthesia

failed." This is quite an accusation against the anesthesiologist that he was incompetent enough to allow this sort of surgery to start when Reynolds was not adequately anesthetized. That is not an impossibility, but it is the wildest speculation postulating a highly unlikely event.

Finally, Augustine noted "At least five separate studies ... have documented cases in which fear alone triggered an NDE." But the fact that some people can have an NDE induced by fear does not necessarily show that *all* NDEs, and particularly Reynolds's, were induced by fear.

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