

Terminal lucidity: mysteries at the end of life

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Paradoxical lucidity in general refers to episodes of unexpected cognitive improvement in people with severe dementia, although the exact definition as well as the identification process are complicated and under debate (Peterson et al., 2021). Such patients are often believed to have lost the capacity for coherent communicative behaviors from irreversible brain damage. Most observed cases of paradoxical lucidity are terminal - meaning that the phenomenon happens just prior to a patient's death (hours or days) (Batthyány & Greyson, 2021). Terminal lucidity is a term considered to be coined by Dr. Michael Nahm quite recently. However, the term is not universally known or used by many people who might have observed the phenomenon (Pearson, 2018). It is likely that the phenomenon has been known in many cultures from ancient eras, but investigations using modern scientific approaches are still limited.

Among terminal lucidity cases, the (probably) most fascinating one is the case of Anna Katharina Ehmer (Nahm & Greyson, 2014). According to the reports, this woman had severe mental disabilities and was considered to be retarded from birth; she never spoke, behaved almost animal-like, and had an extremely low level of normal human perception of her surrounding environments. However, she sang a dying song clearly for half an hour before her death. While in most less extreme cases of paradoxical lucidity, the possible reversibility of memory retrieving capacity loss seems to be the direction toward satisfying explanations, but in the case of Anna K. Ehmer (supposed accurately reported), the whole information processing mechanism needs to be radically reviewed.

There are some major problems in studying the psychological process(es) of paradoxical lucidity, but at the same time if successfully explored, they will be the key to open up new paradigms in not only neuroscience and psychiatry, but also in philosophy of consciousness. Where and how memory is stored is still a big question mark. As long as the storage problem is not solved, it is difficult to identify if the memory is physically lost or if the retrieving connections are temporarily cut. Furthermore, the mechanisms of processing from stored neural information into physiological and behavioral expression are mostly unknown. Notably, "anomalies" related to dissociative identity disorder where different active personalities within one body are linked to different distinct physiological characteristics (Putnam et al., 1990; Strasburger & Waldvogel, 2015) show how much we still do not know about the brain's functions.

I and my colleagues have studied the psychological process of suicidal ideation (Nguyen et al., 2021) and the psycho-religious mechanism of suicide and suicide attack (Q.-H. Vuong et al., 2021) through expanding the application of the Mindsponge information processing framework

(Q. H. Vuong, 2016; Q. H. Vuong & Napier, 2015). Reflecting on our former studies and my own philosophy of consciousness in relation to the issue of terminal lucidity, I think there are two aspects of the mind that may become the main directions for future investigation: the “self” as a mental construct, and the information processing of dream-state. The formation of meaning (in broad sense, including emotion) attached to trusted information (within one’s mindset) is normally based on heavily self-centered order. Thus, the prioritization of memory storage and re-filtering may be the key in solving the problem of memory loss as well as (paradoxical) reconnection. I have discussed several related or similar points on infant cognition (T.-T. Le, 2021). Regarding the dream-states (including both normal and lucid), I believe that the special perspective of one’s awareness (and the corresponding brain activities) within this familiar, yet strange states of mind can probably provide certain insights into the “miracle” lucid episodes in people with dementia. I have discussed some related points on the “self” as a mental construct and the dream-state consciousness (T. T. Le, 2021). Besides neuroscience approaches, I think qualitative data on the direct, subjective experiences and descriptions from patients during lucid episodes about their own “disconnected” state is also extremely valuable for conducting deeper exploratory studies into this matter.

Of course, we also need to address the elephant in the room: why does this phenomenon tend to happen prior to one’s death? Peterson et al. (2021) suggested that although the current statistics support terminal cases being the majority in paradoxical lucidity, biases of observation may also contribute to the numbers. However, considering many personal stories from caregivers, I personally do not think this is too much of a significant factor. And if so, terminal lucidity is truly special in various aspects, from science to humanity. From a spiritual perspective, people often regard terminal lucidity as the final chance for the patients to reflect on their memories and say farewell to their loved ones - by using all that is left of their remaining life energy (thus death follows soon after). In our society where dementia is a great tragedy to countless families, studying the social aspects of terminal lucidity is also important and may be very helpful for caregivers.

Long after “it’s just a burning memory”, a patient who stands amidst “everywhere at the end of time”, if given a chance, would choose to briefly come back to his/her loved ones and stand by their side, for one last time.

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