Inner speech vs. *anendophasia*: Where information, serendipity, and the mental realm meet with nature?

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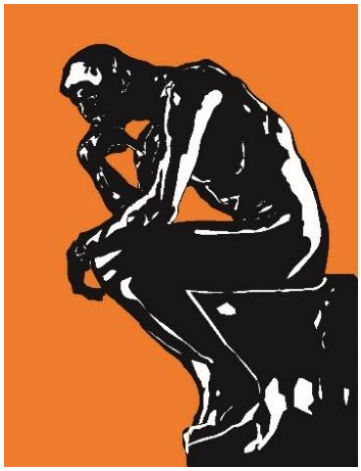

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" [...] The two parties, one with a beak and one within a beak, could not help but converse about the Malthus-Verhulst equations on biological population dynamics or the peaceful Lotka-Volterra predator-prey relationship model.

With deeper contemplation, the discussion could be pushed even further in the direction of relativity:

– Was Kingfisher eating Fish, or... when Fish entered Kingfisher's stomach, would it also mean that Fish was eating Kingfisher?"

—In "Philosophical Chat"; *The Kingfisher Story Collection* [1]

An article by Gregory in The Conversation in early 2024 re-introduced the inner speech experiences and referred readers to a 2023 publication by Nedergaard and Lupyan in 2023 [2-3]. Nedergaard and Lupyan's paper has proposed the term "anendophasia," describing the phenomenon whereby some people have not experienced inner speech. The term originated from Greek: *an* (lack) + *endo* (inner) + *phasia* (speech) [3].

Both the scicomm article and the scientific publication are thought-provoking and intriguing. They doubtless provide useful discussions and insights. While reading both, I noticed one thing and thought about something useful for opening up an ensuing debate concerning the research problem.

First, I noticed that none of the articles contained the word of critical importance: information. They did not even use (in a major way) the word "thinking".

Second, I thought of our information-processing paradigm for both theoretical reasoning and applied analytics [4-5]. It is pretty clear that inner speech and *anendophasia* may represent the ebb and flow of thinking or information processing within the mind.

As Nedergaard and Lupyan [3] found, people reporting low levels of inner speech have lower performance on a verbal working memory task and have more difficulty performing rhyme judgments based on images, which can be a representation of unpreparedness. Moreover, when asked how thoughts occur in their mind, people scoring low on both inner speech and visual imagery claim that they "think in concepts" [3]. Such non-verbal and non-perceptual thinking can be referred to as what Hurlburt has called "unsymbolized thinking" [6-7].

Thus, is it possible that *anendophasia* is related to the state of unpreparedness of the mind facing the incoming flow of information, causing an ebb? Maybe in certain circumstances, such as facing dangers (given enough time for information processing), the inner speech will switch on?

If that is the case, nature has a critical role to play in addressing this problem. For example, serendipity, which is defined as a human's natural capability to notice, evaluate, and take advantage of unexpected information for survival purposes (both natural and social), is a commonly observed phenomenon [8]. This ability can be well demonstrated through the Jurassic Park movie directed by Steven Spielberg, wherein chases of the dinosaurs frequently trigger the characters' information-processing systems (e.g., sensory systems and brains) to find solutions for escaping.

And what if we think a little bit further and analogize climate change, biodiversity loss, and environmental degradation? Could people's desire to seek solutions for these problems be triggered by their awareness and understanding of the problems' consequences (which can be a type of inner speech experience) or hindered by their apathy (which can be a type of *anendophasia*)?

Exploring the effects of the environment (i.e., nature) on humans' inner speech and *anendophasia* could be an interesting research direction for psychologists. Knowledge and insights generated from the direction can be beneficial for the endeavors of involving people in mitigating climate change, biodiversity loss, and environmental degradation and further building an eco-surplus culture within the society [9-10].

References

[1] Vuong QH. (2022). *The Kingfisher Story Collection*. https://www.amazon.com/dp/B0BG2NNHY6

[2] Gregory D. (2024, Jan. 31). What inner speech is, and why philosophy is waking up to it. *The Conversation*. https://theconversation.com/what-inner-speech-is-and-why-philosophy-is-waking-up-to-it-220619

[3] Nedergaard J, Lupyan G. (2023). Not Everyone Has an Inner Voice: Behavioral Consequences of Anendophasia. In: M Goldwater, FK Anggoro, BK Hayes, DC Ong (Eds.) *Proceedings of the 45th Annual Conference of the Cognitive Science Society* (pp.617-624). https://escholarship.org/uc/item/93p4r8td

[4] Vuong QH. (2023). *Mindsponge Theory*. Walter de Gruyter GmbH.

[5] Vuong QH, Nguyen MH, La VP. (2022). *The mindsponge and BMF analytics for innovative thinking in social sciences and humanities*. Walter de Gruyter GmbH.

[6] Hurlburt RT. (2011). *Investigating pristine inner experience*. Cambridge University Press.

[7] Hurlburt RT, Akhter SA. (2008). Unsymbolized thinking. *Consciousness and Cognition*, 17(4), 1364-1374. https://www.sciencedirect.com/science/article/abs/pii/S1053810008000524

[8] Vuong QH. (2022). *A new theory of serendipity: Nature, emergence and mechanism*. Walter de Gruyter GmbH

[9] Vuong QH, Nguyen MH. (2024). Kingfisher: contemplating the connection between nature and humans through science, art, literature, and lived experiences. *Pacific Conservation Biology*, 30, PC23044. https://www.publish.csiro.au/PC/PC23044

[10] Nguyen MH, Jones TE. (2022). Building eco-surplus culture among urban residents as a novel strategy to improve finance for conservation in protected areas. *Humanities and Social Sciences Communications*, 9, 426. https://www.nature.com/articles/s41599-022-01441-9