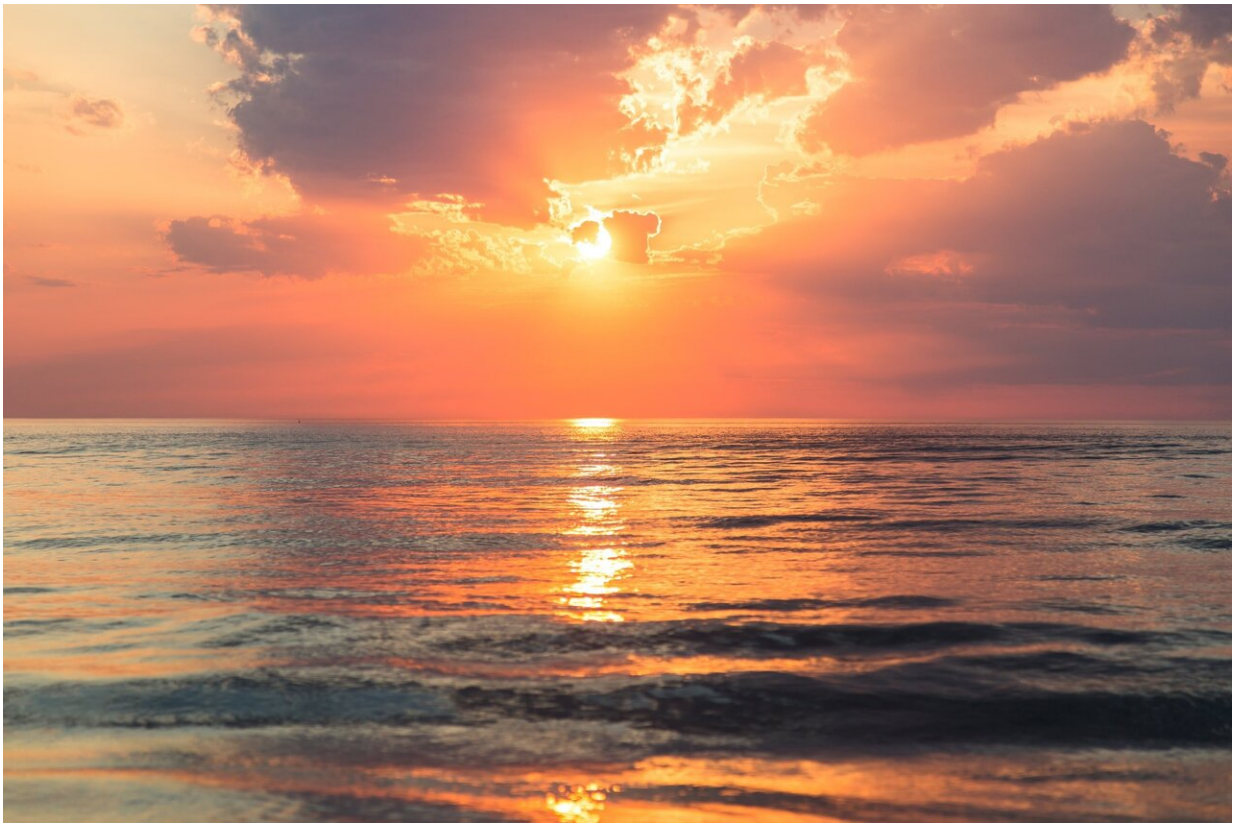


How the appreciation of beauty can foster perceptual learning

October 23 2020, by Ingrid Fadelli



Credit: Sebastian Gabriel, Unsplash

"Stopping" and "seeing" are crucial components of many types of meditative practices, including Buddhist Zen meditation. In fact, these practices typically entail ceasing all activities to observe the thoughts,

feelings and sensations arising at a given time, as well as sounds or other sensory stimuli in one's surrounding environment.

In Buddhist meditation, "stopping and seeing" essentially refers to the process of not engaging with cravings or delusions of the mind, and seeing the "truth," i.e., perceiving things exactly as they are, without interpreting them or trying to change them. Combined, these two concepts summarize the ancient belief and philosophical notion that action inhibition and observation of/attunement with sensory stimuli can enhance awareness and appreciation, helping to establish a spiritual connection with our surroundings.

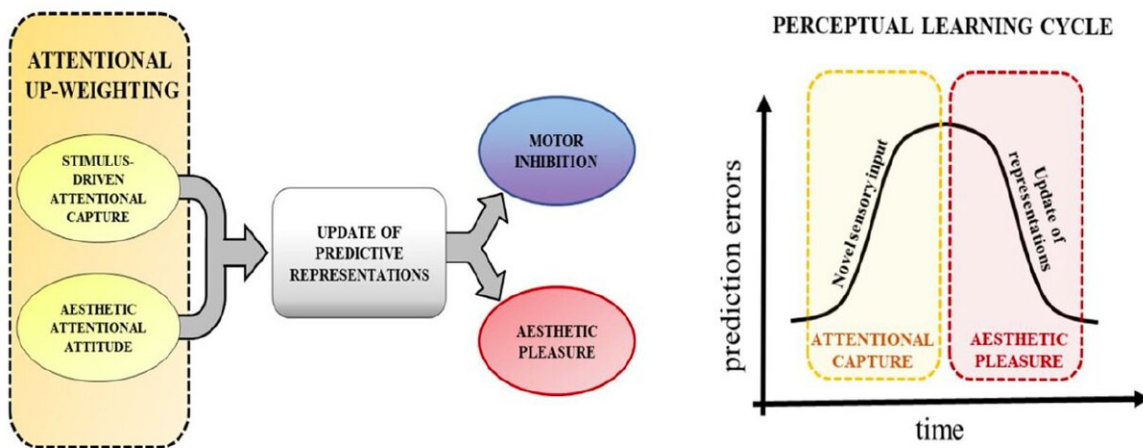
The contemplative and mindful state that can be experienced while meditating is comparable to what a person may feel while observing a breathtaking natural spectacle (e.g., a sunset, a waterfall, the stars in the night sky, etc.), a creative artwork (i.e., a painting, a movie, etc.) or any other phenomenon, thing or person that he/she finds esthetically pleasing. In other words, beauty appears to encourage us to stop and embrace the [present moment](#).

Fascinated by the effects that observing something we find beautiful can have on our brain and perceptions, researchers at University of Turin recently reviewed past literature focusing on this topic and rooted in different disciplines (e.g., neuroscience, psychology, computer science and philosophy). They then presented a summary of the findings gathered so far, along with their considerations, in a paper published in Elsevier's *Neuroscience and Biobehavioral Reviews* journal.

Overall, the results of the studies that these researchers reviewed in their paper suggest that emotions arising from the observation of esthetically pleasing elements plays a crucial part in how people acquire [new knowledge](#) and adapt to the surrounding environment. This idea is linked to theories introduced in the past, such as the romantic notion of

"primacy of esthetics over reason," or classic Greek philosophy.

In their paper, the researchers at the University of Turin explore these theories and past research exploring how our experience of beauty can facilitate knowledge acquisition. In addition, they introduce what they refer to as the "stopping for knowledge" hypothesis, which is based on models of esthetic appreciations outlined by other teams in the past, including [Leonid Perlovsky and Felix Shoeller](#), [Sander Van de Cruys and Johan Wagenmans](#), as well as the [predictive coding theory proposed by Karl Friston](#).



Credit: Sarasso et al.

"In this review, we discuss multidisciplinary results and propose an original account of esthetic appreciation (the stopping for knowledge hypothesis) framed within the predictive coding theory," the researchers state in their paper. "We discuss evidence showing that esthetic emotions emerge in correspondence with an inhibition of motor behavior (i.e.,

minimizing action), promoting a simultaneous perceptual processing enhancement at the level of sensory cortices (i.e., optimizing learning)."

Based on the past studies they reviewed, the researchers hypothesize that esthetic appreciation represents a hedonic feedback (i.e., reward system in the brain reinforcing desirable or beneficial behaviors) that facilitates learning processes. Ultimately, the observation of beauty could thus motivate individuals to stop moving and seek further knowledge acquisition, in turn modulating their perceptual learning and memory retrieval.

The researchers also argue that helping patients to consciously appreciate beauty in the world around them could play an important role in psychotherapy, as many [mental disorders](#) are associated with dissociated experiences of emotion and rigid thought processes. Learning to be in the moment, to stop and observe the beauty around them, could thus help individuals to regain a curious, joyful and open-minded outlook on life.

In the future, the results could guide further studies exploring the impact of esthetic appreciation on knowledge acquisition and psychotherapy outcomes. In addition, it may also inform the development of new therapeutic approaches partly based on esthetic appreciation, or of machine learning algorithms that reflect human learning processes.

More information: "Stopping for knowledge": The sense of beauty in the perception-action cycle. *Neuroscience & Biobehavioral Review*(2020). [DOI: 10.1016/j.neubiorev.2020.09.004](https://doi.org/10.1016/j.neubiorev.2020.09.004).

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