The Biological Basis of Affect: Synthesizing Neuroscience and the Humanities

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Affect Theory, originally attributable to the philosopher Baruch Spinoza, is a multidisciplinary theory of mind, or more accurately, of mind and body. Spinoza conceptualized affect as "the modifications of the body […] and also the ideas of such modifications" (Spinoza 1883). Put more simply, when I learned about affect in a course on Race and Religion, affect was described as a precognitive "body feeling"—the bodily stirrings that precede linguistically classifiable emotion. In the hands of humanities scholars, Affect Theory is a tool for the critical analysis of human emotion, and culture, yielding insightful possibilities for the body's role in behavior. The embodiment of affect sets it apart from other critical theories because an embodied phenomenon can be measured and thus affect can be investigated by the sciences, particularly neuroscience. The parallel that I initially perceived between Affect Theory and neuroscience was the presence of "body feelings" in neuroscientific theories of emotion descending from the James-Lange theory of emotion, which suggests that emotions are simply the experience of particular physiological shifts within the body. The goal of my research was to investigate the striking convergence I observed between the embodied affect of Affect Theory, and past and present neuroscientific theories of embodied emotion.

The bulk of my research period was spent conducting an in-depth literature review of both humanities and neuroscience literature. To clarify and refine my understanding of affect, I first examined humanities writing that utilizes Affect Theory, including the works of Baruch Spinoza, Sylvan Tompkins, Eve Sedgewick, Brian Massumi, Donovan Schaefer, and Sarah Ahmed. I then moved on to the study of affective neuroscience, particularly literature exploring the premise that interoception (the perception of internal bodily states) is the primary substrate of emotion, as the James-Lange theory suggests. I am now in the process of synthesizing information from both fields of research to create an in-depth report expanding on the biological basis of affect and speculating on how affect works in individuals and communities at a physiological level.

I found that the affect of Affect Theory was analogous to the physiological shifts that characterize particular emotions (for example, the experience of fear is characterized by a fast heart rate, increased blood pressure, and other more subtle visceral changes—"modifications of the body," as Spinoza put it, or affect). Much of current neuroscience literature supports James' position that interoception of affect is an integral component of emotion, confirming the legitimacy of Affect Theory as a critical tool (reviewed in Damasio & Carvalho, 2013; Dalgleish, 2004; Damasio, 2003). Affect is sensed by the body via interoception, then travels to the brain and is represented there by mental "body maps" (reviewed in Damasio & Carvalho, 2013). The primary brain target for interoceptive information, the insula, is densely connected with areas of the brain involved in cognitive processes such as memory and attention, suggesting that affect has much influence over these functions (Damasio & Carvalho, 2013). Neuroscientist Antonio Damasio's somatic marker hypothesis implicates affect in more than just emotion: Damasio's research suggests that affect plays an integral role in decision-making and social behavior (Damasio, 1994). It is even speculated that affect is the basis for consciousness itself (reviewed in Craig & Craig, 2009; Damasio, 1994). Regarding social affect, neuroscientist Lisa Feldman Barrett's theory of constructed emotion suggests that affect is innate, but the categorization of affect into discrete emotions is socialized, raising intriguing possibilities about culture's influence on affect, and affect's influence on culture (Barret, 2017). Further research is needed to follow up on the full scope of affect's influence on human behavior and the resulting implications for the application of Affect Theory in the humanities.

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