A Conceptual Ecology of the Engram

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Contemporary neurobiology of memory is in the midst of an "engram renaissance" (Josselyn, Kohler, & Frankland, 2017). The engram is the basic physical mechanism of memory—a change to the underlying structure of the brain as a result of experience, which makes it possible to remember that experience. While many neurobiologists have long assumed that there *was* an engram, it is only recently, with the advent of tools like optogenetics, that researchers have been able to tag, track, and manipulate specific engrams. *Engram* is thus something of a comeback concept, arguably far more popular now than at any point since its inception more than a century ago. As this research renaissance continues, the relationship between the engram as a contemporary object of inquiry and the historical engram idea from which it emerged is increasingly strained. How should current work on the engram—and its relation to memory, neural representation, and the connectome—be understood? To explore this question, I appeal to Griffiths & Stotz's (2008) conceptual ecology approach to conceptual change in science. Griffiths and Stotz argue that scientific concepts are best understood within their distinct epistemic niche, reflecting the specific research aims, interests, and experiences of the scientists involved. I use this framework to identify distinct epistemic communities that contemporary engram research has put into contact and the distinct conceptions of the engram that emerge from these intersections.