

1106-C5-1803

Carl E. Behrens* (behrenscarl@yahoo.com). *How does the mind construct/discover mathematical propositions?* Preliminary report.

Recent discoveries in cognitive science probe deeply into the mental processes of mathematicians as they practice their art. George Lackoff and Rafael Nunez have focused most extensively on the roots of mathematical subjects, proposing that much advanced mathematics derives from schemas and conceptual metaphors used and developed for more common purposes. But other cognitive scientists, among them Antonio Damasio, Stanley Greenspan, and Stuart Shanker have directed their attention to the role of emotions in the practice of rational thought. Greenspan and Shanker argue that the ability to create symbols and to reason is not hard-wired in the human brain, but is actually learned through emotional signaling beginning in the first year of life. This presentation will attempt to tie together these various threads from cognitive science into a view of how mathematics develops and is practiced. (Received September 15, 2014)