

1145-L5-1961 **Jeff Buechner*** (buechner@rci.rutgers.edu). *What makes a notation for the natural numbers a good notation?* Preliminary report.

Decimal notation is just one among many distinct notations for the natural numbers. Binary and stroke notation are well-known alternatives. Those who use decimal notation experience a feeling that there is no additional computation to make when, say, they add the positive integers 14 and 17, and obtain the result 31. But that result in binary would require, for someone not versed in binary, an additional computation—into decimal—in order to see that the result is correct. One view is that this experience is relative to one’s culture. In a culture in which binary notation is used, the experience would be that no additional calculation is required when the result in binary is obtained. In the early 1990s, in his Princeton seminar, Saul Kripke argued that the cultural relativism view cannot be wholly correct. He conjectured that decimal notation mirrors the “logical structure” of the natural numbers—as presented in the analyses of Russell and Frege—better than other notations. I will discuss Kripke’s conjecture, and some problems that it raises. (Received September 24, 2018)