

# FregeFest V

[Workshop in Logic and Philosophy of Science](#)

**April 8, 2016**  
**Social and Behavioral Sciences Building #214,**  
**Room #1321**  
**University of California, Irvine 92697-5100**

## **Sponsors:**

The Center for the Advancement of Logic, its Philosophy,  
History & Applications (C-ALPHA)  
The Department of Logic and Philosophy of Science

## **All speakers:**

Ansten Klev (Czech Academy of Sciences)  
Rebecca Lea Morris (Carnegie Mellon University)  
[Erich Reck](#) (University of California, Riverside)  
Marcus Rossberg (University of Connecticut)

## **Organizers:**

Jeremy Heis (University of California, Irvine)  
[Sean Walsh](#) (University of California, Irvine)  
Kai Wehmeier (University of California, Irvine)

## **Talks:**

### **I: Marcus Rossberg (UConn): "Definition, Explanation, and Basic Law V"**

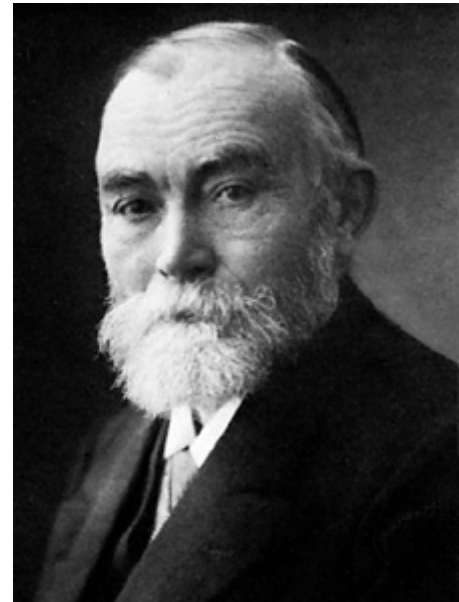
<http://homepages.uconn.edu/~mar08022/>

For Frege, the principal way of establishing sameness of sense is by way of stipulative definition. Primitive vocabulary, on the other hand, cannot be defined. Instead, in the Basic Laws of Arithmetic, Frege speaks of an explanation [Erklärung] of the expression in this case. This paper investigates whether explanations of primitive expressions specify the sense of the expression in question or its reference. The textual evidence speaks for the latter. This answer is pertinent to the question whether the two sides of Basic Law V are supposed to have the same sense, as is often argued. If the target of Frege's explanations is indeed reference, as it is argued here, rather than sense, then the claim that Basic Law V states the sameness of sense for its two sides cannot be upheld. This sameness of reference is meant to obtain as a matter of logic, but that is not to say that the sense is the same.

### **II: Rebecca Morris (CMU): "Character and Object"**

<https://rebeccaleamorris.com/>

In this talk, I will discuss issues of mathematical design, as reflected in the work of Dedekind and Frege. More precisely, I will consider Dedekind's work on the development of the notion of character and Frege's foundational logical system. While Dedekind and Frege were focused on quite different projects (Dedekind with extending our knowledge, Frege with securing our foundations), both faced similar pressures. In particular, I will argue that both Dedekind and Frege had to balance the desire for flexibility and uniformity in their mathematics alongside the necessity of rigor. Finally, I will use these case studies to draw some conclusions about how we ought to design our mathematics.



### **III: Ansten Klev (Czech Academy of Sciences): "Frege and Dedekind on Functions"**

<https://sites.google.com/site/anstenklev/>

Besides logicism the most striking common feature of the works of Frege and Dedekind is the emphasis placed on the notion of function. Frege's introduction of function-argument analysis of the content of judgements was perhaps the single most important step in his revolution of logic. Dedekind's stated aim was to base arithmetic on the notion of mapping (Abbildung). In this talk Klev compares Frege's and Dedekind's understanding of the notion of function.

### **IV: Erich Reck (UCR): "On Reconstructing Dedekind Abstraction Logically"**

<http://www.faculty.ucr.edu/~reck/>

At several points in his writings, Dedekind appeals to a kind of "abstraction" that he takes to be central to modern mathematics, and especially, to an adequate conception of the natural and real numbers. Unlike many of his other contributions, this appeal has been either ignored or subjected to withering criticisms (from Russell 1903 to Dummett 1995, Boolos 1999, and beyond). The charge is typically that it commits him to a problematic form of psychologism, if it can be understood coherently at all. In his defense, it has been suggested to understand "Dedekind abstraction" not in a psychological but a logical manner (Tait 1997, Reck 2003, earlier Cassirer 1910). Yet how exactly to interpret, or reconstruct, the relevant logical features remains in need of clarification. In this talk, four different options for reconstructing Dedekind abstraction logically are made explicit. Distinguishing these options, together with their underlying principles, allows us to examine the coherence of his position better.

[Department of Philosophy, University of California, Riverside](#)

<http://www.lps.uci.edu/newsevents/events/conferences.php>

Refreshments provided.

Attendance is free, but registration before April 4th is appreciated. To register, please contact Patty Jones at [patty.jones@uci.edu](mailto:patty.jones@uci.edu) or (949-824-1520)