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“Frege, Carl Snell and Romanticism; Fruitful Concepts and the 'Organic/Mechanical' Distinction”

Abstract:

A surprisingly neglected figure in Frege scholarship is the man Frege describes (with praise that is very rare for Frege) as his "revered teacher", the Jena physics and mathematics professor Carl Snell. It turns out that there is more of interest to say about Snell than can fit into one paper, so I'll restrict attention here to just this aspect of his thought: the role of the concept of "organic", and a contrast with "mechanical". Snell turns out to have been a philosophical Romantic, influenced by Schelling and Goethe, and Kant's **Critique of Judgement**. The paper also goes beyond Snell to explore other figures at Jena, particularly in the salon Snell sponsored and that Frege attended. Here too the "organic/mechanical" contrast, understood in a distinctively Romantic fashion, had reached the status of "accepted, recognized cliché". More generally, Frege's environment was more saturated with what we now call "Continental philosophy" than we might expect. (Recently this "Continental" dimension of Frege's environment has been explored by Gottfried Gabriel and others, with an emphasis on neo-Kantianism and Herbart. This paper develops a different dimension: the speculative idealism informing German Romantic biology.)

The payoff of this context-setting for our reading of Frege's texts is this: many expressions and turns of phrase in Frege that have been regarded as vague, throwaway metaphors turn out to be literal references to theories that had been worked out in extensive detail by the people Frege spent time with day-to-day in his immediate Jena environment. This recognition allows us to see that many Fregean remarks were not disconnected, scattered asides, but reflect a connected picture of the nature of mathematical thought.

In particular, this is true of Frege's account of "extending knowledge" via "fruitful concepts" and his rejection of the idea that logic and mathematics can be done "mechanically" (as with Jevons' logic machines, or Fischer's "aggregative mechanical thought"). Frege appeals to "organic connection" and speaks of fruitful concepts as containing conclusions "like a plant in its seeds". Frege would have expected his apparent metaphors to have been understood in a very specific way, as alluding to a recognized contrast between "organic" and "mechanical" connection,

[**mechanische/organische Verbindung** and cognates] that was applied by Snell and those close to him not only to distinctions between biological and physical reasoning but also to distinctions of types of reasoning in arithmetic and geometry. Snell's account of conceptual development as well as his account of the development of species were structured around the idea of "development from a seed". In addition, Snell drew explicitly a connection that is only tacit in Frege, between the "organic" structure of fruitful concepts, and their fruitfulness - i.e. their potential for supporting novel insights. Snell's vision of the connection between organic structure and creativity draws on Kant's **Critique of Judgement**, which turns out to have been an unexpectedly salient touchstone in Frege's world. h on their own intentions.