

In Memoriam

BRUNO VON FREYTAG LÖRINGHOFF

(1912 – 1996)

Bruno Baron VON FREYTAG LÖRINGHOFF, born on 6 November 1912 in Bilderlingshof bei Riga, died on 28 February 1996 in Tübingen, where he had been a faculty member in the philosophy department at the university.

Among his specializations were history and philosophy of logic, including the history of logic machines, and especially the earliest history of calculating machines.

In the philosophy of logic, he presented a series of theses to the symposium on “Philosophical Fundamental Questions of Logisitic” during the Third German Congress of Philosophy that was held in Bremen from 1 to 5 October 1950. He argued that the various logical systems are not “pure”, but that each of them includes a “pure kernel”, that can be identified and separated out. The kernel in question is pure philosophical logic, logic “*tout court*,” and it is characterized by its object, namely identity, contradiction, and their “interweaving” (“*Verflechtung*”). Although there are many logical calculi, pure logic is unique, and the diverse logical calculi are mathematical systems that must be interpreted with the aid of pure logic. For Freytag Löringhoff, “[m]athematics presupposes logic and cannot found it.” Rather, calculi presuppose a language, which in turn presupposes the principles of logic. Logical calculi begin from elements which require analysis through pure logic. The most fundamental element in logisitic is judgment (*Urteil*); the most fundamental element in logic is concept (*Begriff*). Pure philosophical logic is a closed, self-contained, system, without fundamental flaws and of great beauty and wide applicability, and attacks against classical logic are largely unjustified. Freytag-Löringhoff was a staunch proponent of Aristotelian logic, and he devised extensions of syllogistic to compete with modern logisitic. Joseph Bocheński, Paul Bernays, and Béla Juhos were among those at the symposium who challenged Freytag Löringhoff’s conception of the nature of logic, asking whether implication and quantification, which are neither identity, nor contradiction, nor their interweaving, must perforce be excluded from “pure logic”, and Juhos compared the relation between logisitic and classical logic with that between non-Euclidean geometries and Euclidean geometry. Haskell Curry contested the thesis that the construction of a logical system is founded

upon any logical premises, arguing that we can construct various kinds of generalized logics.

Freytag-Löringhoff's most important contributions to the history of logic and to the history of mathematics in general, were his studies and descriptions from 1957 on of the calculating machine, built by Wilhelm Schickard in 1623, which antedates the machines of Pascal (1642) and Leibniz (1673). A discussion of Schickard's machine can be found in his paper "Wilhelm Schickard und seine Rechenmaschin von 1623" (Tübingen, Attempto Verlag Tübingen, 1987). During his lifetime, he reconstructed several models of the Schickard device, one of which he kept in his home, another on display in the Kepler Museum. A discussion of the engineering of the machine and its reconstruction are found in Freytag Löringhoff's paper "Gedanken zur Rekonstruktion der Schickardschen astronomische Stäbchen" (pp. 4–13 in Freytag Löringhoff and Matthias Schramm, *Comptus: Die astronomischen Rechenstäbchen von Wilhelm Schickard (22.4.1592 – 23.10.1635)*, Tübingen, Attempto Verlag Tübingen, 1989). Freytag Löringhoff's 1960 reconstruction of Schickard's calculating machine is featured on the face of a postcard printed for the University of Tübingen and on the stamp issued by the Federal Republic of Germany affixed to a first-day cover in celebration of the 350th anniversary of the construction of the machine.

Freytag Löringhoff's other work includes the article 'Logik' in the *Evangelisches Kirchenlexicon* (edited by Erwin Fahlbusch, *et al.*; Göttingen, Vandenhoeck & Ruprecht), pp. 176–180 and the 'Zur Gegenwart und Zukunft der "Tübinger Logik"' (Tübingen, Attempto Verlag Tübingen, 1990). The latter is principally a historical discussion of Aristotelian logic, which is identified with syllogistic. The Boole-Schröder algebra is interpreted as a new and wider form of Aristotelian logic, expanded with the antisymmetry of duality. "Tübinger logic" views ancient syllogistic merely as small subspecies of a wider logic which is comprised of deduction, abduction, and graphical logic, more general than propositional logic. The article is accompanied by a diskette containing a corresponding computer program which he developed for teaching the use of the Tübingen logic. Not unnaturally, Freytag Löringhoff was also interested in the developing mechanical and graphical models and apparati for representing logical relations. Thus, he built a cube for his Tübingen logic as an extension of the Aristotelian square of opposition, and Shea Zellweger has noted (private communication) that Freytag Löringhoff developed and employed a rhombic dodecahedron to model the sixteen binary connectives of logic.

The Editor