

DISCUSSION

RÜSTOW'S THESIS ON RUSSELL'S PARADOX*

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In 1910 the B.G. Teubner Verlag in Leipzig published a book entitled *Der Lügner. Theorie, Geschichte und Auflösung* by Alexander Rüstow (1885–1963), who was at that time member of the scientific staff of that publishing house and later became famous as one of the fathers of German social market economy. It was the printed version of his dissertation presented already in 1908 to the Philosophical Faculty of the University of Erlangen. The printed version has three parts. After a discussion of the logical and set-theoretical paradoxes (I “Theorie”) Rüstow treats the history of the paradoxes (II “Geschichte”), presenting above all several versions of the Liar Paradox in ancient philosophy. In the last part (III “Auflösung”) he attempts a solution of the paradoxes, among them Russell’s paradox. As Kenneth Blackwell pointed out to me, Rüstow’s doctoral thesis might be one of the oldest theses on Russell. Therefore it seems to be worthwhile to sketch its historical context.

Rüstow was already in his school times in Berlin a friend of Leonard Nelson (1882–1927) who became later the founder of the Neue Fries’sche Schule in Göttingen. Rüstow’s thesis is an outgrowth of the early philosophical discussion of Russell’s paradox in Göttingen. This discussion was evoked by Hilbert’s early reaction on the publication of the paradoxes in his Heidelberg lecture “Über die Grundlagen der Logik und der Arithmetik” (1904, published 1905). It became relevant for the Nelson circle because Gerhard Hessenberg (1874–1925), another friend of Nelson’s, and co-editor of the circle’s journal *Abhandlungen der Fries’schen Schule. N.F.*, intended to write a report on set-theory for this

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journal ("Grundbegriffe der Mengenlehre", published in vol. 1, no. 4 [1906], 479–706). In June 1905 Nelson directed Hessenberg's interest to Russell's *Principles of Mathematics* (Cambridge University Press: Cambridge, 1903) and in February 1906 he sent him the book. Hessenberg's judgement was rather scathing, he had found almost nothing that made any impression on him, and criticized heavily that Russell expatiated "the completely vague contradiction of the set of all sets not being subsets of themselves in a whole chapter." In his "Grundbegriffe der Mengenlehre" Hessenberg commented that Russell's paradox is not dangerous for the mathematician who has nothing to do with the set of all things.

Contrary to Hessenberg the more philosophically minded members of Nelson's circle were electrified. Especially Heinrich Goesch (1880–1930) was convinced he had a solution of Russell's impredicability paradox. In June 1906 he wrote to Nelson that he intended to publish his solution in the *Abhandlungen* and that he thought that "the matter is done in few days." It was due to the discussion of Goesch's "solution" that Nelson and his closest collaborator in Göttingen Kurt Grelling (1886–1942) planned to write a note of their own on the conditions necessary for a *solution* of the paradoxes. In this famous article by Grelling and Nelson, "Bemerkungen zu den Paradoxieen von Russell und Burali-Forti," *Abhandlungen* vol. 2, no. 3 (1908), 301–334, which contains the first formulation of the "heterological" or Grelling's paradox, only a short appendix by Goesch was published (324–328). At the same time Alexander Rüstow presented the manuscript of his thesis to Nelson and asked him whether it could be published in the *Abhandlungen*. This manuscript which he submitted to the University of Erlangen in summer 1908 was entitled "Der Lügner. Theorie, Geschichte und Auflösung des Russellschen Paradoxons," the last words "des Russellschen Paradoxons" being omitted in the published version. Nelson refused to publish the paper, since he regarded Rüstow's solution (by questioning the use of the law of determination [*tertium non datur*]) as similar to Goesch's which he had already rejected.

Rüstow's book was only published two years later, and it is quite evident that Rüstow made substantial changes, since he uses, e.g., the results of the joint paper by Grelling and Nelson. I did not find the manuscript version of Rüstow's thesis, neither in his "Promotionsakte" in Erlangen, nor in his *Nachlass* stored at the Bundesarchiv in Koblenz. The original title can be found in the files of the Erlangen Philosophical Faculty. In a letter to the Dean of 16 June 1909 asking for an extension of the date of submission of the "Pflichtexemplare" Rüstow wrote that he intends to add and to correct many special things and that he further-

more wants to simplify and to round off the presentation in a considerable manner.

Rüstow's book became famous for its historical and philological parts. Concerning his solution Heinrich Scholz could be quoted: "The announced 'solution', however, deserves its name only insofar as it satisfies the author" (H.S., "Die Wissenschaftslehre Bolzanos," *Abhandlungen der Fries'schen Schule* N.F. 6, nos. 3-4 (1937), 399-472; quoted from H.S., *Mathesis Universalis. Abhandlungen zur Philosophie als strenger Wissenschaft*, ed. Hans Hermes/Friedrich Kambartel/Joachim Ritter, Wissenschaftliche Buchgesellschaft: Darmstadt 1961, S. 265, footnote).

Let me add a word on the fact that Rüstow gained his degree from the University of Erlangen. It was not so unusual in Germany of that time to gain a degree from a university where the candidates never had studied. Nelson had heavy problems with the philosophy professors in Göttingen, on the other hand he had some relations to Erlangen, where his uncle Paul Hensel held a chair in philosophy. Therefore it was a good address for members of Nelson's circle to apply for a degree. Besides Rüstow, Heinrich Goesch and Hans Reichenbach (who was not a member of the circle, but stood close to it) received their doctoral degrees from Erlangen.

This note is based on archival material, especially the papers of Leonard Nelson in the Archiv der sozialen Demokratie, Bonn, and the Bundesarchiv at Potsdam. A detailed presentation of the story can be found in my book *Hilbertprogramm und Kritische Philosophie. Das Göttinger Modelle interdisziplinärer Zusammenarbeit zwischen Mathematik und Philosophie* (Vandenhoeck & Ruprecht: Göttingen, 1990), pp. 168-195.