

# Preface

Why – so the attentive reader may ask – does the English translation of the correspondence between Emil Artin and Helmut Hasse appear in the series *Contributions in Mathematical and Computational Science* jointly edited by the MAThematics Center Heidelberg and the Heidelberg Graduate School? Apparently Artin has never visited Heidelberg – at least I am not aware of such a visit; thus there is no special historical relation between Emil Artin and Heidelberg. Apart from his ground breaking contributions to number theory it is mainly his way of doing (or perhaps performing) mathematics and of thinking about mathematics that serves us as a model and a source of inspiration. Almost all contemporary areas of research at the Mathematical Institute of Heidelberg have probably been influenced in one way or another by Artin. For this reason we feel obliged to keep the memory of Artin and his work alive both in Heidelberg and elsewhere.

We invite the readers to read about Artin’s life, for example in the impressive description by Karin Reich [Rei07] or in Section I § 2 in this volume. Here we only remark that Hasse and Artin probably first met in 1922 at the yearly meeting of the German Union of Mathematicians (DMV) in Leipzig; from 1923 to 1934, they exchanged numerous letters that are of highest mathematical interest. The year 1930 is particularly outstanding since Artin explained his theory of L-series in seven letters. It is the aim of this volume to make these letters available to English speaking readers.

Emil Artin did not think of mathematics as a science in the first place, but rather as a form of art; he praised its structural beauty and was highly pleased when he succeeded in letting his audience see the entire building of mathematics with all its ramifications. He is often praised for his special aptitude for communication. According to Gian-Carlo Rota<sup>1</sup>, Artin was a most gifted teacher:

*“His lectures are best described as polished diamonds. They were delivered with the virtuoso’s spontaneity that comes only after lengthy and excruciating rehearsal, always without notes. Very rarely did he make a mistake or forget a step in a proof. When absolutely lost, he*

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<sup>1</sup> *Indiscrete Thoughts*, Boston, Basel, Berlin 1997, p. 14.

*would pull out of his pocket a tiny sheet of paper, glance at it quickly, and then turn to the blackboard, like a child caught cheating.”*

An obituary in the German daily “Die Welt” from January 1963 describes him as follows:

*“With Emil Artin, the mathematical science has lost one of its most eminent and pronounced representatives. [...] This rare gift to make simple and transparent structures visible in apparently highly complicated areas has earned him a large number of fundamental results in his main areas of research, higher number theory and algebra, which all are distinguished by the elegance of their formulation and the comprehensibility of their importance. With a rare vividness and simplicity of expression he was able to make the most difficult results intelligible to this audience in lectures and conversations.”*

It is this spirit which impresses us and by which we would like to be inspired. Apart from this publication, MATCH commemorates Artin by staging the yearly Emil-Artin-lectures. The first such lecture was given by Pièrre Colmez in 2012, the second one by Michael Rapoport and Hélène Esnault this year. By this we hope to keep the memory of the life and work of Emil Artin alive.

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