Abstract. This workshop addressed issues of discipline and style in number theory, algebra, geometry, topology, analysis, and mathematical physics. Most speakers presented case studies, but some offered global surveys of how stylistic shifts informed the transition and transformation of special research fields. Older traditions in established research communities were considered alongside newer trends, including changing views regarding the role of proof.

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Introduction by the Organisers

This interdisciplinary workshop brought together mathematicians, historians, and philosophers to discuss a theme of general interest for understanding developments in mathematics over a span of two hundred years. The emergence and development of various disciplines in pure mathematics after 1800 has now been studied in a number of special contexts, some of which played an important role in shaping the character of modern research traditions. It has long been understood that the period after 1800 saw a kind of emancipation of mathematical research from related work in nearby fields, especially astronomy and physics. This general trend not only led to a proliferation of special disciplines and wholly new fields of knowledge, it also went hand in hand with a variety of innovative styles, new ways of doing and presenting mathematics. Issues of style have long been central for historians of art and literature, but such matters have seldom been addressed in the historical literature on mathematics, despite the fact that mathematicians themselves have often been acutely aware of the importance of creative styles. During the last
few decades, however, there has been a growing interest in various shifts within the larger disciplinary matrix of mathematics during the nineteenth and twentieth centuries. This workshop therefore aimed to shed new light on these complex processes by considering ways in which issues of style–operating on the individual, communal, and national levels–shaped and guided research activities in important fields. Approximately half of the program dealt directly with mainstream fields in pure mathematics, addressing issues of discipline and style in number theory, algebra, geometry, topology, and analysis. A session on mathematical physics helped to round out this picture by looking across the usual disciplinary boundaries. Most of the speakers focused on subtler shifts in style and substance relevant to their special theme, but a few offered more global surveys of how stylistic shifts informed the transition and transformation of special research fields. Older traditions in established research communities were considered alongside newer trends, including changing views regarding the role of proof. The role of journals as a medium of communication, but also for staking out priority claims and molding disciplines, received considerable attention. Several speakers also dealt with problematic issues connected with the use and abuse of stylistic issues to promote special agendas. As a whole, this workshop broke significant new ground by showing through a rich variety of examples how stylistic and disciplinary factors affected major developments in mathematics over the last two centuries.