

## Preface

When the International Congress of Mathematicians convened in Oslo between 14 and 18 July 1936, Europe was in uproar. The Nazis had been in power in Germany since 1933 and their infamous law of 7 April that same year had led to the expulsion of thousands of scholars. The anti-Semitic “Nuremberg Laws” of September 1935, i.e., the “Law for the Protection of German Blood and German Honour” and the “Reich Citizenship Law”, exacerbated the situation, particularly for those German scholars who were of Jewish origin. Many dismissed mathematicians were looking for jobs abroad or tried at least to maintain contacts with the international community. Some of them used the congress in Oslo for this purpose, as difficult and expensive as it was for them to visit the venue. On 9 March 1935, Hermann Göring had announced the existence of a German Air Force and one week later Hitler proclaimed the General Draft. These measures and the remilitarisation of the Rhineland in March 1936 went against the military stipulations of the Treaty of Versailles, but were tolerated by the Western Allies. The Nazis enhanced their “international success” (in the eyes also of German participants in Oslo such as Erhardt Schmidt and Helmut Hasse) by organising the Olympic Games in Berlin in the first half of August 1936. This was shortly after the Oslo congress, and was meant to present Germany as a peace-loving nation. Already in November 1935, the League of Nations, which included among its members such countries as Norway that had remained neutral during the First World War, had proclaimed sanctions against Italy for its aggression against and subsequent occupation of Ethiopia (then Abyssinia). Although the sanctions were officially lifted on 15 July 1936 — during the Oslo congress — this came too late for the Italian mathematicians who had been barred by Mussolini from participating. While the representation of algebraic geometry at the congress suffered in particular due to the absence of the Italians, topology was affected by the non-appearance of the Russians, who had been prevented from coming to Oslo by Stalin and his Politburo. Exactly at the time of the congress in the Norwegian capital, the leading Soviet communist newspaper *Pravda* ran a campaign against Russian mathematicians, such as N. N. Luzin, whose behaviour was deemed to be politically unacceptable. The fact that Stalin’s main opponent Leon Trotsky had been granted asylum in Norway in 1935 by the newly established Social Democratic government in all likelihood did not increase the dictator’s willingness to let the USSR’s leading scientists visit that country. As to German-Norwegian relations, they had been burdened by the affair surrounding the Nobel Peace Prize for 1935. It was finally awarded in November 1936 — one year late and *in absentia* — to the German journalist Carl von Ossietzky who had been taken to a concentration camp by the Nazis and died from the after-effects in 1938. The fearless pacifist had warned the world about German remilitarisation. In the Norwegian Nobel Committee, internal disagreement prevailed, and two of its

members stepped down for fear of German reactions: one of these members was the foreign minister Halvdan Koht, who had addressed the Oslo ICM in July that year. The press debate was fierce, in Norwegian, German, and international newspapers. In 1937 Hitler issued a decree forbidding Germans from accepting Nobel Prizes in any category “for all future times”. Under these circumstances, it is no wonder that the German delegation to the Oslo congress was politically selected and supervised. Its leader, Walther Lietzmann, had to contact the Nazi authorities in Oslo during his stay and had to send a political and mathematical report to the government afterwards.

The politics of appeasement towards Nazi Germany and Fascist Italy by the Western Powers, exemplified by the inconsequential sanctions against Italy, continued in the years to come. Political events, such as the beginning of the Civil War in Spain a few weeks after the congress, the occupation of Austria by the Nazis, the “Reichskristallnacht” and the Munich Conference (all 1938), the occupation of Czechoslovakia in March 1939, and finally the invasion of Poland in September that year, reveal the Oslo congress as having been “on the eve of the Second World War”. Indeed the next ICM, agreed in Oslo for 1940, would not convene until 1950. We are aware that the historical actors involved in the events of 1936, the mathematicians in Oslo, could not possibly anticipate the war or the delay of the next congress. But history has to be written with a view also to consequences, and it is in this sense that we understand the subtitle of our book.

We will go in detail into this political background, but we are aware that beside disruption and discontinuity there was also continuity, in particular developments both within mathematics and in the social infrastructure of science, which cannot be reduced to contemporary political events.

The history of the various ICMs from their inauguration in the nineteenth century, but in particular in the changed international environment following the First World War, has to be taken into account as well. The final decades of the nineteenth century saw an increase in internationalist sentiments in much of Europe and North America. In the academic sphere, this manifested itself in the establishment of regular discipline-specific international conferences. Although they appeared quite late in the period, the International Congresses of Mathematicians provide us with a prime example of such a movement. Starting from the initial meeting in Zurich in 1897, the attendant mathematicians have usually claimed the separation of mathematics from world politics. As one might expect, however, the situation was rather more complicated from the start. Even in the choice of neutral Zurich as the venue for the first ICM, less than thirty years after the Franco-Prussian War, we see a shading of the congress organisation by wider world events. Further subtle effects appeared in the staging of the following early congresses, such as the relative lack of French representation at the Heidelberg congress of 1904, but for much more dramatic consequences of political events on the ICMs, we must look to the First World War, which led to the cancellation of the planned meeting of 1916 (Stockholm), and to the congresses of the early 1920s (Strasbourg and Toronto) with their exclusion of mathematicians from the defeated nations. Particular political importance for mathematics may be found in the ICM that was held in Bologna in 1928, this being the first international congress after the war at which Germany and its former wartime allies were allowed to take part with equal rights. At the same time, Bologna 1928 was the first ICM to take place under dictatorial conditions

— in Mussolini’s Italy. Thus, despite the readmission of German mathematicians, the tensions of the decade may have contributed to the decision there to return to politically neutral Switzerland and Zurich in 1932.

Despite belonging to a nation that had been neutral during the First World War, the Norwegian organisers were not neutral in their desire to promote the mathematical interests of their nation, and of Scandinavian mathematicians more generally. The result was that some of the new mathematical developments of the 1920s and 1930s were clearly represented at the congress, while others that we might expect also to see were not, partly influenced by political factors, as described above.

Thus, the Oslo congress appears as a mathematical and political melting pot, standing between the academic fall-out of the First World War and the further disruptions of the Second. In the present volume, we describe the ways in which the political situation shaped the staging of the congress, and the consequences that this had for the development of mathematics in the 1930s. The congress itself provides us with a snapshot of the mathematics of that decade, made the more interesting by the fact that this was the first ICM at which the now well-established Fields Medals were awarded.

The book is organised in four parts. Part 1 contains Chapter 1 (Introduction). It concerns the prehistory of the 1936 ICM, with only brief references to the time before the First World War. This terrible event a hundred years ago, referred to by some as the original catastrophe of the twentieth century, shaped much of the ensuing general political and scientific environment. Looking at the Oslo congress in particular, but having broader issues of mathematical communication in mind, we identify certain “strategies” that were either consciously adopted by the various countries and their representatives, or are retrospectively observed by us as historians. Finally in this opening chapter we give an overview of the sources that have been used when writing this book.

Part 2 of our book is devoted to The Politics of the Congress. Its first chapter (Chapter 2) concerns the preparation of the congress by the Norwegian organisers. It is also in this chapter that we include some remarks about the general events of the congress itself, including social gatherings. However, we try to restrict the narrative to information which cannot be easily drawn from the published proceedings of the congress. The background to the selection of the German delegation, as well as their subsequent interaction with other mathematicians at the congress, is the subject of Chapter 3. This is followed by two chapters (Chapters 4 and 5) that deal, respectively, with the absence of Soviet and Italian mathematicians from the congress, while Chapter 6 examines the ways in which the congress was reflected in contemporary Norwegian newspapers. The many interviews with refugees in these newspaper articles, which are partly reproduced in the appendices of this book, provide new information about the conditions for emigration of mathematicians from Nazi Germany in the 1930s, arguably the most important social and political factor influencing the global development of mathematics in that decade. At the same time, the newspaper reports give insight into Norwegian attitudes towards the refugees and Nazi Germany. In Chapter 7, we conclude our discussion of political issues in a more narrow sense by looking briefly at the aftermath of the congress and at international mathematics shortly before, during, and after the Second World War. We discuss the plans among American mathematicians for the ICM in 1940,

although this fell victim to the war. The failed German attempt to “restructure” European mathematics during the war is discussed, and efforts to reconnect European and American mathematics, as revealed in a conference in Princeton in 1946, are indicated. The imminent Cold War between the West and its former allies in Russia, the re-establishment of the IMU, and the delayed ICM in Cambridge, Massachusetts, in 1950 can only be hinted at.

Part 3 of the book is about The Mathematics of the Congress. While the first two parts of the book, as well as the fourth (see below), are hopefully accessible and interesting to a general readership including historians and natural scientists, the third part is aimed primarily at mathematicians, although without going too much into the details of the various disciplines. Chapters 8 and 9 set the congress into its mathematical context, and assess its impact upon twentieth-century mathematics via a detailed discussion of the content of the plenary lectures. Remarks on the ICMI session at the congress and thus on the international state of mathematics education can be found in the very brief Chapter 10, and Chapter 11 contains conclusions regarding the mathematics of the congress.

The final part of the book consists of a series of appendices. It contains transcriptions and English translations of a range of relevant archival materials and newspaper articles, often shedding light on the situation of mathematical refugees. Naturally, these appendices relate to various previous chapters in the book, in particular to Chapters 6 and 7. The list of mathematicians to be invited to the failed 1940 ICM (Appendix H), as well as discussions within the American organising committee about recent tendencies in several modern subdisciplines, stand out. We also present the rather obscure, but politically influential figure of Eberhard Kern, the German Nazi representative in Oslo during the time of the congress in 1936, through an anonymous satirical article written about him in a Norwegian daily in 1937. This and other appendices therefore deepen the specific Norwegian dimension of the book and thus, we hope, contribute to the further unveiling of the still under-explored history of Norwegian and Scandinavian science and mathematics.

In recent years and decades political developments have taken place which nobody would have anticipated. Nationalism in various regions of the world is once again on the rise and the danger of global conflict is far from being banished. It seems also from this perspective that another look at the troubled political situation around the Oslo congress of 1936 is warranted and the potential and the need of mathematics to uphold rationality and to foster international understanding and “to meet under the integral sign” should be always on our minds.

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## Abbreviations

AMS	=	American Mathematical Society
AUMA	=	Ausstellungs- und Messe-Ausschuss der Deutschen Wirtschaft
CNR	=	Consiglio Nazionale delle Ricerche (Italy)
CPSU	=	Communist Party of the Soviet Union
DKZ	=	Deutsche Kongreßzentrale
DMV	=	Deutsche Mathematiker-Vereinigung
ICAM	=	International Congress for Applied Mechanics
ICM	=	International Congress of Mathematicians
ICMI	=	International Commission on Mathematical Instruction
ICTAM	=	International Congress for Theoretical and Applied Mechanics
INdAM	=	Istituto Nazionale di Alta Matematica (Italy)
IRC	=	International Research Council
IEB	=	International Education Board
IMU	=	International Mathematical Union
IMUK	=	Internationale Mathematische Unterrichtskommission (=ICMI)
IRC	=	International Research Council
KUD	=	Kirke- og undervisningsdepartementet (Norway)
LMS	=	London Mathematical Society
MAA	=	Mathematical Association of America
REM	=	Reichserziehungsministerium (Germany)
SCM	=	Scandinavian Congress of Mathematicians
UMI	=	Unione Matematica Italiana