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Geschiedenis

Ce périodique foncièrement international

The birth and youth of *Compositio Mathematica*

The journal ‘*Compositio Mathematica*’ was founded by Luitzen E.J. Brouwer to counter his dismissal from the ‘*Mathematische Annalen*’ in 1928. In spite of the economic crisis, Brouwer succeeded in finding a publisher, Noordhoff, an editorial board and subscribers. The founding took place at the time of the rise of the Third Reich, which caused problems of a political nature. The German editors followed Ludwig Bieberbach in 1934 when he left the board because Brouwer refused to dismiss the Jewish editors. After a period of flourishing, the publication was suspended at the beginning of the occupation of Holland in 1940. The post-war restart of the journal led to a painful conflict between Brouwer and the publisher, which ended with Brouwer’s withdrawal from power. After having founded his own journal in the early 1930s, he lost it again some twenty years later. This article appeared in the September 2006 issue of the ‘*Compositio Mathematica*’.

The early history of *Compositio Mathematica* is intimately intertwined with political issues, which in turn are closely linked to general European history. This is true for not only Luitzen E.J. Brouwer’s initial motivation to found *Compositio*, but also for the considerable editorial turmoil in 1934–35 and, finally, for the temporary demise of *Compositio* after German troops invaded the Netherlands in May 1940. One can discern three periods in the history of *Compositio*: the first period under Brouwer’s aegis; the second one after the reorganization in the 1950s, which is where our account stops; and we are now in the third period under the new publisher.

The main sources we draw on are *Mystic, Geometer, and Intuitionist: The Life of L.E.J. Brouwer. Hope and Disillusion* [5], and *Mathematicians at war. Power struggles in Nazi Germany’s mathematical community: Gustav Doetsch and Wilhelm Süß* [9]. In addition use is made of oral communications of Hans Freudenthal and of material in the Brouwer and the Freudenthal archives. We are indebted to Oxford University Press and *Revue d’histoire des mathématiques* for their permission to make free use of the material published in the above-mentioned sources. Letters to and from Brouwer and Freudenthal are in the archives of Brouwer and Freudenthal.

How *Compositio* was founded

In a sense, the birth of *Compositio* was the result of totally unforeseen circumstances. Nobody was actually planning for a new mathematics journal, and the mathematical community was quite content with the assortment of international journals. The unintended cause of the founding of this new journal was a curious conflict, that, from our present-day point of view, was totally unnecessary.

The conflict is known by the name Albert Einstein gave it: the *war of the frogs and the mice*. The story has been told elsewhere, and there is no need to go into it here. It will suffice to say that there were at least three causes (more or less independent) of the conflict. There was a deep foundational rift separating the two antagonists, L.E.J. Brouwer and David Hilbert. This part has gone down in history as the ‘intuitionism-formalism debate’. The second cause was of a political nature; it was the legacy of the 1914–18 war that had split the scientific community along the lines of the opposing parties. Brouwer’s unreserved and full opposition to the boycott of scientists from the Central coalition by the Allied countries had rendered him in the eyes of Hilbert un-

fit to act in the name of the *Mathematische Annalen*. Finally there was a hardly veiled conviction that the *Mathematische Annalen* belonged in Göttingen; Brouwer was viewed in this respect as a threat by Hilbert. Needless to say, this combination of frictions did not endear the two parties to each other. Hilbert's ill-health in combination with the altercation concerning the International Congress of Mathematics in Bologna caused Hilbert to dismiss Brouwer from the editorial board of the *Mathematische Annalen*. Although a face-saving solution to this grave insult was found, the whole affair left a nasty impression (see [4] and [5]).

The affair left Brouwer with a deep grudge. He felt that he was the victim of malicious injustice, and he considered ways and means to counteract the results of the past events. Thus he contemplated the plan to found his own journal, originally brought up in a discussion between the publisher Ferdinand Springer and Brouwer and Ludwig Bieberbach (1886–1982), editors of the *Annalen*, perhaps for tactical reasons. Springer himself had at the time judged this a fair solution. He may have had his doubts about the feasibility, but that clearly was not his business. Indeed Brouwer cautiously inquired with the Teubner Verlag whether it was interested in founding a new journal. The reaction was predictable but disappointing. After consulting Bieberbach, who had been on Brouwer's side in the *war of the frogs and the mice*, the publisher reached the conclusion that a new journal was a highly doubtful business proposition, and that it was questionable whether enough subscribers could be found to make the journal profitable. One must keep in mind that the world, but in particular Germany, was experiencing one of its worst economic crises, so any publisher would think twice before starting a new journal. The sale of the status journal, *Mathematische Annalen*, to Springer must still have rankled, for the Teubner spokesman wrote that they would not gladly run the risk of another debacle, 'after the *Annalen* had already been wrenched from our hands'.

However discouraging this might have been, Brouwer did not give up so easily; he approached the Dutch publisher Noordhoff, a firm with some experience in mathematics, as it published the journal of the Dutch Mathematical Society, *Wiskundig Genootschap*, and it brought Dutch language mathematics textbooks onto the market. Already in 1929 Brouwer had opened negotiations with Noordhoff. On 24 October J. Noordhoff and

Brouwer met in the house of Pieter Wijdenes, the publisher's advisor in mathematical matters. The mathematician Wijdenes, like Brouwer one of D. J. Korteweg's students, was an extremely successful author of mathematics textbooks for high schools; Wijdenes' acquaintance with Brouwer went back to their student years. The agenda for the meeting mentioned 'the Journal and further publications'. Noordhoff was no stranger to Brouwer; his publishing company had already marketed the commercial versions of Brouwer's dissertation and his inaugural lecture, and it had published a small booklet containing the unreliability paper, which has become famous for its rejection of the principle of the excluded middle, and both inaugural lectures (see [1], [2], [3]). Noordhoff carried a number of Brouwer's publications in his catalogue until 1958.

In 1929 Noordhoff tried to convince Brouwer that a new edition of the dissertation should be published. Brouwer was, however, not too keen on the idea. In his view, 'the book is now out of date and it would have to be totally revised. In principle I am prepared to do so, but first there is a lot of other work to be done by me, among other things the publication as a book of the course on intuitionism I gave in Berlin, which I hope to submit to you soon, if in the meantime the journal has been realized.' (Brouwer to Noordhoff, 10 October 1929; cf. also p. 550 ff [5]. Unless otherwise noted, the material quoted can be found in the Brouwer archive.)

Noordhoff was sufficiently interested in the publication of an international mathematics journal to give Brouwer the go-ahead. And so the preparations started; one of Brouwer's first decisions was the name: *Compositio Mathematica*. An important detail was the choice of editors for the journal. Brouwer decided to follow the example of the old *Annalen*: a modest board of managing editors and a large board of associate editors. Already in June 1930 the first letters went out to sound the prospective editors, and in October the definite letters of invitation were mailed.

The first list of mathematicians invited to join contained the names of Paul Alexandrov, Reinhold Baer, Ludwig Bieberbach, Emile Borel, Élie Cartan, Eduard Čech, Johannes van der Corput, Théophile de Donder, Gustav Doetsch, Luther Eisenhart, Georg Feigl, Maurice Fréchet, Guido Fubini, M. Fujiwara, René Garnier, Jacques Hadamard, Godfrey Harold Hardy, Poul Heegaard, Arend Heyting, Einar Hille, Heinz Hopf, Gaston Julia, Alexander Khintchine, Solomon Lefschetz,

Tullio Levi-Civita, Paul Lévy, Alfred Loewy, Richard von Mises, Paul Montel, John von Neumann, Niels Erik Nørlund, Alexander Ostrowski, Frigyes Riesz, Marcel Riesz, Walter Saxer, Francesco Severi, Waclaw Sierpiński, Wilhelm Süss, Gábor Szegő, Teiji Takagi, Leonida Tonelli, George Valiron, Charles de la Vallée-Poussin, Oswald Veblen, Rolin Wavre, Roland Weitzenböck, Edmund Whittaker, B. M. Wilson and Julius Wolff (Brouwer to Veblen, 11 October 1930, Oswald Veblen Papers, Library of Congress, Washington DC, USA).

In his letter of invitation Brouwer stressed the international character of *Compositio* ('un journal de mathématiques international') (Brouwer to Veblen, 10 June 1930). Though he did not explicitly say so, this was at the same time a pun at Hilbert's leading *Mathematische Annalen*, whose editorial board of twelve had only included two mathematicians from outside Germany before the reorganization of late 1928: Harald Bohr and Brouwer. *Compositio*, however, was to be of highly international character as indicated by the publicity notice on its back cover, which stated in English, French, German and Italian: '*Compositio Mathematica* is intended to further the development of mathematics and at the same time of international co-operation, as is indicated by the international character of the editorial staff.' But the composition of Brouwer's editorial board reflected another issue that was very dear to him: the full reintegration of German mathematicians into the international community: ten out of the forty-nine invited taught in Germany.

The board was in fact as international as one could possibly wish, and there was a judicious mix of the older, established generation, and the younger, coming generation.

One may well assume that most of the above, if not all, were aware of the motivation for the founding of this new journal. This is illustrated by Brouwer's old friend Hadamard. Their friendship went back to 1910, when Brouwer stayed with his brother in Paris. Brouwer had a very high opinion of Hadamard; he was eager to get him on the board, but Hadamard did not quite know what to make of the invitation. He wrote for advice to Einstein, saying that it was tempting to join a truly international journal, but that he was somewhat uncertain if he would in this way be used as a pawn against Hilbert (Hadamard to Einstein, 16 October 1930). Einstein replied a month later that there had indeed been a fell struggle,

"for which Hilbert, in my opinion, carried most of the blame. Brouwer, however, be-



Luitzen E.J. Brouwer

haved at this occasion so excessive and obstinate, that he appears to me a man of pathological irritability (Einstein to Hadamard, 15 November 1930).”

He advised Hadamard to steer clear of this new journal,

“I would unconditionally wash my hands of it, in spite of all respect for the subtleness and the honest character of Brouwer, who is not aware of the abyss of his temperament.”

Eventually, Hadamard and his student Fréchet were alone among the nine French mathematicians invited by Brouwer in not joining the editorial board of *Compositio*. Borel, Cartan, Garnier, Julia, Lévy, Montel and Valiron all joined. So, on the eve of the launch of *Compositio Mathematica* in 1934 it seemed as if the Gods smiled on Brouwer’s truly international project.

The publisher Noordhoff had from the beginning watched the various preparations with a keen interest, but like a good businessman he was not prepared to skate on thin ice; so he took his time, and only on 30 May 1933 did he inform Wijdenes that he agreed to publish *Compositio*, ‘with the professors Brouwer, Van der Corput, Wilson, Julia, and Bieberbach as leaders’ (In the Brouwer archive).

Einstein’s dark predictions concerning Brouwer’s handling of the *Compositio* turned out to be unfounded, partly because Brouwer was a conscientious scholar, who could not sin against scientific codes, and partly because his new assistant, Hans Freudenthal, first under Brouwer’s guidance and gradually on his own, conducted the managing of the journal. Eventually Freudenthal just submitted each complete issue to Brouwer for his fiat. Often Brouwer would not even answer, but he could also, suddenly, show interest in certain papers, and spend his time lavishly on the refereeing and on the supervision of the corrections. Sometimes Brouwer noticed a particular point in a paper a year later, but by then it had already been published.

When the journal was about to be launched, the publisher sent out flyers with information. Among Freudenthal’s documents there is a draft of the German text of the flyer; apparently he was asked to edit the final wording. It is interesting to read Brouwer’s views on the role of a scientific journal in a time when in certain quarters the primacy of politics over science was taken for gospel. As a true internationalist Brouwer was not going to give in to new trends.

“Shortly the first issue of the mathematical journal *Compositio Mathematica*, edited

by 48 representatives of the mathematical sciences from 16 countries, will find itself in print with the publishing house Noordhoff. It will be the task of *Compositio Mathematica*, not only to encourage the development of mathematics by accepting for publication valuable mathematical papers, but also to serve the international scientific cooperation, which is at present more than ever necessary (a covert reference to the events in Germany). To do justice to this aim it is not sufficient to abstain from imposing any national or language-barrier; rather a, as far as possible, international composition of the editorial board is required in order to avoid any bias with respect to national aspects. In view of the nowadays often occurring specialization of mathematicians of specific nations on specific areas of research and methods of research, such a composition offers at the same time a guarantee against any one-sidedness with respect to the mathematical character of the published papers.” (Translation from the German text. There is probably an English version somewhere in some archive, but we have not found any.)

Among those invited to join the board, the Soviet topologist Paul Alexandrov was confronted with a difficult problem. He fully realized that support from the Göttingen group was more valuable than the support Brouwer could give. Although Brouwer had got him a Rockefeller grant, the effective influence of Brouwer was limited and, as things were in the world of mathematics, the backing of Hilbert’s circle, including the publisher Springer, carried infinitely more weight than Brouwer’s influence. So when he was asked to join the editorial board of *Compositio*, he feared a clash of interest with the followers of Hilbert (who would, he thought, not welcome a competing journal). So he declined the invitation.

Freudenthal, always a good observer of the mathematical scene and usually well informed, deplored Alexandrov’s urge to ingratiate himself with the Göttingen people, “. . . who knows if they are so sincere. From the way they treat Noether, one might conclude that they will think twice to get him something in order not to lose him for Göttingen” (Freudenthal to Hopf, 22 December 1930).

Brouwer did not take kindly to Alexandrov’s refusal, (ibid.: “Brouwer schimpft jetzt auf Alexandrov.”) he was doubly disappointed as he had been using his influence attempting to get Alexandrov a chair in Groningen. As we will see, Alexandrov joined the board after all.

The shadows of German politics

Compositio entered the mathematical world in a very awkward period. When Brouwer composed his first list of candidates for the editorial board, the political horizon was unclouded, but by the time real commitments had to be made, the political landscape in Germany was no longer the same. Many competent mathematicians had been forced into exile, or silenced. The first list Brouwer had made contained the following German mathematicians: Baer, Bieberbach, Doetsch, Feigl, Hopf, Loewy, von Mises, von Neumann and Süß.

In 1933, however, when the journal was about to be launched, Hopf had already left Germany for Zürich (in 1930). Following the Nazis' rise to power in January 1933, and the rapidly enacted anti-Jewish legislation of April 1933, Baer emigrated later that year; Loewy was dismissed but stayed in Germany; von Mises left for Istanbul in 1934; von Neumann had decided to go to Princeton for good in 1933; and Szegő also went to the United States. This left, when the first issue of *Compositio* was published in 1934, Bieberbach, Doetsch, Feigl, Loewy and Süß as the contingent on the board from Germany. In addition to these events, Bieberbach, who came to be the most prominent mathematician embracing the Nazi ideology, had come to see the presence of some names on the list of editors as flagrantly incompatible with his new political guidelines. Bieberbach for himself had considered his membership on the editorial board, he had indeed become one of five managing editors, along with Brouwer, Julia in Paris, Wilson in St. Andrews and de Donder in Bruxelles) a good thing, for, in his opinion, it made certain that the name of a man of 'German spirit' appeared among the editors of an international journal.

"I assumed that one would recognise this as an example that the new Germany, notwithstanding its fight with the international Jewry, gladly co-operates with other nations, that meet us, if not with sympathy, then at least with loyalty. Instead people now see often the crucial point in the fact that Jews occur on the cover of *Compositio*." (Bieberbach to Brouwer, 21 June 1934 – copy, Doetsch papers.)

And, he continued, this was explained as a sign of his co-operation with Jews. He could accept the fact that names of Jews occurred on the cover, to show that he was prepared to tolerate the presence of Jews on the board as a defect, in view of the

demonstrated willingness to join the international community. Other nations he assumed would in the end recognize the necessity of the German actions. To his disappointment he was subjected to hostile reactions from all sides. And so "I feel obliged to make the disappearance of the Jews from the editorial board a condition for my presence in the editorial board of *Compositio*." He hoped, he wrote, that the old alliances in matters of international co-operation would make it easier for Brouwer to carry out the necessary steps. The letter ended with the barely veiled threat that the present composition of the board would cause difficulties for the distribution of *Compositio* in Germany. (On the context of Bieberbach's letter, see pp. 16–18 [9].)

In July 1934 Bieberbach wrote to Doetsch, who also was on the board of *Compositio*, urging him to take the same position against Brouwer. Bieberbach explicitly pointed to the fact that he himself acted in complete accordance with the views of the mathematician Theodor Vahlen, a long-standing Nazi who in 1934 had become an influential government official in the Ministry of Education and Research. (Bieberbach to Doetsch, 12 July 1934, Doetsch papers). Doetsch, however, did not give way to Bieberbach but adopted a wait-and-see attitude instead. He wrote to Feigl a few days later, saying that although he felt inclined to join Bieberbach, it would be better if the three of them, i.e. Doetsch, Feigl and Süß, acted unanimously in case Bieberbach did resign. Naturally neither Loewy, who was Jewish, nor Szegő, whom Doetsch thought either to be Jewish or married to a Jewess, played a role in his considerations. This much is clear from a card to Feigl, which contains, in addition to some scathing remarks about Jewish mathematicians and reviewers, the following passage:

"If Bieberbach resigns from *Compositio*, then it would be most desirable that we remaining German editors and editors of German descent act unanimously. Only you and Süß are to be considered. Szegő is a Jew, isn't he? Anyway, he is married to a Jewess. I will just wait for the result of the discussion between Bieberbach and Brouwer, but I am very much inclined to join Bieberbach. Heil Hitler!(Doetsch to Feigl, 16 July 1934.)"

By September, Feigl and Doetsch had decided not to follow Bieberbach's lead. However, in a postcard to Süß, Doetsch acknowledged the necessity to demand an 'appropriate and purely Aryan representation of Germans' on the board of *Compositio*.

(Doetsch to Süß, 9 September 1934, University Archives Freiburg, Süß papers, C89/34). Brouwer, for his part, had no intention of fulfilling Bieberbach's wishes. The list of editors, distributed in November 1934, included all the names Bieberbach wanted to see erased: Baer, Levi-Civita, Loewy, von Mises, etc. Moreover on New Year's Day 1935 the secretariat of *Compositio* sent a circular, composed by Brouwer, to all members of the board declaring that "any editor's public participation in manifestations which could harm the mutual esteem of people and nations was incompatible with his function." ("En raison du caractère délicat que présentent dans plusieurs domaines par le temps qui court les rapports internationaux, la Science semble plus que jamais être appelée à constituer pour l'humanité un refuge sûr d'entendement mutuel. En conséquence le Secrétariat de la Rédaction de *Compositio Mathematica* croit devoir recommander aux rédacteurs de ce périodique foncièrement international, de considérer comme incompatible avec leur fonction, la participation publique à des manifestations pouvant nuire à l'estime mutuelle des peuples et des nations." Cf. p. 18 [9]. This message had its own irony. Would Hilbert not have said the same thing in 1925?) A week later Bieberbach conceded the good intentions of this declaration in a letter to Brouwer, but he could hardly have overlooked that the circular letter had the appearance of an overt admonition to himself, and as a consequence he resigned from *Compositio* with harsh words: "My national sentiment forbids me to belong to an editorial board which includes so many representatives of international Jewry and in particular emigrants." (Bieberbach to Brouwer, 8 January 1935, copy from Doetsch papers.) Brouwer did not even try to keep Bieberbach aboard. He replied: "I hardly have to say, that your decision upset me *very* painfully, but on the other hand is completely respected by me, as I know that it was dictated by your conviction and your conscience." (Brouwer to Bieberbach, 15 January 1935.) And that was the end of a long association between two persons who had shared a mathematical interest for many years, and who had fought the *Conseil* and its boycott shoulder to shoulder.

Bieberbach subsequently wrote again to Doetsch, as well as to Feigl and Süß. He explained that he had discussed the matter with Vahlen and demanded that they follow his example, suggesting that this would be greatly appreciated by Vahlen. Moreover, their resignation would prove them to be in

complete accord with ‘fundamental considerations of the leadership of the state’ (Bieberbach to Doetsch, 19 January 1935, Doetsch papers; on the following see pp. 19–21 [9]). Neither Doetsch nor Feigl nor Süß followed Bieberbach’s advice, but naturally they became nervous by the implicit threat concerning Vahlen and the Ministry of Education and Research. Bieberbach renewed his demand in February 1935. This time Feigl and Süß considered it more than a request; they took it to be an official ministerial order, and thus they were prepared to resign from *Compositio*. But Doetsch had no intention of being bullied into resignation by Bieberbach, who had in the meantime lost his former position as DMV secretary. In March, Doetsch wrote to Bieberbach that his arguments in the letter of resignation to Brouwer were unintelligible, and that he himself would not leave *Compositio*. Doetsch also noted that Bieberbach’s tactics had been very poor in similar cases, such as in 1928, when he had opposed Hilbert in the question of German participation at the Bologna congress, and in September 1934 at the DMV meeting at Pyrmont. On top of this he boldly questioned Bieberbach’s assertion that Vahlen’s opinion on the *Compositio* affair represented the official position of the Ministry of Education and Research or the government. To these reproaches Bieberbach replied that he followed the same tactics as Adolf Hitler: “All power or none” (“*Alle Macht oder keine*”) (Bieberbach to Doetsch, 11 March 1935, Doetsch papers). He suggested that Doetsch should apply for an official statement of the Ministry of Education and Research if he did not feel bound by Vahlen’s instructions and pressed him once more to resign from the board of *Compositio*. Things became even more complicated when, some days later, Brouwer invited his ‘dear friend Doetsch’ to succeed Bieberbach, who had in Brouwer’s words resigned ‘due to his extreme position’, as managing editor representing Germany (Brouwer to Doetsch, 20 March 1935, Doetsch papers). In April 1935 the Ministry of Education and Research decreed that the participation of German scientists in foreign scientific organizations, which in itself was desirable, was nevertheless subject to ministerial approval. Doetsch applied for this approval only in July when he sought to determine whether he could accept Brouwer’s proposal. The official response which finally arrived in September was negative: international co-operation was fine, but participation in an editorial board, which included Jews, was ‘not desirable’ (Ministry of Education and Re-

search, 5 September 1935, Doetsch papers). Doetsch was not happy about this, as he was now compelled to decline Brouwer’s offer, though he would have liked to accept it. He asked for permission to send Brouwer the exact wording of the ministry’s decision, but this was of course not granted. Consequently by mid-November 1935 Doetsch, Feigl and Süß had sent their own letters of resignation to Brouwer. Bieberbach paid a high price for his apparent victory: the collaboration between him, on the one hand, and Doetsch, Feigl and Süß, on the other, came to an early end. The latter three would have liked to remain on the *Compositio* board: Feigl was a friend of Brouwer and one of the teachers of Freudenthal, to whom Brouwer had delegated most of the *Compositio* work; for Süß it would have been a good opportunity to enhance his poor professional status and for Doetsch the position as a managing editor was tempting. He had already considered the membership of the board of *Compositio* prestigious enough to have it mentioned in his entry in the German ‘Who’s who?’ of 1935. In both Doetsch’s and Süß’ career promoting, *Compositio* would have been a welcome device. Therefore they did not willingly cooperate with Bieberbach and Vahlen in the *Compositio* affair, and it needed considerable pressure to bring them into line. Neither of them had anything to gain by joining Bieberbach in his resignation from *Compositio* especially after Bieberbach’s fall from power in the DMV in January 1935.

As it turned out, Bieberbach’s resignation probably was to the advantage of *Compositio*’s further development. His highly visible position as one of the managing editors might have given extra substance to reservations among mathematicians. His resignation, indeed, was welcomed. Norbert Wiener, for example, wrote to Dirk Struik in February 1935: “Now that friend Bieberbach is off the *Compositio* I am sending some of my stuff there.” (Wiener to Struik, 9 February 1935, MIT archives, Norbert Wiener papers, Box 3, 41.)

Running *Compositio*

Compositio thus certainly had its share of difficulties at the start. But once the journal was on its way, things ran smoothly.

Indeed, *Compositio Mathematica* could now begin ‘business as usual’. We find many well-known names among the contributors between 1934 and 1940: Paul Alexandrov, Stefan Bergmann, Garret Birkhoff, Henri Cartan, Samuel Eilenberg, Hans Freuden-

thal (Brouwer’s alter ego in *Compositio* matters), Guido Fubini, Heinz Hopf (who served as one of the managing editors from 1936), Paul Lévy, Alexander Khintchine, Kunihiko Kodaira, Alexander Kurosch, Louis Joel Mordell, John von Neumann, etc. Also, it seems that quite a number of Jewish mathematicians who felt after 1933 no longer welcome to publish in the prestigious German journals turned to *Compositio* as an alternative: Reinhold Baer, Stefan Cohn-Vossen, Friedrich Levi, Alfred Loewy, Robert Remak, Erich Rothe, Issai Schur and Olga Taussky. In sum, by the outbreak of the Second World War *Compositio Mathematica* was a well-established, highly regarded and truly international mathematical journal.

Although Brouwer was the responsible editor, most of the work was done swiftly and competently by Freudenthal. Those who had judged Brouwer incapable of running a journal properly, turned out to be wrong. All the fears that Hilbert claimed to have for the disastrous influence of his Dutch opponent were after all ill-founded. Brouwer did not do any of the things he was suspected of; he did not veto French or Belgian authors or editors, he did not turn his journal into a vehicle for intuitionistic mathematics, he did not reject Russian Jewish authors. In short, *Compositio* became a normal respectable journal. Intuitionistic mathematics did not play an important role; until the Second World War only six such papers appeared, written by Belinfante, Freudenthal, Heyting and Johanson. The scientific journal landscape, in particular in Germany, had changed dramatically since 1933. The new regime did not lose time in infiltrating existing journals; whenever possible and convenient, the *Führer* principle was enforced. This meant as a rule that political motives could, and often did, overrule scientific standards. The *Mathematische Annalen* was no exception. There is a pressing letter from Blumenthal to Hilbert in November 1933, in which he painted in vivid colours the dangers that lay ahead. The worst effect of the new times was the uncertainty that surrounded the Göttingen faculty. ‘If Göttingen becomes a desert, or is populated by professors who discard tradition, then we have to open up new wells, or we come to nought.’ In the light of the present threats, the founding of *Compositio*, which seemed so harmless at the time of the *Annalen* conflict, assumed ominous proportions: ‘On the other hand the *Annalen* are threatened by Brouwer’s newly founded *Compositio Mathematica*, in which, in numbers, a very large staff of international associate editors (*Mitarbeiter*) is brought together. Since

Bieberbach and Feigl have joined this staff, it is clear that we cannot hope for the cooperation of the Berlin school for the *Annalen*. It is even more worrying that also Hopf (Zürich), with whom we always have worked well, has committed himself to this competing enterprise.' (Blumenthal to Hilbert, 11 November 1933.) Blumenthal's conclusion was that the *Annalen* urgently needed an expansion of the editorial board. He suggested Bartel Leendert van der Waerden as a perfect candidate.

The relatively weak position of the *Annalen* at this point in time was a consequence of an over-confident decision in the past: to minimize the editorial board, and to make the *Annalen* even more exclusively a Göttingen matter. Nobody could have surmised that a momentous decision, taken for the wrong reason, would be regretted so soon.

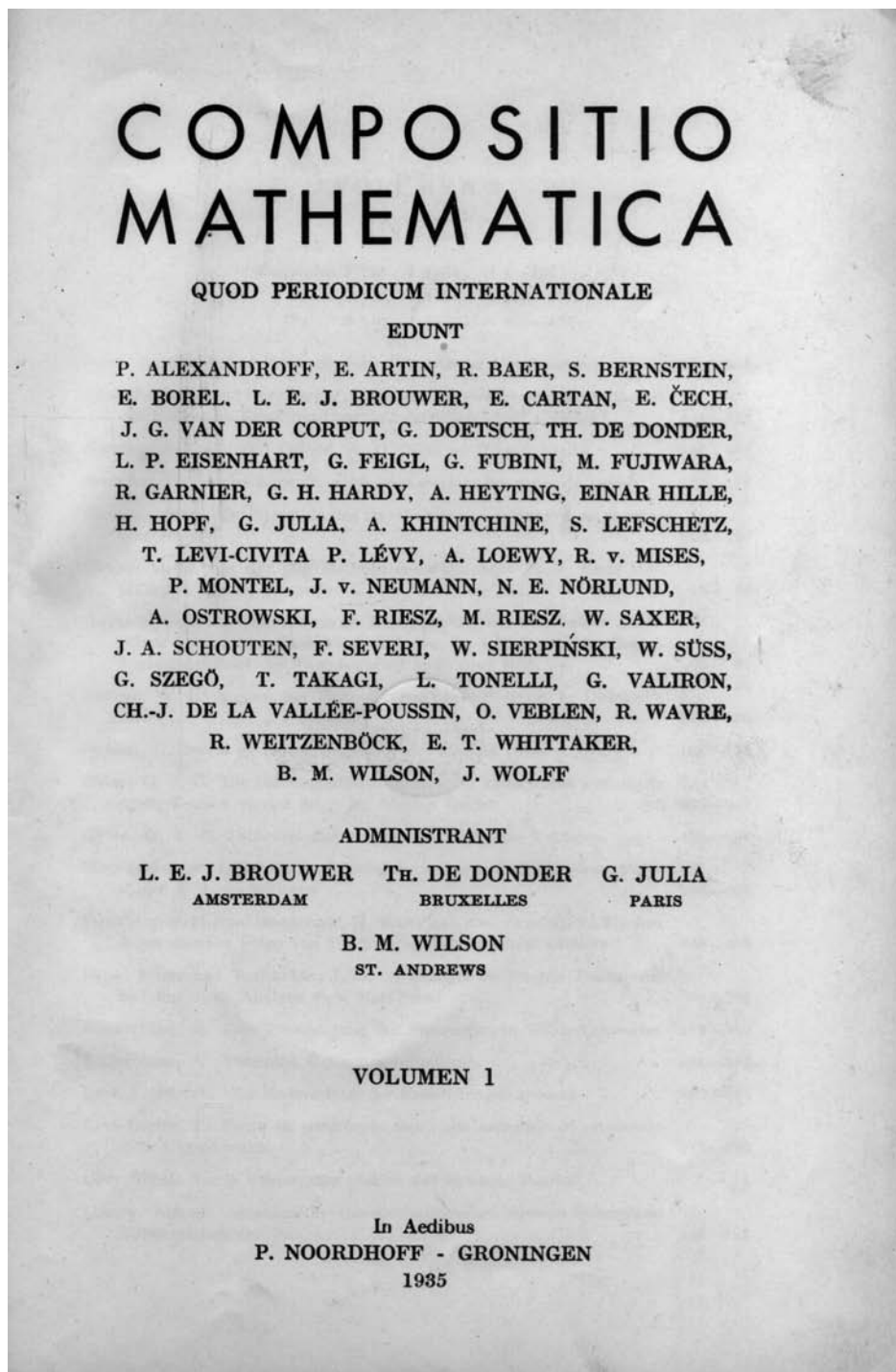
The years between the end of the Grundlagenstreit and the Second World War are almost devoid of creative mathematics in Brouwer's life. A great deal of time was taken up by all kinds of non-mathematical activities, e.g. the town council in Blaricum. Among the more mathematically oriented activities, the founding and organization of the new journal *Compositio Mathematica* was by far the most prominent. Brouwer, after his initial enthusiasm, soon withdrew from the editorial tasks that he had so conscientiously carried out for the *Mathematische Annalen*. He did handle a number of papers himself, and corresponded with the referees and authors. He refereed, for example, the notes of Heyting and Freudenthal on intuitionistic logic and the meaning of implication. The result was a succinct approval:

"Report on the discussion Freudenthal–Heyting.

Interesting discussion on the meaning of the implication of a theorem by another, when nothing is known about the correctness of the latter."

Both papers were duly published in *Compositio* [7], [6]. It is a pity that Brouwer did not enter into the arguments of the papers, as there is scant information on Brouwer's views on intuitionistic logic, and this would have been a perfect occasion. On the other hand, he, as editor in chief, was the only person to read the report. It is only a happy coincidence that this particular report was preserved; the chances were that nobody would ever read it.

Freudenthal handled the editorial matters so diligently and efficiently, that one might wonder why he had not been made an editor. Indeed, he was promised a place on



De voorpagina van het eerste nummer van *Compositio*.

the board, but it never came to anything before the war. It should be pointed out that prestigious journals insisted on prestigious editors, and the fact that Freudenthal was already making his name in mathematics, did not compensate the fact that he was not a professor. Brouwer attached a good deal of value to these formal matters. (The fact that Heyting was an associate editor may be explained by the distribution of the specialisms. There was already ample topological expertise in the board, but Heyting was the only

foundationalist. Moreover, Heyting was a lecturer, and thus he outranked Freudenthal.)

Publication suspended during the war

The quiet situation at *Compositio* was disrupted by the beginning of the Second World War. At first Holland was no party in the conflict, but nonetheless the consequences were being felt even in the country that had known no war since Napoleon. At the university the consequences of the war were at first rather modest, and life went on

much as usual. Freudenthal, Alexandrov and Hopf had started in 1939 the preparations for a *Festschrift* for Brouwer's sixtieth birthday; even after the occupation of Holland, correspondence with the Soviet Union and Switzerland was carried on as usual. Hopf had reacted positively to Freudenthal's suggestion to honour Brouwer in this way, adding "Moreover, Brouwer's work is not sufficiently valued; it would therefore be doubly advisable to demonstrate the contemporaries how much he is appreciated." (Hopf to Freudenthal, 21 December 1939). The plan to dedicate a volume of *Compositio Mathematica* to Brouwer was frustrated by the war. In the end the initiators advised the prospective authors to submit their papers for the Brouwer *Festschrift* to a journal of their choice.

Freudenthal complained in June 1940 that it had become very difficult, not to say impossible, to reach the editors of *Compositio*, (Freudenthal to Brouwer, 15 June 1940) and he asked Brouwer what to do. Should one appoint editors that could easily be reached by mail? The publication of the next issue, he wrote, had become problematic. Brouwer replied that the first issue of Volume 8 could be published, but that in view of the difficulties it would be better not to start any new typesetting (Brouwer to Freudenthal, 26 June 1940). A month later Wijdenes told Freudenthal that Brouwer and he had decided to halt the publication of *Compositio* for the time being, (Wijdenes to Freudenthal, 27 July 1940) and a couple of weeks later Brouwer wrote that no permanent closing down of *Compositio* was intended (Brouwer to Freudenthal, 9 August 1940). At the beginning of September censorship of newspapers and journals was introduced with respect to information with military significance, including a large number of civil topics, e.g. the building of roads, bridges. Even *Compositio* received the instructions of the Military commander in the Netherlands (*Wehrmachtbefehlshaber in den Niederlanden. Militärische Zensurstelle*, 9 September 1940). In view of all the problems and uncertainties, Brouwer, after some deliberation, decided to end all activities of *Compositio* (Freudenthal to Hopf, 10 November 1940). Obviously, authors of already submitted and refereed papers should be completely free to resubmit their papers elsewhere. In view of the fact that the first issue of volume 8 had not yet appeared, five months after the announced date of appearance, he also decided that issue should be cancelled altogether (Brouwer to Freudenthal, 17 October 1940).

Even though direct evidence shedding

light on the political circumstances of *Compositio's* demise is scarce, it has to be understood that it was part of the Nazi's semi-official occupation policies that publishing in the occupied countries was to be strictly controlled. There were several reasons for this: (1) practical ones, such as shortage of paper and other more or less direct consequences of the war; (2) economic ones, that is the policy to support German publishers by restricting publishing facilities in the occupied countries; and (3) ideological ones, the control of scientific publishing just being one instance of the projected cultural imperialism and exploitation of science by the Nazi's. *Compositio*, too, was affected by these policies after German troops had occupied the Netherlands in May 1940. It took eleven years to resume *Compositio's* publication in 1951.

Publisher versus Brouwer

During the war and the first few post-war years, *Compositio* was not issued, either in Holland or abroad. The confusion in academic and publishing circles, the shortage of paper, and the restricted availability of printing facilities made serious planning impossible. Eventually, however, Brouwer turned his attention towards a restart of the journal. This gradually led to a major conflict between Brouwer, the publisher, and his Dutch colleagues. The fight for *Compositio* is one more drama in Brouwer's life, the last big one. It took place at the end of his academic career, and it is a vivid illustration of the erosion of his position in Dutch mathematics, and his inability to build and maintain a sufficient support in mathematical circles. For the lone operator Brouwer it was no longer possible to defend his position. Even his considerable command of argumentation and persuasion had lost its magic power. As Kreisel put it, in the obituary of Brouwer for the Royal Society: "... while, ..., solipsism seems an excellent first approximation for an analysis of mathematical reasoning, it would not be expected to be equally sound in public relations." (p. 46 [8])

Most of the documents of the *Compositio* affair are to be found in the Brouwer archive. Unfortunately the publisher Noordhoff has not preserved the correspondence and documents pertaining to the matter. (In fact Noordhoff merged with Wolters (and Wolters with Kluwer), and it is no longer an independent company. In the transitions the relevant material was probably discarded.)

When life resumed its course after the war, many threads had to be picked up which were either dropped at the outbreak of the war, or



Hans Freudenthal

had become entangled in a number of ways during the war. In almost all organizations and companies there was a, sometimes subtle, sometimes not so subtle, power struggle between the forces of renewal and those of restoration. Next to the old political parties, new parties sprung up with new names and new programmes. In art, young men eagerly waited for the fall of the establishment. New dailies and weeklies appeared, most of them the legal successors of the underground papers published by the various resistance movements.

In the universities one could also observe a mild echo of the socio-political changes in the Netherlands. By and large the most significant phenomenon was a temporary speed-up of appointments of professors. The war and the subsequent purge had left vacancies to be filled. On the whole one could speak in the case of the post-war developments in academia more of a restoration than of a revolution. A disruption like that of the 1960s and its democratization was out of the question. The scientific organizations, as a rule, resumed their activities, their regular meetings and their publications.

The publishing houses could not immediately join the upsurge of economic and cultural life, hampered as they were by the shortage of paper. This had consequences in particular for scientific publications; for a long time libraries, professors and students alike had to make do with second-hand pre-war copies and with books donated by (mostly American) universities.

As the man in charge, Brouwer had to consider the future of his *Compositio*. Freudenthal, who had run the journal almost single-handedly, was the first to bring up the matter of re-issuing *Compositio*. In a letter to Hopf he gave an account of the situation: (Freudenthal to Hopf, 9 October 1945.)

“Concerning *Compositio*, the matter is that I have officially no business with *Compositio*. I am simply not a member of the editorial board. *Compositio* can probably not appear legally with the editorial board as it was on May 14, 1940. For here everything is ‘purged’, the civil service, the professions, associations, editorial boards, etc. If an editorial board has not itself been infected, it can of its own proceed to purge itself. How this is done with editorial boards in which also foreigners are present, I do not know. In the case of *Compositio* the matter is especially unpleasant; Weitzenböck is stepping down anyway. The purging of Brouwer is yet open — I mean his purging as a professor,

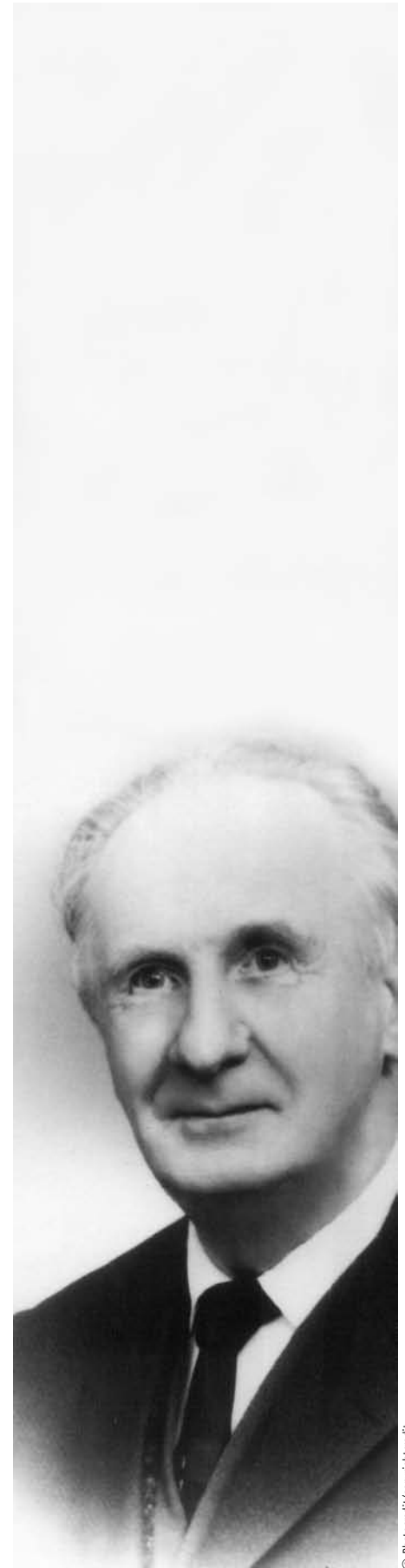
and the result will have its consequence for his further membership of the editorial board. [...] If Brouwer returns as a professor, he will certainly claim his right to sit on the editorial board. But probably the remaining Dutch mathematicians (apart from Heyting) have no wish to work with him. This can be said with certainty of Van der Corput. [...] I don’t see at the moment any possibility but the founding of another journal under a similar name. I will discuss the matter with Van der Corput. Perhaps he can say something. What would be your position with respect to a *Compositio* without Brouwer or with Brouwer thrown out?”

In fact, nothing happened at all. Brouwer did not even consider a quick re-animation of *Compositio*. It would have been rather unlikely that the authorities would have allotted the required amount of paper for the journal.

The activities around *Compositio* during the first years after the war are somewhat obscure. On the one hand, Brouwer started to explore the possibilities of re-issuing the journal. On the other hand, a number of Brouwer’s opponents would rather see a *Compositio* without Brouwer. It seems that Brouwer was approached by Noordhoff with the request to resume the publication of *Compositio* (Brouwer to Ed. Board Comp. Math. 10 July 1949, 27 January 1950). Apparently the efforts of Noordhoff were not very satisfactory, for Brouwer was cautiously shopping around in 1947 for a new publisher. In January 1947, for instance, he inquired with Father Van Breda, professor of philosophy in Leuven, renowned for his founding of the Husserl Archive, if there were printers in Belgium who could handle an international mathematics journal. Van Breda duly supplied the information (Van Breda to Brouwer, 25 January 1947).

On 3 February 1948 the difficulties had been overcome insofar as Brouwer informed the Committee of Administration (editorial board) of *Compositio* (de Donder, Hopf, Julia, Whittaker) of his plans to send out a circular letter to all editors. (Strangely enough “to the editors belonging to the United Nations.” What had happened to his internationalist convictions of 1919?) In this letter the editors were asked to stay on and to publish their own papers and ‘those originating from your school’ in *Compositio*.

Noordhoff set itself to produce a first post-war issue, but it discovered that the printer had lost patience, and re-used the lead of the type of the 1940 issue (Noordhoff to Freudenthal, 1 November 1948). Having some doubts



Johannes van der Corput

as to the wisdom of leaving the daily affairs of *Compositio* to Brouwer, Noordhoff casually asked Freudenthal's opinion on the future of *Compositio* under Brouwer. Freudenthal expressed his willingness to give his opinion, but declined to do so in writing (Freudenthal to Noordhoff, 1 December 1948). He urgently counselled Noordhoff to clean up the editorial board; no more than one third of the old board ever took active part in the editing. One should, in his opinion, attract some 20 young mathematicians "who are at the peak of their creative power, and who are not yet members of other editorial boards". Moreover Noordhoff should attract a young, active mathematician with a broad interest and good qualifications for the position of secretary. The person should have relations with the top circles in mathematics, should have enough personal courage to reject mediocre work, etc. He ended with the harsh words: "if one wishes to salvage anything at all of the goodwill of *Compositio Mathematica*, one should take action promptly and energetically. A journal that keeps plodding on or that degenerates into a rubbish dump would do considerable harm to the international reputation of Dutch mathematics."

Noordhoff did not act solely on Freudenthal's advice; it even went so far as to poll the mathematics professors in the Netherlands. In January 1949 the publisher sent a letter to the Dutch mathematics professors, asking them for their support, announcing the re-issuing of *Compositio* under the temporary secretarial care of Brouwer, who had taken the initiative. The letter contained the seemingly harmless sentence: "As we are of the opinion that the journal with its good reputation should appear at the same level as before, we would appreciate if the journal in addition to the support of its foreign contributors, would also receive the total support of the Dutch mathematicians."

The letter elicited quite a number of reactions, one of which was provided by Van der Corput, who was one of the old editors. Brouwer apparently had not included Van der Corput in his list of recipients of the announcement of the re-animation of *Compositio*. One can easily imagine why; a man who had deftly outmanœuvred Brouwer in the faculty and in the Mathematical Centre affair, (Cf. p. 799 ff [5].) was not to be trusted on an editorial board.

Van der Corput did not accept Brouwer's move without protest, he complained to Noordhoff that he was, to his surprise, unaware of the plans concerning *Compositio* (Van der

Corput to Noordhoff, 26 January 1949). Noordhoff cleverly made use of Van der Corput's dismay, expressing surprise that one of the co-founders of *Compositio*, with the same rights as Brouwer, had not been informed by Brouwer (Noordhoff to Van der Corput, 29 January 1949). Noordhoff wrote to Van der Corput that the plan for resuscitating *Compositio* was greeted with applause by most Dutch mathematicians; perhaps one should ask Brouwer how (and why) he happened to overlook Van der Corput. "Is there any objection on your side, that we show your letter to Professor Brouwer", he subtly inquired. This was not quite what Van der Corput had in mind; he immediately replied that "Some of the mathematicians consulted by you have expressed themselves very cautiously. It seems to me that my answer should rather not be passed on to Professor L.E.J. Brouwer." (Van der Corput to Noordhoff, 31 January 1949, draft.)

As one could expect, Brouwer did not react kindly to the Noordhoff circular letter. He interpreted it as an attempt to import more Dutchmen into the editorial board; worse, he viewed it, according to Jan Arnoldus Schouten (Schouten to Hopf, 8 November 1949), as "an action (by some person or persons unknown) to throw him out, and he took the whole thing as a personal affront." On these grounds he refused to work any longer with Noordhoff, and the preparations came to a complete halt. That did not mean that Brouwer had put *Compositio* out of his mind altogether. He actively looked for new editors; one of the persons approached was Paul Bernays. In order to get a better representation of the subject of mathematical logic in *Compositio*, Brouwer invited him to join the board of editors, at the same time asking his advice as to another editor from the logical corner of mathematics. Hopf had suggested MacLane, but Brouwer thought that Stephen Kleene might be a good candidate. Bernays apparently advocated Kleene's membership, for Brouwer wrote to Kleene "I have the pleasure to invite you, *firstly* to enter the editorial staff of *Compositio Mathematica*, *secondly* to favour this periodical with some work of your own." (Brouwer to Kleene, 12 April 1949.)

In order to get the journal under way again, Noordhoff and some mathematical colleagues called in the help of Schouten, who was the Dutch mathematician following Brouwer in seniority. Schouten's reputation as a geometer was beyond question, and he was considered one of the leading Dutch mathematicians. He had in 1943 resigned from his Delft chair, and withdrawn himself to

a quiet part of the country, but his influence was still considerable and Noordhoff must have seen in him a valuable ally in the attempt to edge out Brouwer. Although Brouwer and Schouten had had their differences in the early 1920s (patched up in 1929 after the mediation of Weitzenböck), animosity was certainly not the motivation of Schouten to take Noordhoff's side. Schouten was one of the editors of *Compositio* of the first hour; it was probably a sincere wish to restore *Compositio* to its old glory, that made him an actor in the *Compositio* affair.

Schouten met Brouwer on 28 May and discussed the matter. According to Schouten, Brouwer agreed to enlarge the Committee of Administration with Hendrik Douwe Kloosterman, Heyting, and J. C. H. Gerretsen (professor in Groningen, a function theorist) as the secretary.

When this agreement was reached Schouten immediately informed Noordhoff, and a meeting with Brouwer was scheduled for 5 July. To general disappointment Brouwer asked for postponement of the meeting, (Telegram, 30 June 1949) and subsequently did not respond to any letters.

In all fairness it must be said that no personal attacks on Brouwer were envisaged; Van der Corput at one point argued forcibly that the combination 'Brouwer-*Compositio*' was from an international point of view the strongest possible, and that Noordhoff should really try to keep Brouwer in charge. Neither was Schouten out for Brouwer's removal, but he clearly wanted to reduce him to 'one of the editors'. Unfortunately Schouten did not possess the tact needed to handle a mercurial person like Brouwer. His letters, obviously well-meant, were of the half-patronizing, half-schoolmastering kind that goes against the grain. Brouwer in particular had no wish to be lectured. In the end it must have been a mixture of exasperation and genuine worry about the future of *Compositio* that drove Brouwer to desperate steps.

Brouwer clearly had given up hope of reaching an agreement with the Noordhoff faction. Why is not quite clear. Maybe it was the old story of a personal consultation interpreted differently by the parties. Brouwer had learned a lesson in his relation with Van der Corput: never rely on verbal agreements. Whatever caused the final disruption of connections with Schouten and Noordhoff, Brouwer lost no time in taking counter measures. On 10 July he sent a letter to the members of the Committee of Administration,

proposing to sever all ties with Noordhoff.

“Dear Colleagues,

When the House of Noordhoff Groningen, which had functioned from 1934 to 1940 as bookseller-publisher-agent of *Compositio Mathematica* offered us to resume from 1945 its old function, there was no reason to refuse it the opportunity to prove its claim to be up to that task. However, having taken up this task, it had started by working so miserably, be it through a lack of equipment, be it through a lack of zeal, be it through a lack of good will, and it finally demanded, before continuing its work, a reorganization of the editorial board which would change completely the character, and in particular the international character, of our journal.”

Under the circumstances, he went on, I propose to take our business to another publisher, “I have good hopes to find for that purpose a house of renown, well directed and equipped, which will serve us better than the one that has deceived us.”

Brouwer must have thought of the North-Holland Publishing Company (which also printed for the Academy, and of which Brouwer was a member of the board of commissioners), for he had already approached that firm early in July. Unfortunately for Brouwer that particular plan fell flat. When North-Holland was informed by Noordhoff of its purported rights, it lost interest in the acquisition of a journal that might bring a string of lawsuits

A majority of the Committee of Administration agreed with Brouwer: de Donder, Julia and Saxer sent their approval for further action. Schouten in the meantime tried his best to get Brouwer back to the negotiating table; he asked Van der Corput to talk Brouwer round. Noordhoff wrote a conciliatory letter and Heyting tried to influence Brouwer. None of this was of any avail (Schouten to Hopf, 8 November 1949).

With nothing to lose, Schouten decided to take to the offensive. His first object was to make the members of Committee of Administration see the *Compositio* problem his way. In a long letter to Hopf, Schouten set out to justify his and Noordhoff's cause and to prove Brouwer wrong (Freudenthal guessed that similar letters went to the other members). Apart from a recounting of the events, the letter contained a list of refutations of Brouwer's claims or suspicions. Some of Schouten's arguments and claims had a degree of plausibility, but if they contained some truth, certainly not the whole truth. In particular his protestation that he did not attempt to

remove Brouwer seems a bit lame, unless one supplements the claim that the action was not being directed against Brouwer, by the clause “as long as Brouwer does not interfere with the journal”. As Schouten saw it, the situation held a grave risk for Brouwer:

“Up till now as a mediator I was able to prevent legal action from the side of the publisher. But after the strict refusal of Mr. Brouwer this will not be possible any longer. So if nothing is done, there will be a legal action and the Committee of Administration, especially Mr. Brouwer, will be made responsible for further delay. As I see it now, it would have been better if I had written to the other members of the Committee of Administration at an earlier time. But my intention was to be very careful and to make things for Mr. Brouwer, as little disagreeable as possible, and this held me back till now from this action. Up till now the most influential Dutch mathematicians agreed with me that we must aim at a solution giving Mr. Brouwer the place and the honour that are naturally due to the man who founded the ‘*Compositio Mathematica*’. But with Mr. Brouwer now turning down any compromise, a solution has to be found in whatever way. For Mr. Brouwer this would lead to a very serious defeat and I think we ought to try, if possible, to avoid such a defeat for a man of his age and fame.”

On the whole, Schouten's action should be taken at its face value. He was not the evil man Brouwer had thought him to be. It is more likely that he had taken the role of mediator in a sincere wish to solve the problem without hurting Brouwer. He would probably have preferred to solve the *Compositio* conflict without damage to the parties concerned. Nonetheless he had to play the game for Noordhoff, and in that role he cleverly bent the facts to his advantage. One should not forget that at the same time Schouten, Van der Corput *et al.* were the subject of Brouwer's guerrilla warfare in the faculty. So if Schouten showed some exasperation, he was entitled to it.

In order to minimize the damage to all concerned, Schouten launched a proposal for salvaging *Compositio*. A Temporary Committee of Reorganization should be installed, consisting of four Dutch members (one distinguished man from each of the four Dutch universities (Schouten, for unknown reasons, counted only four universities. There were five at the time.)) with the following task:

- i. start the editing of *Compositio*,
- ii. arrange the election of a new Committee

- of Administration,
- iii. draft rules for *Compositio* and a contract with the publisher,
- iv. submit the rules and contract to the vote of the general committee,
- v. dissolve itself.

Schouten did not wish to become a member of the Committee of Administration, “At my age it is a big mistake to do things or to go on doing things that younger people can do so much better. A wise man has to know the time at which he has to withdraw,” he wrote, but he was willing to act as the “central man who has to constitute the Temporary Committee and to work as its Chairman, and to mediate the parties concerned”. He would make it his special duty to ensure that Mr. Brouwer got the honour and the place due to the founder of the *Compositio Mathematica*.

The secretary designate, Gerretsen, had the task to get legal advice, for it was not unthinkable that Brouwer would take the publisher or the new board to court. After weighing the possible actions, the legal adviser deemed it safe to proceed along the lines indicated by Schouten (Kluyver to Gerretsen, 11 December 1949).

Schouten set to work without delay, and soon he could present the General Committee with his Temporary Committee of Reorganization: Freudenthal, Gerretsen, Kloosterman and Koksma (Schouten to General Committee, 2 January 1950; cf. Brouwer to eds, 1 January 1950).

He had ascertained, as he stated, that the greatest possible majority of the Committee of Administration had agreed to his proposals. Brouwer was blessedly unaware of all the goings on (which shows how a once central person may get isolated).

Noordhoff had reacted with an invitation for further talks, an unacceptable proposition for Brouwer, who insisted that the work should be resumed first. Van der Corput, in a letter of 20 January to Brouwer, completely ignored the *Compositio* matter. Probably for a good reason, for the Temporary Committee had drafted a rather tactless letter to Brouwer, informing him of the existence of the Committee and demanding preemptively that he hand over the administration of *Compositio*. This letter reached Brouwer not before February. Brouwer only learned about the activities of the Noordhoff party through a chance remark of a French mathematician, probably Lévy, who told Brouwer that he was informed by Gerretsen that his paper would soon appear in *Compositio*.

From correspondence of Brouwer's wife,

Lize, it appears that in the autumn of 1949 (and perhaps earlier) Brouwer had been suffering from a mixture of complaints. In particular he feared that his heart and lungs were in a bad shape. On 27 November Lize wrote to her daughter that Brouwer had been thoroughly examined by one of his colleagues in the medical faculty, Professor Formijne. The examination showed that heart and lungs were in good order, and that the stomach was the problem. Brouwer was immediately put on a diet. In any case he was greatly relieved, and he was eyeing the future with more optimism, all the more as he had been invited to lecture in Paris in December 1949 and January 1950. He started his lectures on 13 December, returned for Christmas to Blaricum, and taught the second part of his course in January. He had duly reported to the board of the university that his work as a ‘professeur d’échange’ at the Sorbonne was not yet finished, and he had asked permission to return to Paris for another month of teaching (Brouwer to Mayor and Aldermen, 3 January 1950). His absence suited the *Compositio* conspirators wonderfully.

On 9 January, the day before he returned to Paris in order to resume his series of lectures on intuitionism, he had written to Van der Corput that the latter’s intervention with Noordhoff had been a failure. In October Brouwer had asked Van der Corput to inform Noordhoff that he agreed to enlarge the editorial board as soon as Noordhoff resumed the work on the forthcoming issue of *Compositio*.

Brouwer was furious when he found out what was going on. He immediately wrote a long letter to the Committee of Administration (Brouwer to Comm. of Adm., 27 January 1950). In his function as (temporary) secretary of *Compositio* he was responsible for the manuscripts of the authors, he wrote, and now he found that Noordhoff had betrayed his confidence by giving Gerretsen, the ‘self-styled secretary’, access to the manuscripts. After a short résumé of the history of *Compositio*, Brouwer concluded that the latest actions of Noordhoff left him no choice but to go to court. He asked the members of the committee to authorize him to start the legal procedures. “I don’t expect an easy law suit. The manoeuvre of Mr. Gerretsen made me think that there is a well meditated machination, by which the House of Noordhoff hopes to get *Compositio* in its possession, and for which purpose it has succeeded to ally itself to some mathematicians in my country who wish to enter into the Committee of Administration of the journal.”

Returning home, he had found the new issue of *Compositio* waiting for him. He again turned to the members of the Committee of Administration (Brouwer to Comm. of Adm., 3 February 1950). The publication of the issue under the name *Compositio Mathematica* with the traditional cover constituted such a colossal fraud, that the impudence of “our adversary should hopefully facilitate our law suit.” The letter had hardly been written when Brouwer received with more than a month’s delay, Schouten’s letter of 2 January. This was the first indication that Schouten had managed to turn the (or at least some) members of the Committee of Administration. Brouwer again addressed the Committee of Administration, explaining to them what had been discussed between him and Schouten (Brouwer to Comm. of Adm., 7 February 1950).

Hopf, who was well aware of the difficult sides of Brouwer’s personality, felt that he could not take Schouten’s side. The years of friendship with Brouwer could not be erased that easily. In reply to a card from Brouwer with a picture of *Le Penseur* – a reference to the past: “Does Hopf still remember how he, with Neugebauer, found me here in the Louvre?”, (Brouwer to Hopf, 28 January 1950), the reply was “Of course I remember very well how Neugebauer and I found you in the summer of 1926, sitting in front of the Mona Lisa.” (Hopf to Brouwer, 12 February 1950), he lamented the recent developments. In spite of the advanced stage of the fight, he implored Brouwer to accept a compromise. He argued persuasively that one could not blame a publisher for clinging to a journal. Publishers need editors who are prepared for minor compromises, he said. It would not be a shame at all for Brouwer to accept a younger Dutchman at his side on the board. There would be enough foreigners to guarantee the international character.

That same day Hopf sent a letter to Schouten, informing him of his letter to Brouwer. Hopf also castigated Schouten for not informing Brouwer of the setting up of the Temporary Committee. He disapprovingly commented on Freudenthal’s membership of the committee; in this way, he wrote, the committee lost its neutrality right at the beginning. Schouten answered with an extensive justification of his policy (Schouten to Hopf, 14 February 1950). Since Brouwer had cut all communication, it had been impossible to consult him. Apparently it had not occurred to Schouten that, in order to inform a person, one does not have to consult him.

The choice of Freudenthal, Schouten argued, was not motivated by anti-Brouwer feel-

ings. One simply had to look for four prominent mathematicians from the four universities. Freudenthal, as a Utrecht professor, was a natural choice; the other professor, Jan Popken, was a young man, who, moreover, was the son-in-law of Van der Corput. In view of the situation in Amsterdam, Schouten did not wish to aggravate the differences between Brouwer and Van der Corput. Freudenthal’s long experience with *Compositio* made him a valuable addition to the committee, and, he added, “I note with pleasure that Freudenthal is extremely correct, and in no way hostile to Brouwer.” Of course, I was aware of the frictions between Brouwer and Freudenthal, he wrote, “but as Brouwer permanently gets into a fight, then with one person and then with another, one could not seriously take this into account. Where would the world be if everybody could insist on keeping company only with those they could love, and by whom they are loved? This is ridiculous child’s play, and it is most regrettable that an excellent scholar possesses so little wisdom, that he stoops to playing Indians and cowboys.” Schouten left no doubt that he saw no place for Brouwer in the affairs of *Compositio*:

“Personally I hope for an official reconciliation with Mr. Br. He had ‘terminated the friendship’ on January 28, 1950 from Paris, apparently in response to some correspondence of Gerretsen with a French mathematician on overdue proofs, without having read the letters of January 1 and 2, 1950 and not being aware of the appearance of the *Compositio Mathematica*, which by then had already taken place, nor of the real state of affairs. Moreover he had written that he did not wish to receive letters from me and that he would not read any. Those are, however, child’s games, which will not induce me to withdraw my friendship from him. From one day to another this could change, as I have experienced before. As you see from the new statutes, the possibility has been created to appoint an especially excellent man, who has been of great importance for the *Compositio Mathematica*, to honorary president of the editorial board (*Hauptredaktion*). Perhaps the solution is to be found there. At his age something like that would be exactly the right place for Mr. Br., and the honour would be saved!”

In spite of Schouten’s attempt to treat Brouwer ‘en bagatelle’, one has no difficulty in seeing through the rather obvious ‘propaganda’. Schouten had succeeded in reducing Brouwer’s position in the considerations of the Committee to that of a capricious child who could be placated with a shining

toy. The last sentence, in particular, gives away Schouten's opinion of Brouwer: an elderly dodderer, only good for some honorary position.

History seemed to repeat itself; exactly as in the case of the *Mathematische Annalen*, Brouwer was completely ignored by the new rulers. The reorganization was carried out according to plan, and on 5 May Schouten could announce to the members of the General Committee of *Compositio* that the new regulations had been accepted by a majority vote. In a letter to Veblen, (Schouten to Veblen, 9 May 1950) Schouten explained the reasons for certain formulations of the rules. He added that "As matters are now, it is all a bit disagreeable for Mr. Brouwer. It is his own fault, but personally I should like to make things as pleasant as possible for him. I have in mind to propose him for 'Honorary President' of the General Committee. It is quite impossible to make him a member because then the difficulties would begin all over again, he being what he is. Best if he is so wise to accept this honorary Presidentship, the honour is in this way saved and in this position he is quite unable to do any mischief." It could not have been expressed clearer!

On 31 May a letter was sent to the members of the General Committee (formerly the editorial board) containing the list of candidates for the General Committee (H. Cartan, J.C.H. Gerretsen, E. Kamke, H.D. Kloosterman and J.F. Koksma), the Special Committee (formerly the Committee of Administration) (Cartan, Kamke, Kloosterman, Koksma, W. Saxer and J.M. Whittaker) and finally the name of L.E.J. Brouwer for Honorary President of the Special Committee.

In fact, when volume 8 of *Compositio* was completed (1951), the cover carried more new members than the above listed: G. Ancochea,

E. Bompiani, S. Eilenberg, H. Freudenthal, S. C. Kleene, S. MacLane and M. Picone.

Here the *Compositio* affair ended. Brouwer had not only lost a battle, he had lost for the second time a journal: this time it was his own journal, expropriated by his colleagues and supposed friends.

The cover of *Compositio* did not list Brouwer as a Honorary President, so either the members did not support Schouten's proposal, or Brouwer refused to accept the honour. Brouwer refused to resign himself to the inevitable; as late as December 1950 he was still corresponding with his lawyer (Brouwer to Baron van Haersolte, 22 December 1950).

He had not been able to carry on the matter, he wrote, because of two disastrous developments:

- i. Shortly after I wrote you for the last time, I had to observe that my foreign confrères in the Comm. of Adm., who were in July 1949 without any reserve on my side, have abandoned me as a consequence of communications and promises of my adversaries, which have remained a secret for me.
- ii. The physical shock, inflicted on me by this bewildering observation, left me, after a heart attack, weakened in mind and body to such a degree, that I have been put out of action for a longer period, with respect to the mentioned aggression, and that every sojourn in the realm of thought of this conflict was forbidden for some time.

Nonetheless he planned further action against Noordhoff because it "not only reflected on my honour, but also on the honour of my country".

Apparently these plans did not materialize, and the conclusion to the *Compositio* conflict is lost in vagueness. Brouwer remained very bitter, however, about the whole affair. He used to refer to 'the theft of my journal'. In

spite of the insulting treatment, however, he remained a member of the editorial board of *Compositio* until his death.

Looking at the *Compositio* affair from a distance, one can see what the parties wished and feared. Schouten and his followers thought that Brouwer would stand in the way of a recovery of *Compositio*, and they were more inclined to be loyal to the publisher than to the founding father. Brouwer, on the other hand, was confident that he could maintain the pre-war quality even without Freudenthal's help. He was firmly convinced that his Dutch colleagues together with the publisher would reduce *Compositio* to a provincial periodical. Justified or not, he feared that the lesser gifted would finally see a possibility to enhance their status by joining an editorial board, rather on the basis of their nationality than on the basis of competence. Noordhoff, finally, had a straightforward commercial interest. The publisher successfully played on the secret dreams of the mathematical community: to be an editor of this prestigious journal!

Probably Brouwer did not fully realize to what extent the success of *Compositio* was due to Freudenthal, but it is not impossible that, with a suitable substitute for Freudenthal, he could have made *Compositio* a success. His complaints about Noordhoff were, one would guess, the usual complaints of editors, aggravated by the post-war shortage. In short the conflict seemed to be based as much on personalities as on facts.

The standard of conduct in the conflict is maybe best characterized by the motto 'dealing with Brouwer, anything goes'. If one judges by the standards of 'obeying the rules', Brouwer definitely cut a better figure than Schouten. The episode does little credit to the Dutch mathematical community; it is at best an interesting topic for psychologists.

Referenties

- 1 L.E.J. Brouwer, *Het wezen der meetkunde*, Clausen, Amsterdam, 1909.
- 2 L.E.J. Brouwer, *Intuitionisme en formalisme*, Clausen, Amsterdam, 1912.
- 3 L.E.J. Brouwer, *Wiskunde, waarheid, werkelijkheid*, Noordhoff, Groningen, 1919.
- 4 D. van Dalen, 'The war of the frogs and the mice, or the crisis of the *Mathematische Annalen*', *Math. Intelligencer* **12** (1990), pp. 17–31.
- 5 D. van Dalen, *Mystic, geometer, and intuitionist: The life of L.E.J. Brouwer*, vol. 2, *Hope and disillusion*, Oxford University Press, Oxford, 2005.
- 6 H. Freudenthal, 'Zur intuitionistischen Deutung logischer Formeln', *Compositio Math.* **4** (1936), pp. 112–116.
- 7 A. Heyting, 'Bemerkung zu dem Aufsatz von Herrn Freudenthal Zur intuitionistischen Deutung logischer Formeln', *Compositio Math.* **4** (1936), pp. 117–118.
- 8 M.H.A. Newman and G. Kreisel, 'Luitzen Egbertus Jan Brouwer 1881–1966. Elected for Mem. R.S. 1948', *Biograph. Mem. Fellows Roy. Soc.* **15** (1969), pp. 38–68.
- 9 V. R. Remmert, 'Mathematicians at war. Power struggles in Nazi Germany's mathematical community: Gustav Doetsch and Wilhelm Süß', *Rev. Histoire Math.* **5** (1999), pp. 7–59.