Chapter 6

1940 - 1949

1940-05-08

H. Freudenthal et al., circular — 8.V.1940

Confidential

Dear Sir, [Sehr geehrter Herr]

On February 27, 1941, L.E.J. Brouwer reaches the age of 60. The wish exists to present to him on this day a Festschrift in the pages of Compositio.

The fundamental articles of Brouwer have exerted such an influence on the creative activity of many mathematicians — topologists and foundational researchers — that these will be happy to consider themselves as Brouwer's students. To such mathematicians we now turn, asking them to contribute an article that bears witness of this influence.

Please let us know, as soon as possible, through one of the undersigned, whether we may expect such a contribution from you. Please also indicate the title of your article, the approximate number of pages and the presumable date of completion!

We would gratefully welcome your cooperation.

Moskow (USSR), Staropimenowski 8, 5.
Newtonstraat 75, Amsterdam (Nederland).
Oudblaricummerweg 5, Laren NH. (Nederland).
Zürich-Zollikon (Schweiz). Alte Landstrasse 37.

[Typescript – in Hopf]

1940-08-10

From H. Freudenthal — 10.VIII.1940

Dear Professor, [Hooggeëerde Professor]

I received your letter of August 9, which surprised me very much.

You informed me on June 26 that, for the time being, no more issues of Compositio Mathematica should appear.⁽¹⁾ Meanwhile I had received a communication to the same effect (dated June 15) from Noordhoff, who also didn't want to bring out issues of Compositio Mathematica for the time being. However, Noordhoff wanted to go on receiving manuscripts for Compositio Mathematica, awaiting further developments, so that the printers could be supplied with typesetting jobs. I did not want to comply with this request of Noordhoff, without your explicit permission. Unfortunately you did not answer my repeated questions in this matter at all.

Because Noordhoff agreed with you to halt for the time being the publication of Compositio Mathematica, and because you have not taken any decision at all with respect to the further wishes of Noordhoff, I don't understand that you speak in your letter of August 9 about a resistance of Noordhoff to your decision of June 26, and that you think it necessary to invoke the authority of Mr. Wijdenes, to convert Noordhoff to a decision that Noordhoff already had taken on June 15.

After a substantial correspondence, a conference between you and Mr. Wijdenes and several not particularly enlightening telephone conversations, I still don't know more than two months ago. I still don't know whether I should comply with Noordhoff's request for new manuscripts or not. In the hope that after an instruction from you in this matter, the case can be considered as settled, I remain, with many greetings

Sincerely yours $\langle 2 \rangle$

[Carbon copy – in Freudenthal]

⁽¹⁾After a brief but brave resistance to a superior attacker, May 10–15, the Dutch army surrendered. Holland had become occupied territory. The continuation of Compositio was suspended for the duration of the war. ⁽²⁾Uw dienstwillige.

1940-11-30

From H. Freudenthal — 30.XI.1940

Dear Professor, [Zeer Geëerde Professor]

Several students asked me to facilitate the continuation of their studies in a manner to be further arranged, or still to conduct their exams. (3) I have explained to these students that I am, as it is, willing to cooperate in any manner,

But that I consider it impossible to invoke, against the obvious intention of the measures taken, formal circumstances, such as that I have not been discharged from my function as private docent, or that the exams do not have an official character. ⁽⁴⁾ I would be pleased if in the interest of the students at least a satisfactory transitional arrangement could be made, but I think this can only be done by a higher authority.

I don't have to assure you of in so many words, that I be happy to continue carrying out all activities that can be considered as being of a private nature.

With many greetings

Yours sincerely (5)

[Carbon copy – in Freudenthal]

1941-01-14

To H. Freudenthal — 14.I.1941

Blaricum

Dear Freudenthal, [Waarde Freudenthal]

Hereby I inform you that Dr. E.M. Bruins will substitute for the analysis courses. $^{\langle 6\rangle}$

⁽³⁾Freudenthal had been dismissed on November 23 as part of the general dismissal of all Jews from public offices (including institutions of education). He no longer had access to the university, and continuing educational activities would have put him at considerable risk. ⁽⁴⁾The 'exams' mentioned here are the so-called 'tentamens', i.e. examinations on the material of a specific course. When a student had passed all the 'tentamens', he was qualified to take the real examination. ⁽⁵⁾Met vele groeten – Uw dienstwillige. ⁽⁶⁾Bruins was a physicist, his appointment eventually led to universal embarrassment. See [Van Dalen 2005], p. 786, 794.

With friendly greetings

Your L.E.J. Brouwer

[Signed typescript – in Freudenthal]

1941-04-19

From G.F.C. Griss - 19.IV.1941

Gouda Crabethstraat 69 $\langle 7 \rangle$

Dear Professor Brouwer, [Hooggeachte Professor Brouwer]

As agreed, I send you an exposition of my views on the concept of negation in intuitionistic mathematics. $^{\langle 8\rangle}$

To start with, I would like to stipulate the following brief formulation:

Showing that something is not true, i.e. showing the incorrectness of a supposition is not an intuitively clear act. For it is impossible to have an intuitively clear concept of an assumption that later turns out to be even wrong. One must maintain the demand that only building things up from the foundations makes sense in intuitionistic mathematics.

Although this point of view seems clear and indisputable to me, I will try to justify it in more detail, and then I will show the consequences in some cases and finally I show that also practical considerations can lead to the same view.

1. Although my ideas about the foundations of mathematics are not completely identical to yours, the differences are unimportant for what follows, so, for example, I can agree completely with your considerations in the *Tijdschrift voor Wijsbegeerte*, 2nd volume, 1908. ⁽⁹⁾ Let me just remark that the concept of negation does not explicitly occur in the formulation of the foundations of mathematics, but only in the examination of the validity of the logical principles. You say there:

⁽⁷⁾Address on envelope. ⁽⁸⁾A first exposition of Griss' ideas on negationless mathematics. For publications see [Griss 1944, Griss 1946, Griss 1950, Griss 1951]. ⁽⁹⁾Journal for Philosophy, [Brouwer 1908b].

'The principle of contradiction is just as little in dispute: the execution of the fitting of a system a in a particular way into a system b, and finding that this fitting turns out to be impossible are mutually exclusive'

What does impossibility of a 'fitting in' mean here?

In the first place this can mean that one assumes the possibility of fitting, and that this assumption leads to a contradiction. This manner far exceeds the construction of mathematical systems on the basis of the ur-intuition, and as I remarked in the beginning, one cannot clearly obtain a conception of it. If one still accepts it, then one takes in principle a similar step, as when one accepts the principle of the excluded third. An element of arbitrariness enters in our idea about what is and what is not admissible in mathematics, if one does not stick strictly to the requirement that one only builds up mathematical systems from the foundations which are given in the ur-intuition.

Another meaning which can be given to 'finding that this fitting of a system a into a system b turns out to be impossible' might be this: that the system a demonstrably differs (in that case this concept has to be defined) from every system that can be fitted into b. One asks for example whether e is an algebraic number and one finds that e is positively transcendent so e demonstrably differs from each algebraic number. If need be, one can even answer the question whether e is algebraic by: e is not algebraic, but then we have assigned a new meaning to the word 'not'.

2. The consequence of my view is of course that in intuitionistic mathematics all negative propositions have to be replaced as much as possible by positive ones.

As first example I take the beginning of the Set Theory as given by you in Mathematische Annalen 93.⁽¹⁰⁾ In the definition of set, negation is used several times, but this definition can easily be freed from negations. In the concepts equal or identical, species and subspecies, negation does not enter. The concept of different has to be defined in a positive way: Two elements of sets are called (demonstrably or positively) different, if a number n is known such that at the n^{th} choice a different sign occurs in these elements. Two sets (species of the first order, species of the n^{th} order) are called different if at least one of these

 $^{^{\}langle 10 \rangle}$ [Brouwer 1925].

sets (species) contains an element that differs from each element of the other set (species). In the sequel 'differ' means 'differ demonstrably of positively'; whenever confusion is possible, I explicitly distinguish differing negatively and positively.

M is called a proper subspecies of N, if an element of N is known that differs from each element of the subspecies M. Two species Mand N are called mutually disjoint if each element of M differs from each element of N.

After the union of two or more species has been defined, one can give the definition of half-identical species, for instance as follows:

Two species A and $\mathfrak{S}(B,C)^{\langle 11 \rangle}$ are half-identical if \mathfrak{S} is a subspecies of A, an element of A that differs from each element of B is element of C and an element of A that differs from each element of C is element of B.

Similar definitions can be given for congruent species, and for unions \mathfrak{S}_1 and \mathfrak{S}_2 of respectively m and n species. The examples you give for congruent and half-identical species can be left unchanged.

The properties: 'A proper subspecies of a finite species E is not equinumerous $\langle ^{12} \rangle$ with E' and 'a finite species is not infinite' can easily be formulated positively, while the property: 'each reducible infinite species U contains proper subspecies equinumerous with U' remains valid.

Now I treat no. 144 of the Problems of the Wiskundig Genootschap, volume 16: When of two triangles have one side, the angle opposite that side and the sum of the two other sides equal, then it is impossible that those two triangles are not congruent.

We first prove:

If two triangles [have] two sides and the angle opposite one of those sides equal, while the sum of the angles opposite the other sides $\langle 13 \rangle$ differs positively from 180°, then the triangles are congruent.

Given: For $\triangle ABC$ and $\triangle A'B'C'$ is $AB = A'B', BC = B'C', \angle C = \angle C'$ and $\angle A + \angle A' \# 180^{\circ}$. (14) Show: $\triangle ABC \cong \triangle A'B'C'$

⁽¹¹⁾Following Brouwer, Griss denotes the union of B and C by $\mathfrak{S}(B, C)$. ⁽¹²⁾ 'gelijkmachtig' in text. ⁽¹³⁾ i.e. the other side in each of the two triangles. ⁽¹⁴⁾# denotes the apartness for real numbers.

Proof: According to the sine rule $\sin A = \sin A'$, so $\sin A - \sin A' = 0$ or: $2\sin \frac{1}{2}(A - A')\cos \frac{1}{2}(A + A') = 0$

The last factor differs positively from 0, so $\sin \frac{1}{2}(A - A') = 0$, hence $\angle A = \angle A'$. So $\triangle ABC \cong \triangle A'B'C'$

Instead of the desired property we have now the following:

If two triangles have a side, the angle opposite that side and the sum of both other sides in common, while it is known about one of the adjacent angles in both those triangles that they are equal or (positively) differing, then the triangles are congruent.

We only have to prove the case that the adjacent angles differ.

Given: For $\triangle ABC$ and $\triangle A'B'C'$: $AC = A'C', \angle B = \angle B', AB + BC = A'B' + B'C'$, while $\angle A \# \angle C'$. To prove: $\triangle ABC \cong \triangle A'B'C'$.

Proof: Extend AB with BD = BC and A'B' with B'D' = B'C', then $\triangle ACD \cong \triangle A'C'D'$, because $AD = A'D', AC = A'C', \angle D = \angle D'$, while $\angle ACD + \angle A'C'D' = (\angle C + \frac{1}{2}\angle B) + (\angle C' + \frac{1}{2}\angle B') = \angle C + \angle B + \angle C' \# \angle C + \angle B + \angle A$, so $\angle ACD + \angle A'C'D' \# 180^\circ$. From $\triangle ACD \cong \triangle A'C'D'$ it follows immediately that $\triangle ABC \cong \triangle A'B'C'$.

If one uses negations, the last property entails what was asked (not the converse of course): If the triangles weren't congruent then it would be true of two angles that they would be both equal and negatively different, which is impossible.

This fits in with the remark that in Cartesian geometry also a few changes have to be made; for example the definition of parallel lines must become:

Two lines are called parallel, if each point of one line differs $(\text{locally})^{\langle 15 \rangle}$ from each point of the other line.

3. Finally I make two more practical remarks which are also significant for those who don't agree with the more fundamental exposition.

No real number a is known about which it has been proved that it cannot possibly be equal to $0 \ (a \neq 0)$, while at the same time it has not been proven that the number differs positively from $0 \ (a\#0)$. If we compare the two properties: 'from ab = 0 and $(a \neq 0)$ follows b = 0' and 'from ab = 0 and (a#0) follows b = 0', then no real numbers a

 $^{^{(15)}}$ *plaatselijk verschillen*' and *'örtlich verschieden*' were introduced by Brouwer for his strong inequality – no known as 'apart'.

are known, for which the first property may, and the second property may not be applied. The negative concept 'distinct' for real numbers is also of no practical use in intuitionistic mathematics. If theories about that notion are considered, then it is only to preserve again as much as possible of classical mathematics. More specifically this aim occurs in prize problem 13 of the Wiskundig Genootschap for this year:

It is asked to give to an as large as possible part of classical analysis an intuitionistically correct 'weak' interpretation containing only 'stable' propositions (where a proposition in intuitionistic logic is to be called 'stable', if it equivalent to its double negation).'

In my opinion the most essential part of intuitionistic mathematics is in this way relegated to the background.

In many cases a result is formulated negatively, although the proof makes it just as well possible to use a positive formulation. An example is the property mentioned in no. 2, that every reducibly infinite species U contains subspecies of the same power as U if the concept of proper subspecies is formulated negatively. Also some other results of no. 2 can serve as examples.

With friendly greetings, sincerely $\langle 16 \rangle$

G.F.C. Griss

[Signed autograph – in Brouwer]

1942 - 05 - 26

From H. Freudenthal — 26.V.1941

Amsterdam

Dear Professor, [Zeer Geëerde Professor]

Mr. J. de Groot did not receive page proofs either of his Proceedings note, which was supposed to be presented by you to the April meeting of

 $^{^{\}langle 16 \rangle}$ Met vriendelijke groeten en de meeste hoogachting.

the Academy. $^{\langle 17\rangle}$ After a telephone inquiry with the Academy I found that my note has not been submitted.

Especially in the interest of Mr. de Groot I would like to ask you respectfully to inform me about the fate envisioned by you of the two notes intended for the April meeting (those of J. de Groot and me) and the two intended for the May meeting (by J. de Groot and by J. de Groot and F. Loonstra). I would like to ask you also not to postpone this communication, because it is possible that one of the parties concerned could or would want to arrange for other destinations of his work before coming Saturday. ⁽¹⁸⁾

With many greetings

Sincerely Hans Freudenthal

[Signed handwritten draft/copy – in Freudenthal]

1942 - 05 - 29

To H. Freudenthal — 29.V.1942

Roosendaal

Dear Freudenthal, [Waarde Freudenthal]

Touring the country for the final examinations of the gymnasium, I received your forwarded letter of the 26th of this month. You and the other two gentlemen involved $^{\langle 19 \rangle}$ seem to forget that the members of the Academy $^{\langle 20 \rangle}$ are a board of journal editors for the Proceedings, and that editorial boards are not printing automatons.

With friendly greetings

L.E.J. Brouwer

[Signed autograph – in Freudenthal]

 $^{^{\}langle 17 \rangle}$ [De Groot 1941]. $^{\langle 18 \rangle}$ The present letter was written on the preceding Monday. $^{\langle 19 \rangle}$ J. de Groot and F. Loonstra. $^{\langle 20 \rangle}$ KNAW.

1942-05-30

To H. Freudenthal — 30.V.1942

Dear Freudenthal, [Waarde Freudenthal]

Hereby I return the manuscripts of you and the other two impatient Gentlemen $^{\langle 21\rangle}$ to 'arrange for other destinations'.

With friendly greetings

L.E.J. Brouwer

[Signed autograph – in Freudenthal]

1942 - 05 - 31

From H. Freudenthal — 31.V.1942

Amsterdam

Dear Professor, [Zeer Geëerde Professor]

I received your letters of May 24 and May 29.

1. I have taken care that the books of the Mathematics Institute have immediately been returned. Fortunately I have so far experienced no other problems in using non-public libraries.

2. I do not remember a case as mentioned in point 2 of your letter of May 24. $\langle 22 \rangle$ Nonetheless, I have declared to Mr. Bruins to be prepared to supply him with all desired information about the whereabouts or conjectured whereabouts of items of the library.

3. Although I see little use in organizing a formal transfer of the archive of Compositio Mathematica, which I haven't touched since $1\frac{1}{2}$ years, I am quite willing to cooperate if you insist on this formality.

Consequently, I request you to supply me with the necessary permission from the supreme authorities to be allowed to appear for this purpose in the Mathematical Institute, or to have the cabinet in the assistant's room,

Blaricum

 $^{^{\}langle 21 \rangle}$ J. de Groot, F. Loonstra. $^{\langle 22 \rangle}$ Brouwer had asked Freudenthal to try to get students to return books of the reading room, that were borrowed (allegedly) with Freudenthal's permission.

where the archive is, brought to a place where that transfer can take place without such a permission. $(^{23})$ Unfortunately, it is not clear to me, what the subordinate clause 'which in its entirety should be located in the Mathematics Institute' refers to. That part of the archive of Compositio Mathematica over which I had any authority, has been without interruption in the Mathematics Institute since 1935, to wit in the cabinet of the 'Assistant's Room' — unless very temporarily some articles were taken out to study them quietly at home or to take care of the current affairs of Compositio Mathematica from my vacation accomodation. According to what Mr. Bruins has assured me, that part of the archive is still in the same place, as he was firmly convinced, untouched in the same state in which I left it a year and a half ago. Among the five mathematicians whose names have appeared on the cover page of Compositio Mathematica, there will perhaps be some who have a greater number of recollections of Compositio Mathematica.

4. I have preferred not to transmit your statement of May 29 to the other interested parties. They would perhaps have little appreciation for insults, that one can only bear out of respect for a great mathematician.

5. Just now $\langle 24 \rangle$ I receive your express letter of yesterday, postmarked today, May 31, containing the manuscripts of the four notes to be presented.

In April I sent you two notes to be presented to the Academy, $\langle ^{25} \rangle$ one of Mr. de Groot and one of me. On May 21 I sent two more notes — of de Groot, and of Loonstra and de Groot, all accompanied by recommendations. Also I informed you that until now I have not received page proofs of my note. Instead of an answer I received on May 26 a letter, the tone of which made me suspect that my note had not been presented and that it also would not be presented — a conjecture the first half of which was confirmed by a telephone conversation with the administration of the Academy and the rest by your letter of today. Unfortunately my effort failed to get a decision from you about the fate of the notes in advance of the meeting of the Academy. I am afraid that authors concerned — in view of the facts and also in view of your entire manner towards me — will hardly consider your

 $^{^{(23)}}$ Crossed out part, replaced by 'Although ... permission.': 'I don't understand what purpose the formal transfer of the archive of Compositio Mathematica, which I didn't touch at all since one and half years, would serve. However, if you wish such a formality, I entreat you to ask the Reich Commissioner [i.e. the highest authority in the Netherlands, Seyss-Inquart] for permission, so I am allowed to appear in the Mathematics Institute for this purpose.' $^{(24)}$ Crossed out: — on Sunday Afternoon — $^{(25)}$ KNAW.

motivation for not presenting and for returning the manuscripts as anything but a pretext. So I ask you most urgently to suggest me how you might motivate your refusal to the parties concerned and others.

With many greetings

[Handwritten draft/copy – in Freudenthal] (26)

1944 - 05 - 20

From E.J. Dijksterhuis — 20.V.1944

Oisterwijk

Dear professor Brouwer, [Hooggeachte professor Brouwer]

The idea to include an obligatory examination in history of mathematics in the requirements for the doctoral examination (27) with a major in mathematics has my full approval. The course material which should suffice for this category of listeners, and which is necessary for those who take philosophy as a major or minor subject, could be taught in the general two hour lecture, and the third hour would then be assigned to this latter group.

It shocked me very much to hear on April 29, that you have been the victim of a fire for the second time now. I hope that the damage and the shock for your wife and you have remained within moderate bounds.

With polite greetings

Sincerely yours ⁽²⁸⁾ E.J. Dijksterhuis

[Signed typescript – in Brouwer]

 $^{^{\}langle 26\rangle}$ A typescript copy of the letter was enclosed in Freudenthal to Van der Corput, 24. VIII.1945. $^{\langle 27\rangle}$ Comparable to M.Sc. degree, not part of a Ph.D. examination. $^{\langle 28\rangle}Met$ beleefde groeten en hoogachting – Uw dienstwillige.

1945-07-17a

To Committee of Restoration — 17.VII.1945^a Amsterdam (29)

The declaration of loyalty 1943

When a company of civilized travelers is overpowered by superstitious cannibals, their behavior, in particular their spoken or sign communication with their captors will be directed at their liberation. For a method they will have to rely on cunning, cheating, and dissimulation for communications as well as proposals, and promises. Honesty, chivalry and demonstrative proclamations will not only have to be rejected because of their being contrary to the goal, but also lack rational content: the essential commitment of the meaning of a word, gesture, or sign required for an honest rapport is in fact only possible on the basis of tacit cooperation of the interacting parties as 'good understander' and this cooperation can only derive its moral orientation from the (in this case lacking) common orientation of will.¹

Such a situation existed in the Netherlands during the occupation. The *manner* in which the enemy attacked us, and in which he subsequently had trampled good faith and human rights, had on the one hand exterminated any common orientation of will or respect, on the other hand exclusively oriented on the following goals: 1) to serve the occupying forces as little as possible, 2) to obstruct the occupying forces as much as possible, 3) to safeguard our national heritage as well as possible against destructive intervention of the occupying force. And in this framework the language and sign communication of the Dutch population with *this* enemy was for communications, proposals, and promises was thrown back, on the basis of above mentioned arguments, on cunning, deception, and dissimulation, on the other hand, chivalry and demonstrative proclamation had become practically unacceptable and had lost rational content.

In view of this exposition it is thus not correct that, as was said at the time, the signing or not signing of the declaration of loyalty by the Dutch

¹compare my lecture *Willen, weten, spreken* (Will, Know, Speech)(in *De uitdrukking-wijze der wetenschap* (Way of expression of Science), Groningen: Noordhoff 1933, in particular under section I.4.

⁽²⁹⁾Addressed: College van Herstel voor de Gemeentelijke Universiteit te Amsterdam. This is a note, presented to the committee at the interview of 17.VII.1945. The note contains a defense of Brouwer's position with respect to the 'declaration of loyalty' in the Senate meeting of the UVA of 26.III.1943.

students involved ethical or idealistic goods of the Dutch national community. On the contrary, there was the possibility that a general signing would have the consequence that 1) a smaller part of the Dutch potential would serve the enemy; 2) the students working in the resistance movement would obtain more favorable conditions for their activity; 3) it would be less detrimental to the health and intellectual education of the Dutch students. This had at the time to result in the conclusion that the signing of the declaration of loyalty would serve the interest of the fatherland as well as that of the students. And I felt that I could not suppress this conclusion, when it thrust itself on me, because the tradition — in particular held in high esteem by the Dutch national community — that the ventilation of a sincere opinion is not only an inalienable right, but in cases that touch on the general interest moreover an undeniable duty, represents to me one of the most treasured goods, on account of which I felt, even against personal interests, lastingly connected with the Netherlands.

L.E.J. Brouwer

[Signed typescript – in GAA; signed typewritten copy in Brouwer.]

1945 - 12 - 01

From Hk. de Vries – 1.XII.1945

Benjamina (30)

Amice,

Thank you for your letter of October 10, 1945, which I received recently. I had already heard from Henk that you dropped in at Mannoury's place, just when he showed a letter from me to Gerrit; so you know *also* about how the Wife and I have struggled through all these years, not directly in contact with the misery of the war, but all the time, and still, coping with financial problems that poison our lives. First I had a lot of hassle with my pension, but at least that has been settled now, even though the State of the Netherlands now still owes me a large sum and bluntly refuses to pay, but then I had negotiated a nice annuity from the Hollandsche Sociëteit (31) (van Haaften), to support myself in the last years of my life. Good Lord! half of

⁽³⁰⁾Settlement in former Palestina, now Northern Israel. ⁽³¹⁾An insurance company.

the payments have been stolen by that stinking vermin, and the other half which van Haaften managed to save are at my disposal on Heerengracht 475. (32) But getting them, no! Can *you* give me a nice definition of an annuity that hasn't paid a cent since January 1940? And so I have money on the Heerengracht, and we live here in very straightened circumstances. That's nowadays the quiet and peaceful old age.

About an examination of a certain C. Kramer, I don't recall anything; I can neither deny, nor confirm it. I don't know whether I knew a C. Kramer personally during the last part of my existence in Amsterdam; if he has taken the exam at all, it is stupid of him not to have demanded a proof, because he knew I would be leaving.

I had heard already about Belinfante (33) and Koppers, (34) and just yesterday I received a letter from Van Pommeren, (35) in which he in great length described his experiences, so I also know what *he* had to enjoy. One thing is even more depressing and nasty than the other. That Weitzenböck (36)has sneaked out, (37) I have also heard; a pity that they didn't get to him in time, because *he* really deserved it. I always hated his guts. And I heard also that a couple of you guys have been suspended, including our good Stomps, who seems to take it very seriously, because he always did everything what he could do to assist the Jews, for example the whole Heimans family, and he even hid a Jew in his house. That man truly didn't have to be suspended!

And so life goes on again, I am curious whether it will stay such a mess as it is now, or get better, or even worse.

With cordial greetings, also from the Wife.

Yours truly Hk. de Vries

[Signed autograph – in Brouwer]

 ⁽³²⁾The address of the insurance company. ⁽³³⁾The Portuguese-Jewish private docent,
PhD student of Brouwer, who died in Auschwitz, 14 oktober 1944. ⁽³⁴⁾Misspelled as
⁽³⁶⁾Specialist in invariant theory, had strong nazi sympathies. See [Van Dalen 2005],
p. 774. ⁽³⁷⁾Weitzenböck was in fact almost immediately arrested.

1945-12-03

To Committee of Restoration — 3.XII.1945

Blaricum (38)

Dear Sirs, [Mijne Heeren]

Now that the investigation into my behavior during the occupation apparently still has not been concluded, I think it is opportune to mention to you — apart from the sanctioning and protecting of an underground operation in the Mathematics Department during almost the entire time of the occupation, which has already been brought to your attention — a few more facts, which perhaps can also make it plausible that my acts during the occupation which are subjected to your criticism, or which will be subjected to your criticism, in the end have taken place with the aim and under the reasonable assumption, that thereby ultimately the Dutch interest would be served.

I have immediately suspended at the beginning of the occupation both printing and publishing, also for publications of fellow Dutchmen, of the international mathematical journal Compositio Mathematica, which was founded by me, and in 1940 still directed by me,² because for me it was out of the question to see my editorial management subjected to control by the occupying force.

When in the summer of 1942 $^{(39)}$ the establishment of a 'Cooperative of scientific organizations in the Netherlands' was being prepared, which in my view was nothing but an instrument to submit and register the free Dutch scientific activities contrary to the Dutch national character — which, without having any real usefulness, would only facilitate possible attempts for nazification of Dutch scientific activities — I have, after having experienced that the mentioned establishment could no longer be stopped, exerted myself, to give the statutes a character that was as harmless as possible. When later the mentioned Cooperative

 $^{\langle 38\rangle}$ Adressed: College van Herstel voor de Gemeentelijke Universiteit te Amsterdam. $^{\langle 39\rangle}$ Correct year '1940' — see Brouwer to Committee of Restoration 30.XII.1945.

²at that time with the cooperation of 46 scholars from all countries of scientific importance, with the exception of Germany, which (as well as the enclosed copy of the press release dated January 16, 1937) [Brouwer publicly supported Van Anrooy's refusal to play the 'Horst Wessel-lied', *De Tribune*, 16.I.1937 — added as enclosure, see 16.I.1937 in the collected correspondence.] may be an indication that even before the war the Nazi spirit had raised normal feelings of revulsion in me.

started, in my view needlessly, to draw public attention, by publishing a survey of the research done in this country through the years 1938– 1942, under the title 'Scientific research ⁽⁴⁰⁾ in the Netherlands', I have first tried, with respect to this publication, to dissuade the Wiskundig Genootschap from cooperation, and when I didn't succeed, I have at least personally observed complete abstinence.

I have of course never accepted invitations for participation to scientific congresses in enemy countries during the occupation. In one case, when the invitation reached me through the representative of the government of the country concerned, I had to express my views very explicitly.

In the beginning of 1944 most of the telephone connections in het Gooi $\langle ^{41} \rangle$ were cut off. Shortly after that I met a fellow villager with whom I was at friendly terms, a businessman, who told me that he had visited the office of the Beauftragten für das Post- und Fernmeldewesen $\langle ^{42} \rangle$ to plead the reconnection of his telephone. He then showed me a form for the request to re-establish the telephone connection, containing a kind of loyality declaration, which he had to sign to get his telephone back. He had a few more copies of this form with him, and he offered me one for signing, and he said he was willing to take care that it was returned together with his form. Whereupon I answered that such signatures in my opinion where permissible only if done collectively and in general terms, and never in the interest of one's own personal advantage. Whereupon after further expostulations my fellow-villager also abandoned his plans to sign.

During the occupation I have held the view that persons and groups that were not in a direct official relation with the authorities of the occupation authorities and who had no means of power with respect to these authorities (which was for example in fact the case with miners and medical men) should neither direct requests nor admonitions to the occupation authorities.

For such concessions could only derive their meaning and content from an existing basis of mutual understanding between both parties, and hence would implicitly recognize the existence of such a basis, which then must act as encouragement to the ever present ambition of the occupation force

 $^{^{\}langle 40 \rangle}$ i.e. in the exact sciences. $^{\langle 41 \rangle}$ The region containing among other places Laren and Blaricum. $^{\langle 42 \rangle}$ The (German) title for the supervisor of mail, telephone and telegraph affairs.

to penetrate, and which could supply reasons or pretexts for new measures of nazification.

This view has been the cause that during the whole period of the occupation I have not had personal contact with the occupation authorities, other then by force, such as under duress, house searches and interrogations by the police.

The only purpose that would have given me the liberty to contact the occupation authorities on my own accord, would have been, as far as I can see, deception of the occupation authorities in the service of the Dutch interest. But indications of possibilities in this direction have not come my way.

Sincerely yours $^{\langle 43 \rangle}$ L.E.J. Brouwer

[Signed typescript – in GAA; Signed typescript copy in Brouwer.]

1945-12-06a

To J. G. van der Corput – 6.XII.1945^a

Blaricum

Dear van der Corput, $\langle 44 \rangle$ [Waarde van der Corput]

To my regret my health situation, which has been unstable for some time (maybe caused by the injustice committed against me), has come again into a critical phase, and now I am unable to come to Amsterdam because of an asthmatic bronchitis. Maybe you can write to me a few words about the present stage of the plans to establish the 'Mathematical Center'.

With friendly greetings

t.t. L.E.J. Brouwer

[Signed autograph – in Corput]

 $^{^{\}langle 43 \rangle}$ hoogachtend. $^{\langle 44 \rangle}$ Van der Corput had been appointed in Amsterdam; he was also made chairman of a committee for the reorganization of the Dutch mathematics departments, including the founding of a national centre for mathematical research.

1945 - 12 - 12

To Committee of Restoration — after 12.XII.1945 $^{\langle 45 \rangle}$

Memorandum

The complaints that were raised against me by anonymous sources with the Restoration Committee of the University of Amsterdam and that have been discussed with me by this Committee concern:

1. The document concerning the student declaration of loyalty, put on the bulletin board of the Mathematical Institute on April 8, 1943 by the joint mathematics teachers, having the Dutch nationality. In the discussion with the Committee I have emphasized that the point of view expressed in this document is tied to the day it was dated, and that it was on view there only during the time that the possibility of a *general* signing by the students could be reckoned with, and that it was moreover removed once temporarily during this time when the expectation seemed justified that the Senate would lay down and make public its point of view in this matter. It is possible that at the discussion with the Committee, when the chronology of the events was understandably not completely at my disposition, I may have mentioned from memory, as probable date of re-posting after its removal, the beginning of May (the minutes of the meeting were never shown to me); in any case I have sent later a written communication to the Committee, in which April 19 is mentioned as the date of re-posting. Of this statement the Committee has taken no notice, as appears from the letter of the Minister dated December 11, 1945.

For the text of the notice see enclosure 1. $^{\langle 46 \rangle}$ For the motivation of the content see enclosure 2. Compare also enclosure 3. $^{\langle 47 \rangle}$

It is remarkable that there have been no complaints in this matter against several other professors of the same university who have voiced the same or even less strict points of view in writing or orally (albeit in a manner which was formally different from the one of the mathematicians).

2. Obstruction of the resistance; as such were put forward by the Committee, aside from the above mentioned position with respect to the declaration of loyalty

 $^{^{\}langle 45 \rangle}$ In view of the dates given below, this note was submitted after December 12. The Memorandum may equally well have been addressed to the Minister of Education. Original enclosures not included. $^{\langle 46 \rangle}$ Text of the notice posted by Brouwer, Heyting and Bruins on the bulletin board of the Mathematical Institute. $^{\langle 47 \rangle}$ See Brouwer to Committee of Restoration, 17. VII.1945.

a) My submission of an amendment to the concept letter of the Senate to the General Secretary of Education, Teaching and Protection of Culture dated March 26, 1943, to the effect of omitting a passage in which the threat of a strike was made. About this I have argued before the Committee that the statements of the Rector Magnificus at the time indicated as the goal of that letter, not only to the letter, but also in fact, to obtain the changes deemed necessary in the Ordinances and Decisions of March 10 and 11, 1943. I was convinced that the chances of reaching this set aim (aside from the circumstance that the threat of a strike probably could not be carried out) were subjected to a diminishing by this passage, that could not be justified.

b) The continuation of the work in the Mathematics Institute after May 1943. For the motivation of this see enclosure 4. (48) Compare also enclosure 5.

3. My contributions to the Nederlandsche Volksdienst. ⁽⁴⁹⁾ In this matter I have put forward to the Committee that this had happened exclusively in the interest of Mayor Klaarenbeek's staying on as long as possible, after having received a circular from his hand exhorting to cooperation, and after it had to be deduced from a speech of the then Governor ⁽⁵⁰⁾ of the Province of North Holland that in his territory the retaining of mayors would to a large degree be related to how well the Winterhulp and the Volksdienst ⁽⁵¹⁾ were functioning in their municipalities. Already in the light of the protection that the very actively patriotic Blaricum police enjoyed from mayor Klaarenbeek, it was my opinion that the objections to the hardly useful and in any case (at least initially) more ridiculous than harmful Volksdienst should be overlooked.

It is remarkable that about this no complaints have been raised against a professor and a lector of the same university who live very close to me and who just like me, and just as long as I have, have contributed to the Volksdienst. Also mayor Klaarenbeek himself has contributed just as long as I did, and also he has been interviewed by a Purification Committee. No measure against him has been taken, on the contrary Her Majesty the Queen has called him to a high honorary office per January 1, 1946.

⁽⁴⁸⁾See Brouwer to Committee of Restoration, 20.VIII.1945 and 3.XII.1945. ⁽⁴⁹⁾The National Socialist substitute for the various Dutch social organizations. ⁽⁵⁰⁾Commissaris, under Dutch law this used to be the Commissaris van de Koningin (of the Queen). ⁽⁵¹⁾both national socialist institutions replacing the traditional institutions.

For further details see enclosures 6 and 7. (52) As enclosure 8 is added my letter to the restoration committee dated December 3, 1945.

L.E.J Brouwer

[Signed typescript copy – in Brouwer]

1946-01-07

To Mayor of Amsterdam — 7.I.1946

Amsterdam (53)

To Mayor and Aldermen of Amsterdam [Aan Burgemeester en Wethouders van Amsterdam]

At the occasion of the interview that I had on December 27, 1945 with the alderman for Education, it has become apparent to me that your College has received from the Restoration Committee two proposals for appointments of lecturers in mathematics, with which the members of the regular mathematical teaching staff of the university, i.e. Dr. Heyting and Dr. Bruins and the undersigned, were unfamiliar, and the preparation of which has taken place without cooperation from our side.

It is concerning these appointment recommendations that I feel obliged to ask your attention for the following expositions.

Ι

Some months ago a Committee of mathematics professors (54) was established by the Minister of Education, Arts and Sciences, which according to statements by its members has been charged to encourage the filling of the many at present vacant chairs of mathematics in the country with such scholars, that the flourishing of mathematical sciences in the country as a whole is served as well as possible. In the discussions with members of the committee I have frankly made it known, that for me the cooperation in my Amsterdam working environment with conservator Dr. Freudenthal has over the years become so difficult and that it had such a paralyzing influence on my working energy, that any authority that could put this cooperation to an end without personal disadvantage for Mr. Freudenthal, should do so in the general interest. So in my view the aforesaid Committee has the duty to do

 $^{^{\}langle 52\rangle}$ See Brouwer to Committee of Restoration — 30.VIII.1945. $^{\langle 53\rangle}$ Adressed: mayor and aldermen of Amsterdam. $^{\langle 54\rangle}$ The so-called Van der Corput Committee, cf. [Van Dalen 2005] p. 801.

everything in its power to have the mathematical vacancies in the different Dutch Universities filled in such a way that, either to Mr. Freudenthal, if he would be acceptable for the Netherlands, or to me a suitable position outside of Amsterdam is assigned.

In this connection a member of the committee voiced his fear to me that Freudenthal might not want to leave Amsterdam and would reject any nomination elsewhere. Naturally, with such a standpoint of Mr. Freudenthal, it would become substantially more difficult for the Committee to find a solution, consistent with the general interest. And Mr. Freudenthal would be fatefully encouraged in such an attitude, if just now the municipality of Amsterdam would offer him a lecturer's position.

Under these circumstances I would like to suggest that you suspend the planned appointment of Mr. Freudenthal as lecturer in Amsterdam (where, by the way, his teaching assignment should be 'analysis, group theory and topology') at least until full clarity will have been obtained about both his willingness to accept a position outside of Amsterdam and the possibility to find such a position for him among the existing vacancies.

Indeed an incompetent party has put forward an argument in favor of an immediate appointment of Mr. Freudenthal as lecturer, which is on the basis of a passage in the Acts of the Amsterdam Municipal Council of the year 1937 the City of Amsterdam bound by a promise; but this argument is based on a completely wrong interpretation of that passage, as a closer inspection of the files involving this earlier matter will undoubtedly confirm to you.

Concerning the origin of the circumstances that make further cooperation between Mr. Freudenthal and me difficult if not impossible, your Committee may consult my exposition $^{\langle 55 \rangle}$ dated August 28/30, 1945, a copy of which is hereby enclosed.

Π

As far as Dr. Bruins is concerned, his teaching assignment should in my opinion indicate the subjects that he teaches nowadays, i.e. applied and propaedeutic mathematics.

Of applied mathematics (a field of research that, as we hope, will later become of great importance in the Central Institute for Mathematical Research, to be established in Amsterdam), the parts that are taught by Dr. Bruins concern such mathematical theories as are important for research in physics, like higher numerical methods of calculation and the mathematical foundations of quantum theory. For this kind of teaching Dr. Bruins is

 $^{^{\}langle 55\rangle}Brouwer$ to Committee of Restoration, 28. VIII. 1945.

particularly well-suited, because on the one hand he is in the first place, by nature as well as by education and interest, a mathematician, and on the other hand he has held a position in the physics laboratory for several years.

Dr. Bruins has been charged at the time with teaching propaedeutic mathematics, i.e. the mathematics for students in chemistry, mineralogy and psychology, for whom this subject is an auxiliary science. He was the successor of Prof. Pannekoek for the mathematical part of his teaching assignment. (The title of lecturer, that was consequently granted him, would have been better given the predicate of propaedeutic mathematics, rather than analysis.) As experience has shown, this kind of teaching too is in excellent hands with Dr. Bruins, because of his clear and simple way of presenting things and his easy personal accessibility for the students.

III

As far as mechanics is concerned, the Faculty of Mathematics and Physics has taken the point of view after Prof. van der Waals retired, that because of the present state of science, the teaching of mathematical physics necessarily has to be divided between two teachers (a necessity which has become even much more urgent with the prospect of the establishment of the Central Institute for Mathematics Research) and that as soon as there are two teachers available for mathematical physics, one of them must be charged with mechanics. In anticipation of this, my temporary teaching assignment for mechanics was at the time continued for the time being, with the understanding that aforementioned task would, as soon as the vacancy for first assistant in the Mathematics Institute was filled, be taken over temporarily by the first assistant until the definitive arrangement was made.

This first assistantship of the Mathematics Institute was offered by me to Dr. F. Loonstra in The Hague in 1943, and also accepted by him, but with the prospect of the liberation of the fatherland, which seemed all the time imminent he has repeatedly in his communications about the progress of his preparatory studies for the teaching assignment intended for him asked me to postpone the actual submission of the proposal for his appointment for just a little longer. Meanwhile, if I hadn't been out of circulation for quite some time after the liberation of the fatherland, the proposal to appoint Dr. Loonstra would have reached your Council already in August.

However, if in relation to changed circumstances Dr. Loonstra would now no longer be available, then one might consider transfering my temporary teaching assignment in mechanics, after a few months to settle things, to Dr. Bruins, awaiting definitive fulfillment. However then one should consider the danger that Dr. Bruins would be overburdened and that he consequently on the one hand could not fulfill his proper teaching assignment, for which he is well-nigh irreplaceable, and on the other hand would not have enough time to continue his scientific researches.

Also at an earlier occasion, when the transfer of the teaching of mechanics to Dr. Bruins was intended, this plan was abandoned in order to prevent overburdening this exceptionally dedicated teacher.

The Scientific Director $^{\langle 56\rangle}$ of the Mathematical Institute (w.g.) L.E.J. Brouwer

[Signed carbon copy – in Brouwer (57)]

1946-01-10b

To J. G. van der Corput — $10.I.1946^b$

Amice,

I hope that the moving of your books and journals to the Institute has been carried out successfully, and that you have been able to find them a temporary place in the building. Your information regarding that matter has meanwhile inspired me to write a letter to the alderman for Education, (58) a copy of which is enclosed.

Now that I have been reinstated in my function, don't you think it rightful and in the interest of further developments, that as yet a place is assigned to me in the coordination committee instituted by the Minister of Education (59) that you preside over?

With friendly greetings

t.t. L.E.J. Brouwer

[Signed autograph – in Corput]

Blaricum

 $^{^{\}langle 56 \rangle}$ 'Hoogleraar-directeur', the usual title for the professor who was the head of an academic institution. $^{\langle 57 \rangle}$ Also in Corput. The letter (or note) Brouwer to College van Herstel 28/30.VIII.1945 was added as an enclosure. $^{\langle 58 \rangle}$ Brouwer to Alderman for Education 9.I.1946. $^{\langle 59 \rangle}$ The so-called 'Committee van der Corput', see [Van Dalen 2005] p. 801.

1946-01-23

To J. Clay — 23.I.1946

Dear Colleague, [Waarde Collega]

With reference to your letter of December 3, I must emphasize that in my draft for a letter from the Faculty to the Restoration Committee of November 7, 1945, the words 'that the Minister of Education wishes to encourage, that at the University of Amsterdam an institute is established for mathematical scientific research' are an accurate rendering of an oral communication by yourself on this matter.

It was this statement which was the point of departure for our discussion on October 12 last year, which resulted in our agreement to postpone any possible proposals for the enlargement of the mathematical teaching staff of the Faculty until after the return of normal relations and forms of management, and to support jointly the candidacy of Van der Corput, in exchange for your withdrawing your initial candidacy of Van der Waerden. Only after agreement between us had been reached on these points. I have acquiesced at the end of the discussion in the preparation of the nomination-Van der Corput, which was planned for later, in the meantime advice would be sollicited, so that at that later point in time there would be no unnecessary loss of time; this after you had informed me that in your opinion the mentioned custom of the Faculty had such obligatory traditional rights, that even in cases where the choice of the Faculty was known in advance no departure from this custom was allowed, and after you had promised me that the letters soliciting advice would be sent out at a time determined by me and with a text approved by me. $\langle 60 \rangle$

Naturally, the aforementioned discussion of October 12 inspired in me the confidence that with respect to the matter at hand further negotiations would take place on a basis of reasonableness and consistency and in an openness maintained by all parties concerned. And equally reassuring in this respect were the discussions between me and Van der Corput in that same month of October, during which I from the beginning and categorically took the position that my initiative and cooperation with the candidacy of Van der Corput for the chair of Weitzenböck was based on the expectation that Van der Corput agreed with my view that offering an position in Amsterdam to Van der Waerden, could not be considered until after a thorough

Blaricum

 $^{^{\}langle 60\rangle} \rm Note$ in the margin in Van der Corput's hand: 'incorrect'.

investigation of the question whether he was acceptable from a national point of view, $^{\langle 61 \rangle}$ and after the Amsterdam institute for mathematical research $^{\langle 62 \rangle}$ (which is now still only in a rudimentary planning stage) would have been established and shown to be viable. After Van der Corput had in this context taken my offer into consideration, I reckoned that he would in the interest of his candidacy, where his own activity was concerned, stick to the above, and that he would not depart from that without first consulting me, and that he certainly would refuse to make his candidacy subservient to a purpose that was contrary to that to which it owed, among other things, its origin.

My initial confidence, established in this manner, was gradually disturbed, without turning into distrust, in the period until New Year by the following series of events:

First the dispatch of the letters soliciting advice was carried out without consulting me and with a text not approved by me. (63) Subsequently you convened nevertheless a faculty meeting to nominate Van der Corput, and you sent this nomination to the Committee of Restoration with a motivation which clashed with the spirit of our agreement and with a motivation that risked misunderstanding because of its incompleteness. Next you and Van der Corput informed me of your joint plan to obtain already now guarantees for the future, that after the start of the planned institute for mathematical research, Van der Waerden would be assigned a function there. In the light of the earlier discussions this communication understandably surprised me, but because it didn't yet sound dangerous by itself, I finally answered after some exchanges of thoughts with Van der Corput, with a statement that even though it was unacceptable for me to cooperate with Van der Waerden in a university where we would share localities and facilities and responsibilities for teaching, exams and granting Ph.D. degrees, I would not object to collegial ties in the much looser relationship of a research institute.

Also, I felt not yet alarmed after the faculty meeting of December 1 last year, the convening of which I got to know on November 30 from colleague Aten, in which according to your mentioned letter of December 3, it was decided 'that the Faculty will propose Van der Waerden, if it is certain that the Mathematical Institute (64) will be established in Amsterdam, and in

 $^{^{\}langle 61\rangle}$ Van de Waerden's record as a professor in Leipzig was definitely frowned upon. There was opposition to his appointment from political sides, and the government. $^{\langle 62\rangle}$ i.e. the future Mathematical Centre. $^{\langle 63\rangle}$ Marginal note in Van der Corput's handwriting: 'insinuation! nonsense! of course other reason!' $^{\langle 64\rangle}$ i.e. the future Mathematisch Centre, not the already existing Mathematical Institute of the UvA.

connection with this you gave a promise to colleague Aten on December 2. repeated at a considerably later time, that as a consequence of that decision no letters would be sent by the faculty that would not in draft be subjected in advance to my approval. (65) For one can of course only speak of the 'certainty' of the establishing of the 'Mathematical Institute' in Amsterdam after the necessary funds have been granted, and before this, it cannot at all be assumed with certainty that our representative bodies will and can bear responsibility, because of the destitute state of the public coffers and the fact that for the time being there is no certainty about the usefulness of the planned institute. Until now not even a clear description of the aim and the modus operandi of this institute has been given. Only one part of the plan has been formulated clearly at this moment, namely the establishment in Amsterdam of a laboratory for applied mathematics, but the realization of this has not progressed further than asking prof. Vening Meinesz to use his influence in America to obtain the necessary monetary means.

Even though in this matter my confidence had been gradually upset during the last few months, and was replaced by a state of uneasiness, I had until the last moment not the faintest inkling of the preparations that had been kept hidden from me until the sudden attempt to appoint Van der Waerden during the Council session of the 16th of this month, an event that I also experience as a sudden assault on me personally, which cannot fail to fill me with distrust towards the other persons involved in this matter.

In spite of my request to you in my letter of November 30 last year, the matter under discussion has now indeed set foot on roads that are just as conflicting with the agreements between the two of us as fateful for the mathematics department of the Amsterdam university. I appeal to your cooperation to turn it as yet aside from these roads.

With collegial greetings

L.E.J. Brouwer

[Signed typewritten copy – in Corput]

 $^{^{\}langle 65\rangle} \mathrm{Marginal}$ note of Van der Corput: 'statement of facts'

1946-05-01b

From M. Minnaert — $1.V.1946^b$

Utrecht Sterrewacht Sonnenborgh der Rijksuniversiteit Zonnenburg 2

Dear Brouwer, [Waarde Brouwer]

I have succeeded in making a telephone connection with Dr. Freudenthal. I have put the matters to him just as we had discussed together. Understandably, he could not answer immediately: he informed me that recently he had adopted the point of view that a lecturer's position in Amsterdam should first be established before he could consider other appointments. However, it was conceivable that he would change of opinion.

I have urged him to send me his answer well in time, before May 8. He would do so in writing, because it is difficult to get a connection by telephone. As soon as I know more, I will phone you.

Many greetings from

M. Minnaert

[Signed autograph – in Brouwer]

$1946\text{-}08\text{-}03\mathrm{b}$

To A. Dresden — 3.VIII.1946^{b (66)}

Many thanks for your letter of August 3, which unfortunately reached me only a few days ago. Yes, the problem of ensuring peace occupies here too a lot of the available brain power. The very first requirement seems to me that the division of the earth into different regions with separate centers of military powers should be abolished. Awaiting that, in my opinion, at least the United States should immediately unite itself in military respect with the other American nations, the British Empire, Scandinavia, Switzerland, Austria, Italy, Spain, Portugal, France, Belgium and the Netherlands

 $^{^{\}langle 66\rangle}$ Undated; obviously August or September 1946; reply to Dresden to Brouwer, 3. VIII. 1946. Document incomplete.

to a single state. I have sent the postcard you sent me, together with a few important names among my relations, to the Committee for foreign correspondence.

Meanwhile I would very much like to emigrate now (unlike before) from the Netherlands, because I'm afraid that we will have to wait for a few more years for the establishment of a unified state. If at the moment the possibility of employment in America would materialize for me, I would seize that possibility with both hands. Because the confused situation during the first months after the liberation has brought here (also in scientific and university circles) people into office \dots ⁽⁶⁷⁾

[Handwritten draft – in Brouwer]

1946-10-08a

To Mayor of Amsterdam — $8.X.1946^a$

Blaricum (68)

Dear Sirs, [Edelachtbare Heeren]

Allow me to call the attention of your Council to the following matter:

On the municipal budget for 1946, that was approved this summer by the city council, there appears an item of f 25,000, for which the explanation in the concept budget submitted by your Council to the City Council reads as follows:

It is proposed to allot for the year 1946 a subsidy of at most f 25,000 to the Mathematical Institute Foundation, for a mathematical institute that shall take the place of the European Center for Mathematics in Göttingen $^{(69)}$

Because there is in Amsterdam no other mathematical institute than the one of the University of Amsterdam, which has, in so far as the municipal

 $^{^{\}langle 67 \rangle}$ The draft breaks off here. $^{\langle 68 \rangle}$ Addressed: Burgemeester en Wethouders van Amsterdam, (mayor and aldermen of Amsterdam). A shorthand copy of this letter is in the van der Corput archive, probably dictated by telephone by a member of the City hall staff. One may conjecture that Van der Corput (one of the founders of the Mathematisch Centrum) attached a more than routine interest in the matter $^{\langle 69 \rangle}$ I.e. mayor and aldermen proposed to subsidize an institute for mathematics, comparable to the pre-1933 institute in Göttingen; the formulation suggests a new institute, but it remains silent on its relation to the existing mathematics institute of the university.

finances permitted, been designated since 1920 to be organized on the same footing as the mathematical institute of the university of Göttingen, which functioned until the last world war not only as a European but also as a global center of mathematics, the above explanation must have created with the city council the impression that the city finances now finally permit a beginning of the fulfillment of the promises received by me in 1920, and which since then I have been prompting — repeatedly, but in vain.

For, when I was offered in 1920 a chair in Göttingen, which had been held from 1886 to 1913 by Felix Klein, under whose leadership Göttingen had acquired its function as a world center for mathematics, and when acceptance of this call would have meant an important improvement for me, not only in affluence but also in the opportunity to do scientific research and in international influence of the results thereof, I have nonetheless complied with the pressure from the board of the city council of Amsterdam to stay here, after it was promised to me by the then mayor and chairman-curator that in the first place the mathematical teaching staff of the University of Amsterdam would be immediately be given such an extension, along lines to be indicated by me, that Amsterdam could become the center for the practicing of mathematics in the Netherlands, and in the second place that as soon as the Amsterdam municipal finances would allow this, a mathematical institute, to be placed under my direction, would be established at the University of Amsterdam, which would be as similar as possible, both in size and in organization, to the Göttingen institute. $\langle ^{70} \rangle$

Of these two promises the first one was at the time immediately fulfilled; between 1920 and 1934 indeed several times a start was made to realize the second one, but under influences that never became clear to me, these introductory measures each time ended in nothing.

In that period there was a marked influx of foreign mathematicians to Amsterdam, which was I took care of during several years. However, in the absence of an institute and appropriate facilities for directing a group of studying foreigners, the required personal, mental and financial sacrifices became in the long run too much for me (especially after an indispensable source of my income, which was as such discussed in the negotiations of 1920, was strongly diminished as a consequence of municipal expropriation $^{\langle 71 \rangle}$), this hospitality had to come to an end. In this manner the board of the city council not only victimized me personally, but it also nipped the interna-

 $^{^{(70)}}$ The promises of the mayor in 1920 were in fact related to the offer of a chair in Berlin. The Göttingen offer played no role in the available correspondence. Cf. *Mayor of Amsterdam to Brouwer 12.II.1920* and [Van Dalen 1999] section 8.4. $^{(71)}$ of the pharmacy at the Overtoom, see [Van Dalen 2005] p. 559.

tional mathematical center, that was emerging all by itself in Amsterdam, in the bud.

Perhaps because the honoring of the promises made to me in Amsterdam failed to be realized and the vanishing of my Amsterdam school for foreigners had attracted international attention, a chair in Göttingen was again offered to me in 1934, $\langle 72 \rangle$ which was from the beginning unacceptable to me notwithstanding the high pay and excellent facilities, because of the then established form of government in Germany, but I only formally rejected it after having once more explained in detail to the Chairman of the Board at the time how much I had been disappointed by the municipal council, and after having heard from his mouth that he deeply regretted this whole state of affairs, and that from the side of the municipal governing board everything would be done that could be done to set the matter right.

And indeed, soon after my second rejection of Göttingen a mathematical institute has been established in the Amsterdam university, and put under my supervision. But the location, the organization and the facilities of this institute have remained so far below my minimum requirements, that it fell short of its purpose, had little use for scientific activity, and it gave me personally worries and vexation, whereas it wasn't in the least advantageous, neither for my teaching, nor for my research. And after my repeated complaints the municipal governing board now and then held out perspectives of partial remedies; preparatory measures which were then taken again came so far to nothing.

On the basis of the historical exposition above and in combination with the passage from the concept budget for 1946, quoted at the beginning of this letter, the allocation of this budgetary post can hardly be interpreted in any other way than that the amount mentioned should — either with or without an intermediary foundation — be spent for the mathematical institute of the University of Amsterdam, and for purposes to be determined in consultation with the director of this institute.

Anyway, on the basis of the above exposition it would be in my opinion unacceptable in whatever way, to take away my leadership of the Amsterdam mathematical enterprise, after I had brought it, under difficult circumstances, sacrificing a great many many personal interests, to its present level. Unfortunately there are indications that plans in that direction exist in certain circles, and also that preparatory actions in that direction already have taken place under the protection of the smoke curtain of the liberation-

⁽⁷²⁾ Cf. [Van Dalen 2005] section 16.7.

confusion. If this scheme should succeed (quod consules avertant (73)), then I believe that this would write a page in the history of science that will not fail to attract the astonished attention of future generations.

Sincerely yours

The director of the Mathematical Institute (w.g.) L.E.J. Brouwer

[Carbon copy, typewritten signature – in Brouwer (74)]

1947-08-21

To D. van Dantzig — 21.VIII.1947

Blaricum

Dear Van Dantzig, [Waarde Van Dantzig]

In answer to your letter of the 19th of this month I would like to draw your attention to the fact that intuitionism does not recognize axioms, and hence that it never uses them, and that more in particular it never uses the comprehension axiom and at most takes interest in what respect assertions from classical mathematics based on the use of the comprehension axiom can be assigned any intuitionistic meaning, and whether this meaning can be recognized as true or false. Only in very special cases such assertions turn out to be meaningful and true.

Intuitionistic mathematics possesses perfect precision, but on the contrary, intuitionistic language is vague and fallible; in different environments, at different times, different intuitionistic languages might become the preferred one to use; of all terms in all those languages one always will be able to say that they 'are in need of further precision'.

Calling a mathematical property a species (75) can just as little be based on an axiom, as calling an indivisible natural number a 'prime number'.

As to the two sentences in your article, quoted in your letter, mentioning the comprehension axiom, I would like to give you to consider to delete the

 $^{^{(73)}}$ What the consuls may avert, a variation of 'videant consules ne quid detrimenti respublica capiat' (May the consuls avert it that the state suffers harm), the standard formula in republican Rome for declaring a state of emergency. $^{(74)}$ Also in Ministerie van Onderwijs. $^{(75)}$ Brouwer uses here the German word, *Spezies*.

word 'unrestricted' in the first one (p. 4), and that you leave out the second one (p. 11, note 17) altogether. $\langle 76 \rangle$

As to the reprints of my publications that you asked for, of many of those even my own private copies have been lost by the fire, so I can fulfill your request only to a very limited extent. But I still have the three mentioned in my letter of the 17th of this month, and I will send them to you tomorrow. I hope to send a few others soon.

With friendly greetings

t.t. L.E.J. Brouwer

[Signed typescript – in Dantzig]

1947-09-03

From D. van Dantzig — 3.IX.1947

Amsterdam

Dear Brouwer, [Waarde Brouwer]

Many thanks for your explications and your reprints.

Although I do not completely agree with you, I have crossed out the words you indicated, because they are not essential for my argument.

Should you feel like continuing the discussion a bit more, then I am quite willing to indicate in somewhat more detail what the basis for my deviating opinion is. For now I restrict myself to the matter of making the notion of species more precise.

Your analogy between the definitions of 'species' and 'prime number' does not apply, because I (and I think most mathematicians) do have a clear idea about what is meant by a 'natural number' and when that is called 'indivisible', but *not* about what you mean by a '*property*' and when you call that 'mathematical'. This latter predicate doesn't occur, if I recall correctly, in your definition. Is it a 'property' of a set (in your sense), leaving aside that it is 'mathematical' or not, that a certain person has constructed it on a certain day? Or that he heard someone talk about it? Or that it

 $^{^{\}langle 76\rangle}$ There are two papers of Van Dantzig on intuitionistic mathematics, [Dantzig 1947, Dantzig 1949].

'shows some similarity' with the set of natural numbers? In the latter case it is certainly not 'begrifflich fertig definiert'. $\langle 77 \rangle$ But where is the borderline?

With the species concept you leave the constructive domain and you bring a vague element into the intuitionistic theory of the same kind as the comprehension axiom does in the classical theory. This would not be the case if you would restrict yourself to subspreads of a spread by extending the sterilization rules for choice sequences. Making the notion 'mathematical property', applied to elements of a spread V, more precise, would in my opinion consist of reducing this notion to verifiable properties of the individual choices in the choice sequence, properties that are connected by universal and existence predicates, so for example: for each natural k and each natural n_k there is an m_k , such that the m_k -th choice possesses the verifiable property E (possibly dependent on previous choices). The scope of the 'property'-notion then depends for example on admitting finitely or infinitely many universal or existential predicates. I guess that you will prefer an as wide as possible definition (considerably wider than the example above). But that such a specification is necessary is, in my view, beyond doubt. It is true that the notion of 'property' of a specific choice still remains undefined, but in any case we would have made a great deal of progress.

With friendly greetings,

t.à.t. D. van Dantzig

[Typescript copy – in Dantzig]

1948-04-02

To Board UvA — 2.IV.1948

 $\mathbf{Amsterdam}^{\langle 78 \rangle}$ Mathematisch Instituut der UvA

With reference to the application by the Foundation for Applied Mathematics, that your Board on March 17 has submitted to the Senate of the University of Amsterdam, to be allowed to establish an extraordinary chair in applied mathematics at the University of Amsterdam; which request has been discussed by the Senate in its meeting of last March 28 (in the opinion

 $^{^{\}langle 77\rangle}$ defined as conceptually completed. $^{\langle 78\rangle}$ Addressed: College van Curatoren van de Universiteit van Amsterdam.

of the undersigned without sufficient time for preparation) the undersigned feels he must draw the attention of your Board to the following points:

- 1. Mathematics is an introvert science and as such coalesces with philosophy, theology and reflective psychology, but it is constructive in a higher degree than these. And the mathematical creative urge is directed not only to inner enlightenment but also to beauty, a beauty related to that of architecture and music, but more immaterial.
- 2. In connection with this the mathematical state of mind is as a rule indifferent to natural science and definitely rejects expanding the exploitation of nature, and the technology that creates the possibilities for this.
- 3. This is not altered by the generally known fact that *and* technology, *and* natural science *and* many other extrovert sciences only have reached their present range because they 'calculated' (arithmetically or graphically), in other words operated mathematically in the mathematical systems that had been 'projected' upon their enterprise or their field of research.
- 4. Hence, although the technical sciences in the first place, but further also almost all other extrovert sciences belong more or less to 'applied mathematics', their essence is nonetheless fundamentally different from that of introvert mathematics.
- 5. Where applied mathematics has been amalgamated as an all pervading accidental circumstance with the activity of the university, and is almost the proper substance of the activity of a technical university, ⁽⁷⁹⁾ there is, precisely because of this ubiquity, in neither of the two institutions a place for a separate educational task called 'applied mathematics'. On the contrary, every extrovert science is interwoven with its own specific applied mathematics, and this should in teaching remain inseparable from it.
- 6. Only in a very special, and in general better avoided, case an academic teaching assignment in applied mathematics, acquires a reasonable content.

For, if one calls the relatively simple mathematics which is an indispensable part of the initial instruction of mathematics students, as well as a supplier of methods of calculation for many other sciences

 $^{^{(79)}}$ At the time technology was the business of the "technische hogeschool", much like the ETH or MIT. Only much later (1985) it acquired the name 'technische universiteit'.

'propaedeutic', then it may happen that a natural science which is represented at the university needs methods of calculation whose theoretical foundations on the one hand exceed the level of propaedeutic mathematics, and on the other hand are of too subordinate an interest to be incorporated in the regular university curriculum. If under these circumstances those calculation techniques, the importance of which is to be found mainly outside of mathematics, are nonetheless taught by a mathematician, who is willing to make the sacrifice (for example if the relevant natural science is understaffed), then in *this* special case it is an activity that reasonably can be given a place as an educational task in applied mathematics.

- 7. In the opinion of the undersigned, the educational task 'in propaedeutic and applied mathematics' of Dr. Bruins, in the manner described above, sprung from a certain need that was felt here. Moreover, apart and separately from fulfilling this need, the courses of Dr. Bruins open, for mathematics students who wish such, access to a mathematical job in industry.
- 8. The above makes it clear that the *factual* intention of the application of the Foundation for Applied Mathematics is the construction of a possibility to attach Professor Van der Waerden, who is said to be declared unacceptable as a public teacher in Dutch university by a decision of the Crown in spite of this decision, to the University of Amsterdam as a professor.
- 9. The preliminary advice, dated March 13, 1948, by the Faculty of Mathematics and Physics to the Senate on the application of the Foundation for Applied Mathematics, refers to the letter of the Faculty to the Secretary of the Senate dated December 31, 1947, which in its turn bases itself on the judgment of the First Section of the Faculty. ⁽⁸⁰⁾ However no decisive authority can be attached to this judgment of the Faculty. For the three lecturers in mathematics, who in Amsterdam are in charge of major part of mathematical teaching, and who all are professorial ⁽⁸¹⁾ scholars and who all maintain in an excellent way the spirit that at the time contributed to the flourishing of Amsterdam mathematics, were not admitted to the relevant meeting of the First Section on December 18, 1947, where the mentioned judgment

 $^{^{(80)}}$ i.e. the section of the faculty that covers mathematics and physics. $^{(81)}$ In The Netherlands an academic teacher or researcher is called 'professorabel' if he possesses the qualities for a professorship. The translation 'professorial' is chosen, lacking a better term.

of the Faculty was established, *after* having been invited to the relevant Faculty meeting of October 22, 1947, and to the relevant meeting of the First and Second Department on December 11, 1947. Subsequently the afore-mentioned lecturers, together with the undersigned, did make their view known to the Central Committee of the Faculty through the enclosed letter, dated December 27, 1947, which view was based on the discussion they had attended. So when this Committee assumed responsibility for the contents of the aforementioned letter dated December 31, 1947, it knew that these contents clashed in essential points with the opinions of the majority of the mathematics teachers.

- 10. In the above mentioned Faculty meeting dated December 18, 1947, the undersigned has not concealed, how much in his opinion a minority of mathematical teachers in his opinion used their position of power and thereby more and more precluded the possibility for the City of Amsterdam to fulfill its promises made to undersigned in 1920, trusting which, he remained in the Netherlands at the time.
- 11. However great the mathematical merits of Professor van der Waerden are, with respect to applied mathematics, that is, with respect to other sciences than mathematics, his record of service is certainly not so well known that it is superfluous to submit his record as part of a proposal to appoint him.

The Director of the Mathematical Institute (w.g.) L.E.J. Brouwer

[Signed carbon copy of typescript – in Corput]

Editorial supplement

J. Clay and J.G. van der Corput to Chancellor – 9.IV.1948 $^{(82)}$

With reference to the copy we received of the letter of Colleague L.E.J. Brouwer intended for the Board of the University of Amsterdam, we have the honor to inform you of the following:

 $^{^{\}langle 82\rangle} {\rm Addressed:}$ Chancellor and the board (curatoren) of the University of Amsterdam.

On the meeting of April 22 ult., $\langle ^{83} \rangle$ Colleague L.E.J. Brouwer has insisted that the Senate should advise unanimously favorably about the establishment of a chair in applied mathematics intended for Prof. van der Waerden. However, he regretted that in the explanation given by the Faculty about the meaning of applied mathematics his views about this had not been taken into accounted. The Senate accepted his proposal, that he would submit, very soon and after consulting and in agreement with Van der Corput, a document to the Board of Rector and Assessors, in which he would expound his views concerning the meaning of applied mathematics.

The undersigned object to sending the letter of Colleague L.E.J. Brouwer through the Senate to the Board of the University. Neither the condition 'very soon' nor the one of 'consulting' has been fulfilled, and moreover the proposed letter goes much further than an exposition by Mr. L.E.J. Brouwer concerning the meaning of applied mathematics. Moreover the undersigned object to this letter because it creates the unjustified impression that each of the gentlemen A. Heyting, E.M. Bruins, J. de Groot and F. Loonstra agrees with an action that would have the consequence of making the appointment of Prof.Dr. B.L. van der Waerden at the Municipal University of Amsterdam more difficult. ⁽⁸⁴⁾

Van der Corput, chairman of the 1st section of the Faculty of Mathematics and Physics has convened this section for April 14 next. The four mentioned gentlemen will be invited for part of the meeting, so they can expound their views to the Section.

Van der Corput has written a letter to Colleague L.E.J. Brouwer, in which he gives him to consider to see if it is recommendable that they will discuss this matter *before* the Section meets.

Prof.Dr. J. Clay, Chairman of the Faculty for Mathematic and Physics. Prof.Dr. J.G. van der Corput, Chairman 1st Section.

[Typescript copy – in Brouwer (85)]

 $^{^{\}langle 83\rangle}$ I.e. one year earlier. $^{\langle 84\rangle}$ Note that Clay and Van der Corput seem to question Brouwer's integrity. $^{\langle 85\rangle}$ Copy received on 12 April 1948 — according to a note in Brouwer's handwriting.

Chapter 6. 1940 – 1949

1948-06-03

To G. Mannoury — 3.VI.1948

Dear Gerrit [Beste Gerrit]

Thanks for your call. And for the pond of thoughts in the garden of life, which Part I of your Handbook of Analytica Significs (86) is for me (and probably for many). How long it is already that we haven't seen each other!

Many cordial greetings from house to house

Bertus

[Signed autograph – in Mannoury]

1949-03-10

To H. Hopf — 10.III.1949

Lugano

Kurhaus Cademario

Dear Hopf, [Lieber Hopf]

Since a few weeks I am finally once more in the delightful Tessin and seek there recovery from the bronchial asthma, the attacks of which bother me again and again since August last year. The foreign currency needed for this trip finally has been allocated to me after many months of patient waiting. Unfortunately they vanish considerably quicker than I expected, so I will have to end my trip about the twentieth of this month.

I have now written to Saxer to invite him to become your successor in the editorial board of Compositio Mathematica. Please be so kind as to plead for my request with him.

I greet you and your spouse most cordially in most pleasant recollection of our meeting in October.

Your Brouwer

[Signed autograph, postcard – in Hopf]

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Blaricum

 $^{^{\}langle 86\rangle}$ [Mannoury 1947].

1949-07-10

To Eds. Compositio Mathematica — 10.VII.1949 Blaricum (87)

Dear colleagues, [Mes chers collègues]

When the Noordhoff company in Groningen,³ which functioned from 1934 to 1940 as publisher, bookseller, and commercial agent of Compositio Mathematica, offered us in 1945 to resume its old function, there was no reason to refuse it to prove itself up to this task. Meanwhile having resumed that task, it has started to work rather poorly, either for lack of equipment, or for lack of zeal, or for lack of willingness, and now finally it is demanding that before its work can be continued the board of editors must be reorganized in a way that would completely change its character, especially the international character of our journal.

As the contracts with the publisher are a matter of the Administrative Committee according to the Editorial Statute, I ask you under these circumstances to authorize me to withdraw, in the name of the Administrative Committee, the commission of our journal from the Noordhoff company and give it to another publishing company. I have good hopes that I can find one of high repute, well managed, and well equipped, which will serve us better than the one that has deceived us.

By replacing the editors that we regrettably have lost, I ask you to authorize me to propose to the board as new editors Messrs. Hodge (Cambridge), Newman (Manchester), Kloosterman (Leyden), Bernays (Zürich) and Kleene (Madison). By the choice of the last two the board will in the future be enriched by two representatives of mathematical logic.

Sincerely yours, $\langle ^{88} \rangle$ (signed) L.E.J. Brouwer

[Carbon copy of typescript – in Brouwer]

 $^{^3\}mathrm{Nowadays}$ the company Noordhoff is represented for us by the son of the prewar representative, who passed away.

⁽⁸⁷⁾Addressed: Aux MM. les membres du Comité d'Administration de Compositio Mathematica. ⁽⁸⁸⁾ Agréez, mes chers collègues, l'expression de mes sentiments cordiaux.

1949-08-24

To D. van Dantzig — 24.VIII.1949

Dear Van Dantzig, [Waarde Van Dantzig]

Many thanks for sending me a first copy of your 'Comment's. $^{\langle 89 \rangle}$ I am glad to see that these developments make the essentially negative properties $^{\langle 90 \rangle}$ meaningful also to those who do not recognize the intuitionistic creating subject, because with respect to mathematics they hold either a psychologistic point of view, or in any case stick to the 'plurality of mind'. $^{\langle 91 \rangle}$

As I told you in conversation, my example in question is for fundamental intuitionism so much more unassailable than for those of a different persuasion, because the intuitionistic creating subject can certainly, and from the outset put restrictions (or prohibitions of restrictions) on a specific growing mathematical entity, but not on his own possibilities of creation.

My belief that psychological pictures of intuitionistic mathematics, however interesting they may be, never can be adequate, has, if possible, been even strengthened by your comment.

With friendly greetings

t.t. L.E.J. Brouwer

[Signed typescript – in Dantzig]

1949 - 10 - 28

To A. Heyting — 28.X.1949

Blaricum

Dear Heyting, [Waarde Heyting]

In my opinion a yet living author, being in a state of scientific responsibility, who now brings again into the light his earlier published work, is obliged to give an account for each of the items of his work of both the meaning and impact it had on the state of science of that time when it first

Blaricum

 $^{^{\}langle 89\rangle}[{\rm Dantzig}\ 1949].$ $^{\langle 90\rangle}{\rm Cf.}\ [{\rm Brouwer}\ 1948].$ $^{\langle 91\rangle}{\rm Brouwer's}\ {\rm English}\ terminology.$ See also [Brouwer 1949].

appeared, as well as on the present state of science, as if it had appeared only now for the first time. And he must consider on the basis of this account, to what elucidation the reprinted text the present reader is entitled.

Therefore a new edition of my collected works would burden me with such an amount of work, that I will not have the time for that for several years to come.

To a lesser degree this objection also holds for the planned re-issue of my dissertation and connected publications in English. For the effort related to that as well, I will have no time, as long as not in the first place Compositio Mathematica is again permanently functioning, and subsequently my Cambridge lectures have appeared, and finally the manuscript of my intuitionistic theory of functions is completed. But that point in time is, I believe (if at least my energy is not totally paralyzed by the consolidation of the nazification of Dutch mathematics $^{(92)}$) in a not too distant future, so I see no objections to continuation of the activities that Welter en De Loor $^{(93)}$ were so kind to take on. But on closer consideration it seems very premature already now to get a publisher involved in this work. There will be time enough for that if the evolving text has passed through all stages and a definitive manuscript is ready. Because I am convinced that in that case every competent publisher, be it in this country or in England or in America, will be eager to accept the book.

With friendly greetings

t.t. L.E.J. Brouwer

[Signed typescript – in Heyting]

Editorial supplement

A. Heyting to P. Bernays — XI.1949

Dear Colleague,

Although Mr. Prof. Brouwer first agreed to the plan to publish his collected works, he reached a different point of view after consideration,

Laren

 $^{^{\}langle 92\rangle}$ This remark illustrates Brouwer's bitterness about his treatment after the war by certain colleagues. $^{\langle 93\rangle}$ Two South African mathematicians, who volunteered to translate parts of Brouwer's Dutch texts.

as becomes clear from the following translation of a paragraph of a letter from him to me.

[followed by a German translation of the first paragraph of the above letter]

So it is necessary to postpone the publication of his collected works for an indefinite time.

I thank you again for your willingness to cooperate; when at a later moment the plan is taken up again, I hope that I can count again on your sympathy and support.

Sincerely, A. Heyting

[Signed typescript – in Bernays]