Die Korrespondenz
Helmut Hasse/Douglas Derry

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^{tk} Hasse an Derry 18.5.36–9.7.68

^{tk} Derry an Hasse 27.4.36–8(?).12(?).77

$t-fertig\ transkribiert,\ k-nach\ Tippfehlern\ durchgesehen$

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Kapitel 1

Die Korrespondenz Helmut Hasse/Douglas Derry

1.1   Vorbemerkung

[...] steht als Platzhalter für Text, der nicht oder nicht eindeutig zu entziffern war.[1]

□□□ steht für ausgestrichene, aber lesbare Passagen.[2]

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[1] erreichbar mit `\xxx`

[2] erreichbar mit `\boxes`

1.2 27.04.1936, Derry an Hasse

51 Hinton Ave
Cambridge 27 April *1936*

Dear Professor Hasse;

I am enclosing my work which we discussed when you were here—I hope you will be able to understand my German!

In one respect it is incomplete. The invariants do not completely characterise a group. But to every set of invariants exists only a finite number of groups. I have carried the work slightly further that it is written—the remaining difficulty being to find invariants for a "Stelle" $[V_1 V_2]_q$ with q a critical prime number. However the essential features are there and I think you will find it sufficient to enable you to form your opinion as to whether it is worth a degree or not.

With best regards

Sincerely yours

Douglas Derry

1.3   14.05.1936, Derry an Hasse

51 Hinton Avenue
Cambridge 14 May *1936*

Dear Professor Hasse,

I sent you a copy of the work I have done about a fortnight ago and at present am a bit anxious whether you received it or not as the mail service in Cambridge is not very reliable.

If you find it acceptable I could come over from now until the end of June and put it into publishable form. If at all possible I should like to take my examination this semester—and with this in view I have been studying Minkowskis Geometrie der Zahlen as you suggested when you were here.

I hope you will pardon me for troubling you so much as I can well imagine you will be extremely busy.

With best regards

Sincerely yours

Douglas Derry.

P.S.

I have finished the work in the meantime—there were a finite set of groups for each[1] set of invariants—There is no difficulty in getting quite simple expressions to distinguish the different groups of this set.

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[1]undeutlich

1.4   18.05.1936, Hasse an Derry

D. D e r r y , Esq.   18.5.36
C a m b r i d g e
51 Hinton Avenue

<center>Dear Mr. Derry,</center>

I got your manuscript alright. Please pardon me for not acknowledging its receipt nor writing sooner. I was very busy indeed and also had to go to Königsberg for a few days.

I am very sorry to say that I have not been able to understand large parts of your work. Perhaps it would have been better if you had written the draft in English. For, part of the points I was not able to follow arises from my not seeing the logical connexion. But apart from that I have also the general impression that the work needs a careful rewriting from many points of view. You had better come here for this and do it under my supervision, although I am afraid I cannot spare very much time for it on account of my other duties. I wonder whether it will be possible to you to take your examination this semester already. That depends of course on how quickly you will get the dissertation ready. Suppose this will be towards the middle of June, I doubt whether there will be time enough left for the other formalities until the end of term, i.e., June the 30$^{\text{th}}$.

I cannot say more to–day because I want a thorough understanding of your paper, and I am afraid I can only get this by going the whole thing over with you in your presence.

Kindest regards a so to Mrs. Derry,

<center>Sincerely, Yours</center>

<center>*H. Hasse*</center>

1.5   14.10.1936, Derry an Hasse

<div align="right">
51 Hinton Ave.
Cambridge England. 14–10–36.
</div>

Dear Professor Hasse,

I am sending you a copy of my group theory of which I hope you will approve. Since seeing you in Göttingen I have changed practically everything, although the content is essentially the same. With regard to the invariants there is no difficulty in extending the theory to n dimensions, which I have done. The automorphisms are, I am sorry to say, still to be found. Except for the case, where the "Limesmodul" is cyclic, I think the automorphism problem is a very difficult one indeed. With regard to the cyclic case, there is definitely a very close connexion with the class group of a quadratic field. I rather suspect that the result I have is a more or less trivial deduction from the theory of quadratic forms about which I know nothing, so I am leaving the matter until I see you again.

With the quality of the German I have rather misgivings. Rado was able to give me a little help before he left for Sheffield but had no time to do any translating. Olga Taussky has gone over it. Incidentally she is responsible for the normal groups. There are certain subgroups of a p–adic field for which my theorems are not valid, and it was to exclude these that I introduced the added complication of normal groups.

I am planning to stand for the examination in November, and as soon as I have your final acceptance will make any necessary arrangements. Will you be able to accept the work for publication in Crelle? With regards from me and my wife

<div align="center">
Sincerely yours

Douglas Derry
</div>

1.6   19.10.1936, Hasse an Derry

19. Oktober 1936

Lieber Herr Derry!

Besten Dank für die Zusendung Ihres Manuskripts. Ich bin augenblicklich *sehr* beschäftigt mit meinem Buch über Zahlentheorie, werde aber Ihr Manuskript so schnell es geht durch meinen ausgezeichneten Assistenten H.L. Schmid durchsehen und mir darüber berichten lassen. Ich gebe Ihnen dann Nachricht. Einer Annahme einer Dissertation für Crelles Journal stehen leider verlegerische Schwierigkeiten entgegen. Für heute herzliche Grüsse

Ihr

H. Hasse

1.7 05.11.1936, Derry an Hasse

51 Hinton Ave. Cambridge England.

5.11.36

Dear Prof. Hasse;

Not having heard from you, I gather that up to the present you have been unable to look through my work. I had planned to stand for examination this month and so am at present wondering what I should do.

We are staying in Europe entirely on the hope that I will be able to get the degree. With the smaller universities at home it is almost impossible to get anything unless I have it quite independently of any amount of work I may do. And so naturally I should like to make every effort to get it. Do you think perhaps if I came to Göttingen now, I could enable you to go over it in a minimum of time, and if so would I stand a reasonable chance of finishing before Christmas?

I am fairly certain that the bulk of it is in fairly good order because Olga Taussky read it over and criticised it for me.

In the mean time I have extended the invariant theory to Abelian groups wch. are subgroups of a finite F module (F – the field of rational numbers)

As far as I can see there are no difficulties in extending the theory to Abelian groups whose elements have infinite order. However the part you have is really the best part of the theory.

Finally I hope you will pardon my inconsiderateness in continuing to bother you so much when you are so busy.

With best regards.

Sincerely yours

D Derry.

1.8   06.11.1936, Hasse an Derry

6.11.36

Lieber Herr Derry,

ich habe Ihr Manuskript nunmehr durch Herrn Dr. Witt (nicht H.L. Schmid) durchsehen lassen, und er hat mir darüber berichtet. Zunächst möchte ich sagen, daß ich bereit bin, die Arbeit als Dissertation anzunehmen. Allerdings dürfen Sie mir nicht böse sein, wenn ich aus Gründen der Verantwortlichkeit, die ich als 'Vater' dieser Dissertation übernehme, doch noch den Wunsch äußere, daß Sie das Ganze einer nochmaligen Durcharbeit und Neudarstellung unterziehen. Die Durcharbeitung durch Herrn Witt hat nämlich ergeben, daß sich die Sachen erheblich vereinfachen, wenn man die p–adische Behandlung (deutsche Buchstaben) der rationalen Behandlung (lateinische Buchstaben) *voranstellt.* Den Plan für diese Neuanordnung, und gleichzeitig eine Beweisskizze für die Hauptsätze finden Sie beiliegend, nach Angaben von Herrn Witt zusammengestellt. Diese Skizze mögen Sie als Rahmen ansehen, der noch der Ausfüllung der oft nur ganz knapp angedeuteten Schlüsse bedarf. Auch wäre es sehr nett, wenn Sie wenigstens das Beispiel des zweidimensionalen Falles noch zum Schluß anfügten, vielleicht auch mit seiner geometrischen Illustration durch Gitterpunkte. Senden Sie mir dann das Manuskript in möglichst breitem Zeilenabstand geschrieben, damit die Ausführung notwendiger sprachlicher Änderungen, die ich hier durch eine Hilfskraft ausführen lassen werde, die Übersicht im Manuskript nicht stört.

Mit herzlichen Grüßen und der Hoffnung, daß ich Sie dann bald zur feierlichen Promotion in Göttingen sehen werde,

stets Ihr sehr ergebener

H. Hasse

1.9   09.11.1936, Derry an Hasse

51 Hinton Ave. Cambridge.

9.11.36

Dear Prof. Hasse,

Many thanks for your letter► and the return of my manuscript. I am very grateful to you and Herr Witt for the very definite improvement wch. you have outlined. I shall begin immediately to rewrite it along these lines.

As the theorems really hold for the more general case of a subgroup of a finite F–module (F the rational number field) I am rather tempted to extend the results to this case. In this event I shall leave the first part practically unchanged (except for your improvements) and prepare alternate versions of the second part the first dealing with the case I have sent you, and the second with the general case, in order that you may select wch. ever you consider the best.

I shall construct a non–trivial 2–dimensional group as you have suggested. With best regards.

Sincerely yours

D Derry.

1.10 21.11.1936, Derry an Hasse

51 Hinton Ave. Cambridge.

21–11–36.

Dear Professor Hasse,

I am enclosing the revised manuscript of the group theory 'modified as per instructions'. As the general case is a bit grandiose, I was rather afraid of it and so have left the content pretty much as before. By considering a slightly more general group, I have arranged, that the theorems of this paper may be used to develop the general invariants, which I will do if you consider it worth while.

I have added my 2 dimensional theory—with reservations with regard to the clumsiness of the proofs. There is a break in the manuscript, so that you may accept it or reject it as you think fit.

With best regards

Sincerely yours,

Douglas Derry

1.11   27.11.1936, Hasse an Derry

27th of Nov.36

Lieber Herr Derry,

ich habe Ihre Arbeit jetzt durchgesehen und denke, daß sie im wesentlichen als fertig bezeichnet werden kann. Ich würde höchstens noch wünschen, daß auf S. 17 der Zusammenhang des quadratischen Zahlkörpers K und seiner Primideale mit der Einbettung in den p–adischen Körper etwas klarer herausgearbeitet würde. Die von mir im Text eingefügten Zusätze geben noch nicht das was mir vorschwebt. Vielleicht ist es besser, die Sachlage vom andern Ende her aufzurollen, nämlich zu sagen: Ein quadratischer Zahlkörper K, in dem die Primzahl p in 2 verschiedene Primideale zerfällt, besitzt 2 Isomorphismen in dem p–adischen Zahlkörper, d.h. er läßt sich auf 2 verschiedene Arten als Teilkörper des p–adischen Zahlkörpers darstellen. Diese beiden Darstellungen gehen auseinander durch den Automorphismus des quadratischen Zahlkörpers hervor. Jeder dieser beiden Isomorphismen vermittelt eine Bewertung des quadratischen Zahlkörpers, indem man die p–adische Bewertung des Bildes, wie sie durch die Einbettung in den p–adischen Zahlkörper gegeben ist, durch den Isomorphismus auf den quadratischen Zahlkörper überträgt. Diese beiden Bewertungen des quadratischen Zahlkörpers sind gerade die Teilbarkeitsbewertungen nach den beiden konjugierten Primidealen.

Was mir nämlich an Ihrer Ausdrucksweise nicht gefällt ist die Unsymmetrie, die Sie durch die Bevorzuguung einer der beiden konjugierten erzeugen. Allerdings ist wahr, daß für ihre Anwendung nachher eines der beiden Primideale bevorzugt wird.

Auch sollten Sie vielleicht doch etwas näher begründen, wieso die Gruppe $G(\mathsf{K})$ 1 oder 2 Basiselemente unendlicher Ordnung besitzt. Dies ist ja eine Verallgemeinerung des Einheitensatzes, die in der Literatur soviel ich weiß explizit nicht zu finden ist.

Sprachlich ist die Arbeit bis auf die paar von mir gemachten Verbesserungen in Ordnung.

Was die äußere Form anbelangt, so haben Sie leider sehr viele Formeln in Textzeilen geschrieben, was die Übersicht etwas erschwert. Auch wäre es vielleicht besser, wenn Sie die 'Sätze' durch Unterstreichung aus dem Textbild hervortreten ließen. Letzteres können Sie ja wohl machen, ohne ein völlig neues Manuskript herzustellen. Das erstere ist nicht so schlimm.

Sie müssen nun die Arbeit mit allen andern erforderlichen Papieren an den Herrn Dekan der Mathematisch–Naturwissenschaftlichen Fakultät Göttingen einreichen. Ich selbst kann sie nicht persönlich von Ihnen annehmen, es muß alles seinen geordneten Gang gehen. Zweckmäßig binden Sie das Manuskript in einen Aktendeckel.

Es freut mich, daß Sie nun endlich so weit sind.
Mit freundlichen Grüßen auch an Ihre Gattin

stets Ihr

sehr ergebener

H. Hasse

1.12   10.12.1936, Derry an Hasse

51 Hinton Ave Cambridge Eng.

10.12.36.

Dear Prof. Hasse;

A week ago today I sent the completed dissertation to the Dean[1] and in the meantime I have been trying to clear up the other formalities. Following your suggestion I have given the exact derivation of the group $G(K)$ Though deviating a little from the path you indicated, I have avoided the symmetry problem by defining the ideal $\mathfrak{p}$ in terms of the valuation instead of the opposite procedure.

May I thank you, not only for your help towards the degree, but also for enabling me to bring my paper to its present form.

With best regards

Sincerely yours

D Derry.

Postscriptum: I am making arrangements to stand for the examination at the earliest possible date. D.

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[1]undeutlich

1.13   14.12.1936, Hasse an Derry

14.12.36

Dear Mr. D e r r y ,

Thanks very much for your kind letter►. I got the dissertation by the Dean a few days ago and I passed it on already to Prof. Kaluza. He has just mentioned to me that he agrees with my recommendation for acceptance. Thus the thing is practically through.

You may expect the examination to take place in the course of January. You will hear the date from our Dean. You had better come here a day or two before the actual date in order to have ample time for the necessary calls on your examinators and the Dean.

In your Ms. I suggested a few more alterations in the last part. It seems to me that this can be done more naturally and easily by applying what you proved before about the characterisation of the groups in question by classes of equivalent matrices. We can discuss that after the examination. Please take all possible care not to fail in the supplementary subjects. Do not underrate philosophy on any account. You also had better communicate with Prof. Kaluza about what he proposes for his part of the examination as the main subject. He is well versed in everything. Perhaps you enumerate a few things that you are good in and try to get his assent that you concentrate on them. They must of course not coincide with what I am going to bother you: i.e., algebra or theory of numbers, as you prefer.

Kindest regards, also to Mrs. Derry,

Yours,

H. Hasse

1.14   05.03.1937, Derry an Hasse

51 Hinton Ave. Cambridge.

5–3–37.

Dear Prof. Hasse,

I am handing in the copy of my dissertation today. Hall is going to recommend it for publication in either the Oxford Quarterly of the L.M.S. I am enclosing the first copy of the 5 pages I have added. I am also returning the plan you sent me so that you will have something to refer back to, should you desire to read this additional part.

I have changed everything else to conform with your corrections, including the proof of the theorem in the automorphism theory.

During the five weeks I waited to have the dissertation read, I have been working on Minkowski's unsolved problem on linear forms. I feel I have made a certain amount of progress with it. Should I arrive at any publishable result, I'll send it to you.

With best regards

Sincerely yours,

Douglas Derry

P.S. When I last saw you in Göttingen you told me my automorphism theory was really a known result in a new guise. Would please tell me sometime where I can find literature concerning this as I should like to learn more about it.

D

1.15 22.03.1937, Hasse an Derry

22.3.37

Lieber Herr Derry,

beiliegend Ihr Manuskriptteil mit einigen sprachlichen Korrekturen zurück. Sachlich kann ich den Inhalt nur unvollständig verstehen, da ich in den Bezeichnungen des Hauptteils nicht mehr drin bin. Bitte lassen Sie mich doch die erste Korrektur haben und senden Sie sie nicht eher zurück, als bis sie von mir durchgesehen in Ihre Hände zurückgelangt ist.

Für die Automorphismentheorie Ihrer Gruppen in ihrer Beziehung zu Hauptidealfragen in quadratischen Zahlkörpern kann ich Ihnen keine direkten Literaturstellen angeben. Jedoch ist der ganze Zusammenhang wohl im wesentlichen in den zahlentheoretischen Überlegungen enthalten, die man der Begründung der 'komplexen Multiplikation' (Modulfunktion und elliptische Funktion) voranstellt. Dort handelt es sich nämlich immer um die Darstellung des fraglich imaginärquadratischen Zahlkörpers durch zweireihige Matrizen, die dann in ihrer Wirkung als Automorphismen des Periodengitters studiert werden. In der Literatur sind aber diese Dinge größtenteils nicht matrizentheoretisch dargestellt. Ich kenne sie in der matrizentheoretischen Form aus einer Vorlesung von Hecke. Vielleicht werfen Sie einmal einen Blick in meine Arbeit in Crelle 157, insbesondere S. 120, S. 123 oben und S. 138.

Ich wünsche Ihnen weiter gute Fortschritte bei Minkowskis ungelöstem Problem.

Mit herzlichen Grüßen Ihr

H. Hasse

1.16 24.03.1937, Derry an Hasse

51 Hinton Ave. Cambridge Eng.

24.3.37.

Dear Prof. Hasse,

Thank you very much for correcting the additional pages wch. I sent you, and also for the information concerning the automorphism theory. Crelle not being in the Philosophy Society's Library is not available but as soon as I get home once more I shall make a thorough study of your work there.

Meanwhile Alex Kurosch has published a paper in the Annals of Mathematics, entitled "Über Torsionsfreie Gruppen", wch. handles the same topic as my Dissertation. His results follow easily from mine (but not vice versa). My paper is much shorter and easier to read, for both of wch. I have you to thank.

With best wishes for the Easter Season,

Sincerely yours

Douglas Derry

1.17   24.05.1937, Hasse an Derry

24.5.37

Dear Derry,

I am just returned from a very lively congress in Hamburg on Theory of Groups. One of the lectures given there was on infinite Abelian groups with all elements of finite prime power order. The subject seemed to me closely connected with your dissertation. I talked about this with Köthe who gave the lecture. He told me, so far as he knew, there were recent papers by A. Kurosch on this subject. He also advised me to draw your attention to the earlier papers of A. Prüfer and H. Ulm on infinite Abelian groups. In case you intend pursuing your investigations into the subject of your dissertation, you would do well communicating with Köthe or Ulm, both at Münster (Westfalen), Mathematisches Seminar der Universität. Köthe said he would be glad to have a letter from you about your work and help you with anything you want. He understands this part of modern algebra really well, far better than myself.

I hope you and your family are quite well.

With kindest regards to you and Mrs. Derry,

<div align="center">

Sincerely Yours

H. Hasse

</div>

1.18   26.05.1937, Derry an Hasse

51 Hinton Ave, Cambridge Eng.

26.5.37.

Dear Prof. Hasse,

Many thanks for your letter▸ telling me of Köthe and your experiences in Hamburg. I shall be glad to get into communication with him as you have suggested.

Although I intend to continue working with the infinite Abelian groups, I have deserted[1] them, temporarily for some problems in finite Abelian groups, wch. are equivalent to the Minkowski conjecture. Although I haven't the faintest[2] idea whether I can solve it all ultimately or not, I think I can at least get some interesting side lights on it. Hall tells me the form I am using certainly should be solvable, but needless to say I find it very difficult.

My paper has been accepted for publication by the LMS and I hope to send you the proof sheets shortly.

With best regards

Sincerely yours

Douglas Derry.

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[1] undeutlich
[2] undeutlich

1.19   23.06.1937, Derry an Hasse

51 Hinton Ave. Cambridge.

23.6.37.

Dear Prof. Hasse,

I am applying for an appointment in Wales and one of the conditions of application is that I get referees to write at the same time as I apply. Would you please write and tell them something about me? (not too terrible, I hope.)

The person to whom to write is

Prof. G.H. Livens, University College
Cardiff
Wales.

The closing date of the application period is 30 June. I am sorry not to have let you known sooner but I have just this minute received their note[1].

I have extended my group theory to include all enumerable Abelian groups without elements of finite order—and have recently corresponded with Köthe about the work.

I hope I am not being too much of a bother.

With best regards from us both, Sincerely yours.

Derry.

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[1] undeutlich

1.20   25.06.1937, Hasse an Derry

25.6.1937

Dear Dr.des. Derry,

I have written to Prof. Livens on your behalf just before our Jubilee takes me away with its general hustle. I hope you will get the post.

In a great hurry, sincerely yours,

H. Hasse

1.21   30.06.1937, Derry an Hasse

51 Hinton Ave. Cambridge.

30.6.37.

Dear Prof. Hasse,

I wish to thank you for having written Prof. Levins—and am sorry that I disturbed you at so busy a time.

We would have both liked very much to have come to Göttingen for the Jubilee, but I'm afraid we can't travel much until I get a job.

Sincerely yours

Derry.

1.22 13.07.1937, Derry an Hasse

51 Hinton Ave., Cambridge.

13.7.37.

Dear Prof. Hasse,

Would you please write another letter of recommendation for me. I'm sorry to be such a pest but this time my chances of getting the post are a bit better and so I hope it may be the last. The person to whom to write is:

Dean Richardson,
Graduate School, Brown University, Providence R.I.,
U.S.A.

I hope you are having a pleasant holiday.

Sincerely yours.

Derry.[1]

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[1]Randvermerk von Hasse: *Erl. 16.7.37.*

1.23   27.09.1937, Derry an Hasse

Brown University, Providence, R.I.

27–9–37.

Dear Prof. Hasse,

I am writing to thank you for having helped me to get here as well as to tell you that I am here. I had a lot of fuss with the immigration people at the border and for a while I began to think that I would be without a job again. The job is only for a year so I'll be on the move again very soon but it is a breathing space. I am very lucky too as the secretary of the American Math society is here and so I should have no difficulty hearing about positions.

I have completed the manuscript on the invariants of the enumerable Abelian groups without elements of finite order, following your instructions about writing to the best of my ability. But I am afraid it will have to be done over again nevertheless. The proof sheets of my thesis have as yet not arrived. I wrote Watson and he said that the LMS had an unusual number of papers on hand and so I suppose they will eventually arrive.

With best regards

Sincerely yours,

Derry

1.24   03.10.1937, Derry an Hasse

Brown University, Providence, R.I.

3–10–37.

Dear Prof. Hasse,

I am enclosing the corrected proof sheets of my thesis for your consideration and, I hope, approval. I discovered two mistakes in the mathematics on page 4. The first I fixed by changing the word "ist" into the word "enthält", the second, four lines lower, by inserting the factor r_6^{-4}. Regarding the German there is an error in the word order of "Satz 11". Inasmuch as it does not affect the meaning I have not changed it. Should it sound too bad to you would you please do it for me. After you are finished would you kindly forward it direct to the publisher:

Messrs C.F. Hodgson and Son, Ltd.,
2 Newton Street, Kingsway,
London, W.C. 2.

Regarding the "Lebenslauf" I have attempted to comply with the requirements. Should anything be not in order would you please send it back to me and I shall try to remedy it.

The people here are exceedingly kind and are doing all they possibly could for me, but I am afraid I was never meant to be an American. I want very much to return to England or Canada. When my wife arrives I am sure she will feel the same as I have just discovered that servants are paid sixty dollars per month which is quite beyond our means at the present. So perhaps I shall be seeing you again before the year has passed.

With best regards

Sincerely yours,

Douglas Derry.

1.25   21.10.1937, Hasse an Derry

Göttingen, 21.10.37

Lieber Herr Derry,

ich habe Ihre Korrektur durchgesehen, noch eine Reihe von Druckfehler– und kleinere stilistische Veränderungen angebracht und an die angegebene Adresse in London zurückgeschickt. Der Lebenslauf war in Ordnung.

Ich würde mich sehr freuen Sie bald wiederzusehen

Herzlichst Ihr

H. Hasse

1.26   19.12.19??, Derry an Hasse

Brown University, Providence, R.I. U.S.A.

19 December

Dear Prof. Hasse,

I am writing to thank you (though rather [...], I fear) for correcting my mistakes in the proof sheets of my paper. I hope now at last it will be of no further trouble to you.

Now we are a bit more settled I am beginning to be more reconciled to life[1] here. I have got to know Tamarkin who is a [...] personality—and also a great many of the american mathematicians. The University is singularly well situated here—being near to both Harvard and Yale as well as only a very short trip to New York. The people have been very friendly to us wch. has helped us considerably.

Mathematically I am not doing much. I am giving the course in the Theory of Functions and so am learning a great deal about it wch. I should have learnt before. I have spent what little time[2] I had on Minkowskis conjecture. I have a solution for what might be called the first non–trivial case and am fairly confident I can go further. It is very difficult needless to say and when, if ever, I get any final results I cannot see that it is going to do a great deal towards mathematical knowledge in general. In other words it is something like the four–colour problem—quite valueless and also exceedingly difficult. During the Christmas recess I am going to study your papers on complex multiplication—wch is something I have wanted to do for some time but up to now have never had the library facilities for it.

With sincerest wishes for the Christmas season

Sincerely yours

Derry.

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[1] undeutlich
[2] undeutlich

1.27   14.02.1939, Hasse an Derry

14.2.1939.

Dear Dr. Derry!

Thanks for your kind letter of Dec. 3rd▶. I was very interested in all you had to tell me. It must be fine for you to live in a town and in surroundings which do not make you feel home–sick. The Minkowski problem is in deed d....d tricky. I whish you however that it may yield some results to your persistent and tenacious efforts. If I were in your place, I would not confine my efforts to this single question. Why not cast about your rod for some other algebraic or arithmetic specimen of desirable fish.

Kindest regards to Mrs. Derry and you

Sincerely Yours,

H. Hasse

1.28   03.12.1939, Derry an Hasse

University of New Mexico, Albuquerque, N.M., USA.

3 December

Dear Prof. Hasse,

This year we have moved once more to what I expect you will think a strange place. We came in the fall, after spending the summer in Alberta. The country is almost desert with lots of mountains. Except for being [...] dry it is very like our home wch. is almost directly north of us across the Canadian border. Anyway we are no longer homesick and for once in many long years we have no desire to travel further.

The town is almost exactly the same size as Göttingen although about as different in every other respect that it is possible to imagine. The land was once part of old Mexico and the Spanish influence is very strong. Two stories houses are forbidden and everybody lives in little onestoried cottages with flat roofs. The Spanish language is used a lot; in fact in the farming country on the Rio Grande very little English is heard. The University however is really an American product and is like a great many other institutions in the country. The student body I like better than the one I had last year wch was a product of a very highly industrialised region.

I have been working steadily on Minkowski's hypothesis. I don't of course ever expect to prove it but I have a lot of rather interesting results wch. are special cases of it. Like everyone else that has tried it I am afraid I find the difficulties multiply rather rapidly as the dimension goes up.

Wishing you "frohe Weihnachten"

Sincerely yours

Douglas Derry

1.29　25.04.1966, Derry an Hasse

4593 West 5th Ave, Vancouver 8

25.4.66

Dear Prof. Hasse,

I have just returned from a meeting of the American Mathematical Society in Honolulu. They told me you had accepted an invitation to spend a year in the University of Hawaii. Needless to say they are most enthusiastic about your coming. This was my first visit to the Islands. I have never been to a place where I liked the people I met so much. I am sure you will enjoy every minute of your stay there.

What are your travel plans? Could you come via Vancouver? There is exactly one change of plane between Amsterdam and Hawaii (at Vancouver). If your visit would coincide with a time when we would have an audience we would be delighted to have you speak here.

May I thank you, rather belatedly I am afraid, for your invitation for me to speak at Hamburg. We have not been in Europe since 1962. This fall I go to Rome for the next academic year. In the early summer of 1967 we hope to visit Copenhagen Perhaps, if you are there then I could come via Hamburg.

If, by chance any of the Hamburg staff were interested in spending the coming academic year in Vancouver we have some vacancies on our staff.

My best wishes for a pleasant and interesting year in Hawaii

Sincerely yours

Douglas Derry

1.30   14.05.1966, Hasse an Derry

Ahrensburg, May 14, 1966

Dear Professor Derry,

Let me thank for your kind letter▸ after your return from Hawaii. It has been a great encouragement for us. For, the journey to Honolulu is a bit of an adventure to which my wife and I are looking forward with anxious feelings.

We have not fixed our travel plans yet. The only thing that is rather sure is that we intend to return via Asia. I have to be at Honolulu on the 1 st of September latest. So I think we shall fly within the last week of August. It is awfully kind of you to invite me to a lecture in Vancouver. But I suppose about that time there will be still vacations at your University*). So far we had thought of going by San Francisco where we should like to meet an old acquaintance whom we hitherto know only by letters. But, as I said, our travel plans have not been settled definitely.

If you come to Hamburg from Copenhagen early next summer, it may be that we are already back from Hawaii. I am sure I can persuade my colleagues to invite you to a guest lecture then. Please keep me on the current about your travel plans.

As to your question about somebody being willing to come to Vancouver for the coming academic year, I have asked three of my best younger people, but, as it is, none of them could decide himself for 1966/67. The reason is, that they have still to complete their Habilitation (venia legendi), and also they would not like to be abroad when my successor takes over in November, because they fear he then would substitute them by other people. One can understand that quite well. But each of them would be interested in 1967/68. I could recommend each of them wholeheartedly.

All good wishes for your stay at Rome where I have been lecturing in March (at the Istituto Nazionale di Alta Matematica). It was a highly interesting time, both mathematically and archeologically. There is a very decent Hotel quite near the Città Universitaria, called Globus Hotel. When one has academic duties it is preferable to any of the traditional Rome Hotels in Via Veneto and Via Nazionale, which are far off and demand exaggerated prices.

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*)Perhaps I could come over from Honolulu during your term, or is that too far off?

I felt extremely well and at home in the Globus Hotel and could work there almost as at home.

With kind regards

Yours sincerely,

H. Hasse

1.31   04.07.1966, Derry an Hasse

The University of British Columbia, Vancouver 8, Canada
Department of Mathematics   July 4, 1966.

Dear Professor Hasse:

Many thanks for your letter. It was indeed good of you to mention our University to your colleagues. If any of them would be interested in coming during the year 1967/68 perhaps they should write Professor B.N. Moyls, University of British Columbia, Vancouver. We are making our plans for next year now.

I am a member of a Canada–wide committee to assist European visitors to visit this country. If you know of anyone who would like to travel in the country giving lectures at some of the universities please have him write to me. I shall have his name circulated and if there is sufficient response we shall try to arrange a visit.

At the end of August most of our department members take a vacation between the summer session and the coming winter term, so I rather doubt that we should find an audience for you at that time. We plan to leave August 31st. However if you should decide to come our way before then we should be very happy to see you and hope that you would give us the opportunity to show you some of the district.

With very best regards,

Douglas Derry

DD/nm

1.32   21.07.1966, Hasse an Derry

Ahrensburg, July 21, 1966

Dear Prof. Derry,

Thanks for your letter of July 4►. Unfortunately we shall cross the continent only on September 11. So we should not find you at Vancouver if we decided to take this route.

I have spoken again to several of our staff about your invitation to visit Canadian Universities. But as it is, the people who most probably should accept willingly such an invitation are not free at the moment to make plans for 1967. There is one hint, Though, I should like to give you. My former pupil Dr. Herbert Benz, who is now lecturer at our University, is spending the present academic year at Columbus, Ohio, on the invitation of Dr. Arnold Ross and Dr. Hans Zassenhaus. His stay will come to an end in May 1967, and I could imagine his welcoming such an opportunity to visit some Canadian Universities before returning to Hamburg. His address is

Ohio State University, Dept. of Math., 231 W., 18 th Ave.
Columbus Ohio 43310.

He is an expert on the algebraic and arithmetic theory of algebras and has also a full knowledge of class–field theory.

With kindest regards,

Yours very sincerely,

H. Hasse

1.33   08.05.1968, Derry an Hasse

4593 West 5$^{\text{th}}$ Ave, Vancouver 8 B.C.

8.5.68

Dear Professor Hasse,

It was indeed a pleasure to hear that you are coming through Vancouver on your way to Honolulu. We shall plan to be here on the first week of September and hope that you will be our guest. Please let us know the exact date of your arrival. I am glad that you liked Hawaii so well that you wish to return.

We shall look forward very much to your visit

Sincerely Yours

Douglas Derry

1.34   14.05.1968, Hasse an Derry

May 14, 1968

Dear Professor Derry,

Thank you for your kind letter of May 5▸ and your invitation. I am looking forward to be with you at the suitable date in the first week of September. Before I can inform you about the exact date of my arrival, I have tommake sure whether I can fly to Honolulu directly from Vancouver or whether I have to return to a place like Seattle or even to San Francisco. I shall to get this information as soon as possible and then shall make up my mind about the date.

As I also have to correspond with my friend in Seattle, I might be unable to give you the exact date before my return to Germany about the middle of June.

For today, kindest regards.

Yours very sincerely,

H. Hasse

HH:is

1.35   09.07.1968, Hasse an Derry

9. July 1968

Dear Professor Derry:

My traveling schedule has been fixed now. I shall arrive on Wednesday Sept. 4, 2.40 p.m. at Vancouver airport (flight CP 381) and shall have to leave for Seattle on Saturday Sept. 7, 12.20 p.m. I hope these dates will suit you.

Looking forward to meeting you again, with kindest regards,

Yours very sincerely,

H. Hasse

PS. Do you want me to give a talk on some suitable subject?

1.36   16.07.1968, Derry an Hasse

Vancouver 8 Canada 16.7.68

Dear Professor Hasse,

I was very pleased to get your note► today. I shall plan to meet CP flight 381 on 4.9.68. The department would like you to give a talk on a subject of your own choice. You will get a more formal invitation. This may be delayed a bit because we are facing a nation wide mail strike.

Looking forward very much to seeing you once more

Sincerely yours

Douglas Derry

1.37   17.07.1969, Derry an Hasse

Vancouver 17.7.69

Dear Professor Hasse,

It was indeed good of you remember to send me the Emmi Noether snapshot. It is a very good one and [...] remember her when we went on walks to Kerstlingeröderfeld[1].

You seem to have had a most interesting year and a ventursome[2] trip home. We have thought about a European visit but so far there have been so many other and less pleasant things that seemed to have to be done first.

With very best regards from the two of us

Sincerely yours

Douglas Derry

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[1]undeutlich
[2]undeutlich

1.38   21.12.1974, Derry an Hasse

4593 West 5

Vancouver 21.12.74

V6RIS6

Dear Prof. Hasse,[1]

It was indeed a pleasure to receive your card. We are both saddened by the news of your illness and do hope your complete recovery is not too far away. Your request about the World Directory of Mathematicians I'll look into next week when the department is open after the holiday. We were in Europe to attend a meeting at Oberwolfach. To get an excursion ticket one must stay at least three weeks. We landed in Milan and spent five unforgettable days in Meran. We have been there many times but this time we found a tiny hotel a minute or so away from the centre but in the woods along the Passer[2]. We could hear the stream at night.

I have thought of you many times. Your Algebra I adapted to an elementary course I gave. I also gave an introductory course in number theory. I found your "Zahlentheorie" my constant companion.

I retired 1 July of this year. The mid sixties are supposedly a bleak time in a mathematicians life. However I do keep busy and hopefully I will find new results which are significant.

With very best regards from us both.

(Douglas Derry)

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[1] Notiz von Hasse: *Mit Neujahrskarte kurz beantw. 7.1.75 Für Hilfe mit IMD gedankt*
[2] undeutlich

1.39　08.01.1976, Derry an Hasse

Vancouver 8.1.76

Dear Professor Hasse,

It was very good of you to remember us for Christmas. Many thanks. With regard to your enquiry about the 1974 World Directory of Mathematicians. It was on sale during the Congress for $10. However I cannot find any copy which is available here. It was published by Almquist and Wiksell, Uppsala[1], Sweden. I hope you will be able to get a copy with this information.

With very best regards from the two of us.

Sincerely yours,

Douglas Derry.

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[1]Randvermerk von Hasse: *Stockholm?*

1.40 08(?).12(?).1977, Derry an Hasse

8.12.77

Dear Professor Hasse,

It was indeed a pleasure to see you once again at Salzburg. Your paper was a very interesting result. Sorry not to have seen you longer. We may go to Helsinki. In the meantime best regards from us both.[1]

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[1]Vermerk von Hasse: *D. and D. Derry – Mit Postk. beantw., Weihn. 1977*

Kapitel 2

Register