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OXFORD
22 AUG
1954

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Prof. O. Stern,
759 Cragmont Avenue,
Berkeley, 8, Calif.
U.S.A.

b. 14.IX.54

First fold here

Second fold here

Sender's name and address:

SIR FRANCIS SIMON,
10 BELBROUGHTON ROAD,
OXFORD.

IF ANYTHING IS ENCLOSED THIS LETTER
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To open cut here

August 22nd 54.

Lieber Stern,

Estermanns waren gerade hier und erzaehlten, dass Sie wohl jetzt wieder zurueck sind. Ich kann Ihnen also jetzt fuer Ihr Telegramm danken, es war sehr nett von Ihnen zu hoeren. Hoffentlich haben Sie eine gute Zeit in Europa gehabt. Hier war das Wetter fuerchterlich. - Wir muessen noch ueber die British Association in Oxford bleiben, dann fahren wir auf 4 Wochen auf den Continent. Uebrigens, ich werde zu einer Conferenz nach Washington fahren, Ende Oktober; wenn ich hier laenger wegkann, gehe ich vielleicht nach Pasadena fuer ein paar Tage.

Ich schreibe heute hauptsaechlich um Ihnen zu sagen, dass die meisten Emigranten jetzt ihre Entschaedigungen von der Deutschen Regierung bekommen. Man erhaelt sein Emeritus Gehalt - ungefaehr 18ooo DM, und zwar ruecklaeufig vom Jahre 50 an. und zwar kann man es voll uebertragen. Ich habe es noch nicht, aber die Nachricht, dass ich es bald bekommen werde. Wie Sie wissen, war ich freiwillig gegangen, aber das macht nichts -die Leute haben ohne weiteres zugegeben, dass man ja nur gegangem ist, ~~um~~ da man kurz drauf doch haette gehen muessen - oder man unter den Umstaenden doch nicht haette bleiben wollen. Das gilt als Verfolgung. Ich weiss, dass Sie nichts mit der Entschaedigung zu tun haben wollten, aber ich finde man soll denen nichts schenken. Fuer die meisten hier ist es ausserdem nicht moeglich, nach dem Ruecktritt von der kleinen hiesigen Pension zu leben. Es ist moeglich, dass die Frist zur Eingabe schon vorbei ist, aber meiner Erinnerung gibt es eine Klausel, die einen spaeteren Antrag ermoeglicht, wenn man nichts von dem Gesetz gewusst hat.

Uns geht es weiter gut; es ist schade dass wir Sie bei der Durchfahrt durch England versaeumt habe. Ich haette Ihnen gerne unsere Arbeiten gezeigt.

Herzliche Gruesse, auch von Lotte,

Ihr

Franck

Telephone: OXFORD 3545
3771

THE CLARENDON LABORATORY
PARKS ROAD
OXFORD

From
Professor F. E. SIMON, C.B.E., F.R.S.

1 November 1947.

Professor O. Stern,
c/o Professor Pauli,
Physikalisches Institut,
E.T.H.,
Gloriastr.35.
Zurich, Switzerland.

Dear Stern,

Just a line to let you know that a room has been reserved for you for the nights of November 17th, 18th and 19th at the Mayfair Hotel, Berkeley Street, W.1. Telephone Mayfair 7777.

Yours,

F.

Please give the photo to Pauli.

9.50 tie
11.00 drawer
24.75 socks
31.00 handkerchief
34.00 drawers, etc
58.00 alarm clock

141.25 suspenders = $40

113

113 = $27
1 drawers $2
1 tie $4
$58 $14

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WESTERN UNION

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LC PROFESSOR OTTO STERN=

1060 MOREWOODAVE PGH=

:HEARTIEST CONGRATULATIONS=

FRANZ LOTTE SIMON.

2457 bc

NO .... TO ....

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THE CLARENDON LABORATORY
PARKS ROAD
OXFORD

From the Professor of Thermodynamics
SIR FRANCIS SIMON, C.B.E., F.R.S.

9th February 1956

Dear Stern,

The fact that we did not hear from Liverpool, we have interpreted, I hope correctly, that everything was all right. By now I assume you will have arrived at Berkeley and I am enclosing a reprint of my broadcast which I showed you just before you left. It seems to have had quite wide repercussions - even the "Times" quoted it in their leader - and I hear from many sides that it has stirred up matters considerably. The "Nation" is now going to reprint it in the States.

Just before you left we had a few words about the Third Law and I gave you a reprint concerned with Nernst's alleged proof that the Third Law could be derived from the Second and the fact that the specific heats disappear. Then I just had time to mention to you that in the case of an ideal gas, it is possible to derive from the quantum-mechanical equivalent of the virial theorem that disappearing specific heats lead automatically to disappearing entropy differences: and that I wondered whether it would be possible to extend, at least in principle, such a proof to all systems. What do you think of it?

I was a bit surprised at your surprise that we are using the expansion method for the liquefaction of helium. In actual fact by far the greater part of all the work in the Clarendon Laboratory has been made using the expansion method which has very great advantages for work in which a high degree of insulation is needed. It is no chance that the creeping helium film was discovered by making use of the expansion method and I am sending a reprint under separate cover which will tell you more about that.

In my opinion the Collins machine is being much overrated in the U.S. I certainly do not deny that it is a very nice piece of machinery and that laboratories which dispose of the necessary funds can in many cases make very good use of it, particularly if they have practically unlimited supplies of helium gas at their disposal (this is the case in America, but nowhere else). However, this machine induces people to work in the helium region only, while in a real low temperature laboratory the <u>whole</u> region down to the lowest temperature must be covered. Thus you will see that none of the leading laboratories in low temperature physics, neither Leiden, nor Berkeley, nor Cambridge nor Oxford, use the Collins machine. They have hydrogen liquefiers because they have to cover the hydrogen region also, and once you have hydrogen, then it is relatively simple and cheap to liquefy helium. Of the four laboratories I

mentioned only one used expansion machines at the time, namely Cambridge, when Kapitza was there. They, however, have also given up this many years ago and returned to hydrogen plus helium liquefaction. Three of the four laboratories mentioned use the Joule-Thomson liquefaction, while we use the expansion method, which, by the way, may not only be used for small scale liquefaction, but can in principle be extended to any size. We have, for instance, one liquefier in operation for a number of years which at one stroke produces 1.5 litres of liquid helium in an outside container and we are now building a much bigger one. For most of our work, however, we liquefy in the apparatus in which the actual experiment is carried out and we stick to it, not for any historical reasons, but because for a very great number of experiments it is the best arrangement. Incidentally, a number of other laboratories, including Hilsch's, have also switched over to the expansion method.

Nevertheless, we have an open mind in all these matters, as you will see from the fact that I have also designed an expansion machine, working with elastic bellows, which I have now handed over to a firm in order to perfect it from the technical point of view.

Kindest regards from both of us,

Yours,

Frank Simon

Professor O. Stern,
759 Gragmont Avenue,
Berkeley 8,
California.