

# VOEDINGSRAAD

No.:

~~S-S~~GRAVENHOF, Zutphen, 17-5-'65.

Onderwerp:

~~XXXXXXXXXXXXXXXXXXXX~~  
~~XXXXXXXXXXXXXXXXXXXX~~  
~~XXXXXXXXXXXX~~

Dr. Henry Blackburn,  
Stadium Gate 27,  
Minneapolis-Minnes.

Dear Henry Blackburn,

Professor Fred Epstein was here at Zutphen. We discussed the various methods we applied. He was impressed by the method from our group. Mr. vander Sluys applied for the estimation of physical activity. His opinion was that it is one of the best he knew. Therefore he asked me to inform you while you are preparing a report about the methods for estimation of physical activity. If necessary, Mr. van der Sluys will give you all information you want, as far as possible. Our fieldstudy will not be finished before July 1st. If you, and/or Ancel Keys can come to Zutphen, you are heartily wellcome.

*than* You will have the opportunity to discuss the method with Mr. van der Sluys himself.

I will send you the forms we are now using. From all patients an E.C.G., vital capacity and 0.75 second expir. volume is taken and fluoroscopy of the chest is applied. From all patients with murmurs, a phonocardiogram is taken. With kind regards,

Sincerely,

Prof. Dr. F. S. P. van Buchem.

address:  
Hotel 's-Gravenhof,  
Zutphen.



May 24, 1965

Prof. F. S. P. van Buchem  
Hotel 'S-Gravenhof  
Zutphen,  
NETHERLANDS

Dear Prof. van Buchem:

I would have liked very much to be an observer at Zutphen.  
However, it is nice that Fred Epstein could come.

I should like to have as soon as convenient to Mr. vander Sluys,  
an outline of his method, and detailed questionnaire, if possible, for assessing  
habitual physical activity, for inclusion in our W. H. O. write-up.

In regard to ECGs I hope that two persons can read and code them.  
I would be happy to review their disagreements and perhaps a sample of  
their agreements, on my trip over in August and September.

Cordially,

Henry Blackburn, M. D.

HB:mj  
cc: Dr. Keys

May 18, 1965

Dr. Ivan Mohacek  
Interna Klinika, Rebro  
Zagreb, Yugoslavia

Dear Ivica:

Ancel and I were both very sorry not to attend your Korcela meeting. We weren't quite sure whether you were being your usual courteous self, or whether it would have been some real moral support to have us there in your epidemiological presentations. At any rate, I had to get back to Minneapolis on the 28th of April.

Dr. Ivancic told me a little of your new and important responsibilities. Good luck. I'm also anxious to see your write-ups of the Yugoslavian data, and hope you can bring the material to publication soon.

I plan to go to Athens and Crete and will let you know the dates. I understand you will be there.

Regards,

Henry Blackburn, M. D.

HB:mj

May 18, 1965

Dr. Christ Aravanis  
37 Vasilissis Sophias  
Athens, Greece

Dear Christ:

Enclosed is the information we would like to obtain from the medical history and physical examination in the Crete 5 year follow-up.

It would be worthwhile to have Sections A, B, C, & D translated as closely as possible into Greek. I would like a copy of the translation, as, I'm sure, would Geoffrey Rose, London School of Hygiene.

After the standard questions and responses are recorded, the examiner is quite free to pursue the history in any way desired. His overall clinical impression is recorded at the end of the physical examination.

Dr. Keys is writing in regard to other details. Please let us know promptly the recording equipment available for ECG work. We would consider having Mohacek bring a 2-channel spare Elema. The Cardiopan seems so reliable, and with only 3 channels it avoids the problem of attenuation when low impedance central terminal networks are thrown in with the limb leads. I could conceivably bring the Cardiopan from Italy.

I would plan to come to Athens a few days early to help you with the technicians' and clinicians' training for the field. Let us know the dates as soon as possible.

Best regards,

Henry Blackburn, M. D.

HB:mj

Encl.

CC: Dr. Keys  
Dr. Dontas

# TYÖTERVEYSLAITOS

INSTITUTE OF OCCUPATIONAL HEALTH - L'INSTITUT DE MÉDECINE DU TRAVAIL - INSTITUT FÜR ARBEITSMEDIZIN

HAARTMANINKATU 1—HELSINKI—FINLAND

DIR.PROF. LEO NORO, M.D.

May 5, 1965

Dr. Henry Blackburn  
Laboratory of Physiological Hygiene  
University of Minnesota  
Stadium, Gate 27  
Minneapolis, Minn. 55455  
USA

Dear Henry,

Thanks for the ecg:s. They arrived yesterday.

The Scandinavian ecg boys will meet in Helsinki , at our Institute on Friday and Saturday 21-22 May 1965, to discuss the standardisation of criteria for myocardial ischemia. It would be most helpful for us, and stimulating for the meeting in general, to receive a copy of the report of the Working Party on ECG in Venice. I should be most grateful for a copy, even if it may be considered as a draft only, and subject to later editorial revisions. I also think that this would provide an excellent opportunity to spread the ideas expressed in Venice to those concerned.

With best regards,

Sincerely yours,



Martti J. Karvonen

May 26, 1965

Prof. Dr. I. Gyarfas  
Hungarian Institute of Cardiology  
Nagyvarad-ter 1  
Budapest IX  
HUNGARY

Dear Dr. Gyarfas:

By the enclosed you will see that our machines will read your IBM-type punch cards. It is emphasized that the cards should be firmly and carefully packed so that they are not bent or frayed in shipping.

Please send us your card coding and the information you desire when it is settled.

Regards,

Henry Blackburn, M. D.

HB:mj  
Encl.

June 1, 1965

Dr. Allan Barry  
Institute of Occupational Health  
Haartmaninkatu 1  
Helsinki,  
FINLAND

Dear Allan:

For several reasons we would like to have an idea of the method and results of your work last Fall in evaluating attitudes to the standard work load. We start in mid-June another cycle of exams. on the railroad, and would like to consider the use of your questions and rating scale in our men. I never heard how the method finally shaped up.

Then, Henry Taylor's committee concerned with planning for training programs should know your work if it is in a form that you would like them to see it.

Finally, I must wind up a penultimate draft of a W. H. O. Manual on techniques and would like to know enough about the work to refer to it intelligently.

I still have in mind getting some E. Finland pulse rates for you from the tapes played back in real-time, but I have no technician available. If they would be of great use to you, you might let me know in which subjects the data would be of most use and I will see what can be done.

Regards,

Henry Blackburn, M. D.

HB:mj

June 15, 1965

Dr. Ivan Mohacek  
Interna Klinika, Rebro  
Zagreb, Yugoslavia

Dear Ivan:

Dr. Christ Aravanis (37 Vasilissis Sophias Av., Athens) advises that the work on Crete will start in "mid-August" (exact date not yet stated), and will last a month (4-5 weeks). And of course, we are counting on your good collaboration there. An Agreement, enclosed, covers finances; please sign and return three copies promptly, and retain one copy for your files.

I have asked Dr. Aravanis to send you at once an invitation letter to help with visa, etc. No doubt he will tell you just when you should arrive in Athens and he will reserve a seat on the plane to Iraklion.

For the work in Crete there is great need to use the Elema Mingograf you have in Zagreb. I trust you can take that with you to Greece and that Dr. Aravanis can assure getting it through the customs. Recording paper, ink and rollers should be provided to take both resting and post-exercise E. C. G. s on some 600+ men. As soon as I hear from you that you will be taking the Elema I shall order the recording paper, etc., to be sent directly from Stockholm to Dr. Aravanis. And if there are any repairs, etc., needed for the Elema, I shall arrange to re-imburse the costs.

Please let me know at once, also, how and where the funds covered by the Agreement are to be paid.

Henry Blackburn, Margaret and I expect to be in Greece for the start of the work in Crete. I am sure you will find the place delightful and we look forward to seeing you there.

Sincerely,

Ancel Keys, Director

AK:cj

Enclosure

CC: Dr. Aravanis  
Dr. Blackburn ✓



SCHOOL OF PUBLIC HEALTH • LABORATORY OF PHYSIOLOGICAL HYGIENE  
STADIUM GATE 27 • MINNEAPOLIS, MINNESOTA 55455

As far as possible, please advise precisely the dates planned for the field work. Dr. Blackburn should arrive in Athens several days before Margaret and I hope to arrive at about the same time and would plan to leave Crete at the end of the first week of the actual field work. June 15, 1965

As regards to G.C. and pulse wave recording machines, I think it may be very difficult to get the Cardiopac to Greece and back to Italy where Dr. Christ Aravanis has got a certificate of temporary export from Italy, 37 Vasilissis Sophias Athens, Greece about import into Greece? I would be willing to leave Greece with acquisition of the Corfu job next year, but what about your machine?

Dear Christ: I have a 3-Channel Siemens "Cardiopac" complete with accessories. My machine and accessories are packed in a trunk, some 50 x 70

Herewith is a copy of a letter to Dr. Lamm. Note that Dr. Gyárfás will need a letter from you inviting him to take part in the work in Crete. Unfortunately I do not know Dr. Gyárfás' first name; his address will be the same as that of Dr. Lamm. When you write to Dr. Gyárfás, you should state that his expenses in Greece will be covered by guarantees from me.

I am at once checking to ensure that Dr. Mehacek will, as previously promised, aid in Crete. But please send him a note of invitation without delay so that he can obtain the visa, etc. I hope he can bring with him the Elema Mingograf from Zagreb and am writing him, copy enclosed, about various details. Note that he will probably be unable to bring an adequate supply of recording paper and ink. I am prepared to pay for the costs of these supplies but you should order what is needed for delivery in Athens in good time.

Sincerely,

Either Dr. Blackburn or I will bring the hamatocrit and will plan to leave this in Greece for the work next year in Corfu.

Local Keys, Director

For the respiratory tests, your Collins machine will do. We hope that it will provide a timed record trace so that the 3/4 second expiration etc., can be measured as well as vital capacity.

Enclosures

In regard to the rather large extra funds you indicate will be needed, I enclose an Agreement which you should have signed by Dr. Lekos, returning four signed copies to me without delay. And please advise how and where the money is to be transmitted. Note that I am arranging that the total of \$6,000 be paid in three instalments, \$2,000 as an advance before the work actually starts, \$2,000 to be paid by September 15, 1965, and the final \$2,000 to be paid upon receipt here of the accounts, including receipts for the expenditures up to a maximum total of \$6,000.

Page Two  
June 15, 1965

Dr. Christ Aravanis

DEPARTMENT OF PUBLIC HEALTH - LABORATORY OF PHYSIOLOGICAL RESEARCH  
750 UNIVERSITY DRIVE, MINNEAPOLIS, MINNESOTA 55405

As soon as possible, please advise precisely the dates planned for the Crete work. Dr. Blackburn should arrive in Athens several days before. Margaret and I hope to arrive at about the same time and would plan to leave Crete at the end of the first week of the actual field work.

June 15, 1965

In regard to E.C.G. and pulse wave recording machines, I think it may be very difficult to get the Cardiopan to Greece and back to Italy where it legally belongs. We can get a certificate of temporary export from Italy, I presume, but what about import into Greece? I would be willing to leave the Cardiopan in Greece until completion of the Corfu job next year, but what about your Customs?

My machine is a 3-Channel Siemens "Cardiopan" complete with accessories. This machine and accessories are packed in a trunk, some 50 x 70 x 100 cm., and the total weight is about 70 kg. The value is about \$3,000 and it is the property of the University of Minnesota.

Unless we have assurance that we can bring in the Cardiopan and get it out of Greece again, I believe the only practical answer is for you to arrange to rent whatever you need from Siemens or another agency in Athens. Henry Blackburn likes the Cardiopan and insists that multi-channel machines should be used. I shall be prepared to re-imburse you for rental costs, provided these are not wholly exorbitant.

Excuse the long letter but I hope I have covered everything at issue at the moment.

I am prepared to pay for the costs of these supplies but you should order what is needed for delivery to Athens in good time.

Sincerely,

Either Dr. Blackburn or I will bring the Cardiopan and will plan to leave Crete in Greece for the week next year in Corfu.

Ansel Keys, Director

For the respiratory work, your Collins machine will do. We hope will provide a similar record trace so that the V-I around expiration etc. can be measured as well as vital capacity.

**Enclosures**

In regard to the rather large wire funds you indicate will be needed, I think you should have signed by Dr. Lehman, returning your check without delay. And please advise how and where the money is to be disbursed. Note that I am arranging that the total of \$5,000 be paid in three installments, \$2,000 as an advance before the work actually starts, \$2,000 to be paid by September 15, 1965, and the final \$1,000 to be paid upon receipt here of the accounts, including receipts for the expenditure up to a maximum total of \$5,000.

CC: Dr. H. Blackburn

Dr. A. S. Donatas

# TYÖTERVEYSLAITOS

INSTITUTE OF OCCUPATIONAL HEALTH - L'INSTITUT DE MÉDECINE DU TRAVAIL - INSTITUT FÜR ARBEITSMEDIZIN

HAARTMANINKATU 1—HELSINKI—FINLAND

DIR.PROF. LEO NORO, M.D.

June 23, 1965

Dr. Henry Blackburn  
Laboratory of Physiological Hygiene  
University of Minnesota  
Stadium, Gate 27  
Minneapolis, Minn. 55455  
USA

Dear Henry,

Thanks for your help to the Scandinavian ecg meeting. It went smoothly. Gunnar Blomqvist and some others will try to put something on paper before fall. The Minnesota code and its underlying philosophy appeared well accepted now.

We are receiving custom and tax refunds for the equipment of the field survey. One of the parcels was sent to your name. The refunding will be made to you. I ask you kindly to sign the enclosed document which allows us to get the refund out of the post office.

I have been editing the Helsinki conference volume. I should be grateful, if you would kindly

- (a) send me copies of the illustrations as glossy prints;
- (b) complete references No 20, 40, and 41. As for No 41, I believe that the year 1964 may be sufficient. If some of the "In press" papers have now come out, I would like to add the data to the list.

With best regards,

Sincerely yours,

*Martti J. Karvonen*

Martti J. Karvonen

August 5, 1965

Professor Noboru Kimura  
Kurume University Medical School  
67 Asahi-machi, Kurume-shi  
Kyushu,  
JAPAN

Dear Noboru:

In reviewing my Venice notes I find a reminder to send you the follow-up mortality form (Minn. 10).

It is self-explanatory and has the information we would like on each subject to document morbidity and mortality.

I am also enclosing a copy of the London Chest and Leg Pain Questionnaire and our suggested form for recording physical findings on re-examination. A Japanese translation of the London Form is available from Dr. Geoffrey Rose, London School of Hygiene, Keppel St., London, W. C. 1.

If we can arrange a meeting of ECG and computer people at Delhi, at the time of the World Congress I would like to invite Japanese participants and will appreciate your recommendations. I have so far considered in addition to your group, Eiichi Kimura, Noburu Okamoto, and Seiichi Toyama.

Also, I should begin to make plans to stop off in Japan going or coming to Delhi if it appears worthwhile. Let me know if you have any ideas on this.

We are sorry about Kodama's problem, but he seems much better. He has with him a couple of items I have wanted to send you for some time.

Best regards,

Henry Blackburn, M. D.

HB:mj

6 September 1965

Dear Georgi,

We enjoyed working with your fine lad Gyarfas.

Aubrey Kagan, Medical Officer in the Cardiovascular Diseases Unit of the World Health Organization, will spend a day, around 17 September, in Budapest, probably staying at the Gellert. He would like to meet you, and I'm sure you would find it mutually profitable.

Let us hear from you.

Regards,

Henry Blackburn

Professor G. Lamm  
Institute of Cardiology  
Nagyvarad-Ter 1  
Budapest 9  
HUNGARY

cc Dr A. R. Kagan

July 1, 1965

Dr. Ratko Buzina  
Department of Nutrition  
Institute of Public Health  
Rockefellerova 7  
Zagreb 1,  
YUGOSLAVIA

Dear Ratko:

We must now squarely face the question of missing 1963 follow-up data from Dalmatia and Slavonia. Dr. Keys has written or will write for reproduction of the initial form items.

I find an inordinate number (about 300) of ECGs not available or coded for 1963, and about 200 history and physical forms not available or coded.

You once mentioned some other material to follow, and that some of the records were being handled by Imbimbo. Please provide us with all shipping information on all follow-up data, shipping date, shipping number, number and type of packages. The subject numbers are enclosed. Have you duplicates or microfilm? Please check and inform us immediately. If they are truly lost then we have much work to do.

Regards,

Henry Blackburn, M. D.

HB:mj

Enclosures

CC: Dr. Keys

REPUBLIČKI ZAVOD ZA ZAŠTITU ZDRAVLJA  
INSTITUTE OF PUBLIC HEALTH

drRB/L/US

Rockefellerova 7  
ZAGREB I, YUGOSLAVIA October 2, 1965

Dr Henry Blackburn  
Laboratory of Physiological Hygiene  
University of Minnesota  
Stadium Gate 27  
Minneapolis, Minn. 55455

*Bill: Return to me*  
*RMB*

Dear Henry:

The mystery of the never-arriving forms of the 1963 Yugoslav survey seems to be not a mystery at all. On the basis of your letters and the recently received results, the present situation is something like this:

*yes*

(1) The physical examination forms and the follow-up medical history forms, both completed in 1963 and 1964, ought to be in Minneapolis. The information about the missing follow-up and medical history forms requested by you in your letter of July last, was sent to you in my letter of July 31st.

*yes*

(2) The ECGs taken in 1963 are also with you. ECGs taken in early spring 1964 were sent to you in July 1964, but this shipment was never confirmed by you. Could you please check it? (The numbers of the subjects whose ECGs were taken in 1964 were sent to you in my letter of July 31st, 1965. Please let me know whether these ECGs are in your lab.

Now, the misunderstanding about the lost forms is actually related to the forms "Initial Record; Data for International Deck No 1". However, we have never used these forms in our work in Yugoslavia. The data concerned are, however, available from other sources, e.g. data on changes of occupation, physical activity and smoking were sent to you on the microfilm, already received by you, whereas the data on hematocrit and urinary analysis of protein and glucose are attached to this letter.

Regarding International Deck No 2, the data on height and weight as well as the sum of skinfolds were also sent to you on the same microfilm while the data on vital capacity will follow in a few days.

The ECGs taken on younger people in Makarska and Dalj were also shipped to you last year.

I would appreciate your early comments.

Sincerely,

*Ratko*

Ratko Buzina, M.D.  
Dept. of Nutrition

cc: Dr A. Keys

*Send only comments on those to change.*

October 26, 1965

The staff here have taken from these films all they can securely read but many records are partly or totally illegible. We are sending you prepared forms to be completed in Zagreb and returned here as soon as possible, to cover the unusable film records. Mrs. Paritz is providing, with the forms, notes for your guidance.

Dr. Ratko Buzina

Department of Nutrition  
Institute of Public Health  
Rockefellerova 7  
Zagreb 1, Yugoslavia

We discussed the question about obtaining information about blood relatives study area in Dalmatia and Slavonia. Such data were obtained in Croatia this fall and will be obtained from Crevalcore and Mantegiorgio soon, I believe.

Herewith are original plus one copy of the ms. for paper III, which, as you will see has been thoroughly worked over and Discussion, Summary and References provided. This is, of course, subject to such emendations, as you may think needed before you send it on to den Hartog.

Notice that you must type in the References the blank space for ref. no. 4. If you used more than one table of food composition, put everything in this place.

Also included are materials about the data obtained in the 1963 follow-up. We are anxious to put on punch cards these long-delayed data. Norris Schulz has used as much as possible of the materials you sent on film strips but one of the three strips was of such quality that we believe the only thing to do is for you to provide the data in a new tabulation.

Sincerely,

Including the materials we received a week or so ago, what we now have is the following for the 1963 examinations.

1) Clinical data and ECG. These are complete and on punch cards.

2) Serum cholesterol values from analysis here. These will be entered on the punch cards with the other data for Deck 1 when these last are available.

3) Hematocrit and urinalysis data.

4) Three rolls of microfilm (see attached memo from Norris Schulz) which cover:



Age Two  
October 26, 1965  
Dr. Ratko Buzina

- SCHOOL OF PUBLIC HEALTH - LABORATORY OF PHYSIOLOGICAL RESPIRE  
STADIUM CATE ST  
MINNESOTA 55455
- |                         |                    |
|-------------------------|--------------------|
| a) age                  | e) weight          |
| b) occupational change  | f) height          |
| c) smoking habit change | g) arm skinfold    |
| d) alcohol habit change | h) dorsal skinfold |

The staff here have taken from these films all they can securely read but many records are partly or totally illegible. We are sending you prepared forms to be completed in Zagreb and returned here as soon as possible, to cover the unusable film records. Bill Parlin is providing, with the forms, notes for your guidance.

We have no respiratory function data though I understand that these were all assembled by Dr. Vukadinovic long ago. These data (vital capacity and 3/4 second expiration) are needed for punching cards and analysis. I see from your letter to Dr. Blackburn that these are forthcoming.

We discussed the question about obtaining information about blood relatives among the study men in Dalmatia and Slavonia. Such data were obtained in Crete this fall and will be obtained from Crevalcore and Montegiorgio soon, I believe. I enclose a copy of the form used for Crete and, separately, we are sending tabulating paper for you to use similarly when and if these data can be obtained. At the very least it should be possible to find brothers in the cohort. Such data would be valuable in assessing the role of heredity in regard to anthropometric variables, blood pressure, serum cholesterol, etc.

Notice that you must type in the References the blank space for vol. no. 4.  
Thank you for the card from Makarska. Please send, or have Ivan send, a listing of the deaths, with information about cause. I presume you or someone has made a similar visit to Dalj. Henry Blackburn will check this materian so that the death data will, or should, be up to dat for seven years. Morris Sekula has used as much as possible of the materials you sent on film strips but one of the items is of such poor quality that we believe the only thing to do is for you to provide the data in a new tabulation.

Sincerely,

Including the materials we received a week or so ago, what we now have is the following for the 1961 occupations.

- 1) Clinical data and EKG. These are available. Ansel Keys, Director.

AK:cj 2) Serum cholesterol values from analysis here. These will be entered on the punch cards with the other data for Deck 1 when these last are available.  
Enclosures

3) Hematocrits and urinalysis data.  
CC: Dr. H. Blackburn

- 4) Three rolls of microfilm (see attached memo from Morris Sekula) which

cover

October 29, 1965

Dr. Christ Aravanis  
37 Vasiliotis Sophias  
Athens,  
GREECE

Dear Christ:

We are unaccustomed to dealing with such remarkable efficiency, having all follow-up records available from Crete within 6 weeks of completion of the work!

However, it will be necessary to have the details as given in the heading and right-hand column of the enclosed form on the causes of death. Your listing failed to provide the month and day of death, the source of the death information, and the details on the three cases of sudden death. For the latter three cases, a narrative report as well as estimated time interval from onset of symptoms to death is helpful, to document whether they best fit the sudden unexpected category.

Best regards,

Henry Blackburn, M. D.

HB:mj

Enclosure

CC: Dr. Dontas  
Dr. Keys