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*for*  
**IMMUNOLOGY**



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**d'IMMUNOLOGIE**

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# BULLETIN

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FOR IMMUNOLOGY

DE LA SOCIÉTÉ CANADIENNE  
D'IMMUNOLOGIE

Vol. 9, No. 1

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\*\*\*\*\*

*Paul Ehrlich medal, on the cover, by Dora de Pédery Hunt.*

\*\*\*\*\*

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## EDITORIAL

### Cracking of the Immunologic Code<sup>\*</sup>

Ever since the work on sequencing the polypeptide chains of immunoglobulin molecules started, it was tacitly assumed and generally believed that the aminoacid sequence of the antibody combining site determines the specificity of the antibody molecule. If this assumption were true, one would ultimately be able to compile a dictionary, listing aminoacid sequences of the critical hypervariable regions on one side, and their translations into antibody specificities, on the other. One only needs to consider the ever growing number of published hypervariable sequences, the complexity of antigenic determinants and the enormous heterogeneity of antibodies to recognize the unprecedented complexity of compiling such a dictionary, or code-book. However, every secret code can eventually be de-coded, and we have every reason to believe that this will also happen to the immunologic code.

We are now witnessing the first direct and successful attack on the immunologic code. Historically, this quest was started with the attempt to create an antigen which would only have a single antigenic determinant and thus stimulate production of an unispecific antibody. This was found not feasible. Thus, a new approach was instituted; the long siege has begun. Several battles were won, and each breakthrough brought us closer to the final solution: We have learned that only relatively short hypervariable regions of immunoglobulin chains have to be de-coded. This reduced the dimensions of the problem from impossible to enormous. At the same time the ultimate, homogeneous antibody has been found as a product of Nature in a disease which is fatal to the host. It was not too long after this realization that experimental induction of myeloma in mice became possible. We were still faced with the problem of finding an antigen with which this antibody would combine. A catalogue of code-words with unknown meanings began to grow. Antibody combining sites, or areas very close to them, were found to possess distinct and unique antigenic specificities, idiotypes. Gradually, antigens which would combine with myeloma antibodies, began to be found. All this made the first significant breakthrough possible: both antibody specificity and idiotype specificity



identical with that of a myeloma immunoglobulin, were elicited by immunization of normal animals. The ability to make such an antibody was found to be under genetic control. Myeloma proteins which had the same idiootype were found to have very similar aminoacid sequences.

Were this a review article, it would take up the entire Bulletin, and even more if the list of references were to be provided. All I intend here is to communicate my sense of excitement that the direct attack on the immunologic code scored another advance.

In Brighton, for the first time, it was announced that antibodies produced in response to the same hapten and showing the same idiootype have identical aminoacid sequences up to the first hypervariable region of their heavy immunoglobulin chains. Is the immunologic code as universal as the genetic code, or does each inbred strain, or each species, have its own code book? This will still take some time to answer, but the road to solution is mapped.

S. Dubiski.

\* See the article "Molecular Biology - Friend or Foe? in Vol. 2, No. 1, 1968, of this Bulletin.

THE CANADIAN SOCIETY FOR IMMUNOLOGY

Minutes of the Annual Business Meeting, Canadian Society for Immunology,  
June 26, 1974.

Dr. S. Dubiski opened the Annual Business Meeting of the Canadian Society for Immunology.

1. SECRETARY'S REPORT

Dr. J. Bienenstock reported on the following matters:

- (a) A revised system has been established for the recording of information for members of the Society. This system will allow for an easier transition period in the future as the Society records are transferred.
- (b) The Society conducted a competition for Travel Bursaries to assist young investigators to attend the Second International Congress on Immunology.
- (c) Pharmaceutical firms were canvassed in an effort to obtain funds in support of the Travel Bursaries (Appendix "A")

2. TREASURER'S REPORT

Dr. D.Y.E. Perey reported on the following items of business:

- (a) The C.F.B.S. has imposed a levy of \$3.50 per Associate member; until now C.S.I. was not charged for its Associate members. The C.S.I. Associate membership fee was \$5.00.

It was therefore approved that the levy cost of \$3.50 be added to the present Associate membership fee for a total of \$8.50.

- (b) The Society now pays \$8.00 per member for C.F.B.S. levy, \$1.00 per member for I.U.I.S. levy; the Society office expenses are approximately \$5.00 per member. It was obvious that the present membership fee of \$10.00 is totally inadequate.

Therefore, it was approved that the membership dues for 1974 be increased to \$15.00 per member.

- (c) The Financial Statement for the Year Ending May 31st, 1974, was presented and serves as Appendix "C".
- (d) The Bylaws of the Society state that "*dues shall be payable in advance for the coming year*". Therefore, it is necessary that the Society "*catch-up*" with two year's worth of membership dues in the near future.



It was, therefore, approved that the following schedule be adopted for the collection of dues:

Summer, 1974:	Collection of 1974 dues
Spring, 1975:	Collection of 1975 dues
December, 1975:	Collection of 1976 dues.

3. NEW MEMBERS

Moved by Dr. J. Bienenstock, Seconded by Dr. A. Sehon, Voted and Carried that the attached listing (Appendix "B") be ratified as new members of the Canadian Society for Immunology.

4. MEMBERS IN ARREARS

Dr. D.Y.E. Perey reported that of the 395 listed Society members as of September, 1973, 106 had dues in arrears after second notice in May, 1974. These members have received due notice as outlined in the Bylaws and have been discontinued from the membership of the Society. Appendix "D" lists those individuals with dues in arrears.

5. REPORT OF COUNCIL MEETING, JUNE 25, 1974

Dr. Bienenstock reported on the following items of business discussed at the Council meeting, June 25, 1974:

(a) Journal

Discussion occurred concerning the feasibility of establishing a "Canadian Journal of Immunology". It was agreed that Dr. A. Sehon would explore possibilities with M.O.S.S.T. and Society members and submit a report for consideration by Council.

(b) Educational Materials

Dr. A. Sehon reported that the Journal of Immunology has recently published a listing of available educational materials. Dr. A. Sehon agreed to contact Dr. B. Cinader to determine the Canadian effort in this field. Society members were asked to contact Dr. Sehon concerning available educational materials.

(c) C.F.B.S. Meeting, 1976

The Federation Symposium in 1976 is to be organized by Immunology. Society members were asked to forward any suggestions for topics and/or speakers to Dr. S. Dubiski or Dr. J. Bienenstock.

(d) Symposia Support

Discussion occurred concerning possibilities of future symposia which would be suitable for sponsorship by the Society. Society members were asked to forward any recommendations to Dr. S. Dubiski or Dr. J. Bienenstock.

6. ANY OTHER BUSINESS

(a) Science Policy in Ottawa

Dr. A. Sehon reported to the Annual Meeting on the proposal by M.O.S.S.T. of the creation of a House of Science and Technology (HOST) which will be a large centre in Ottawa providing office space, facilities and services for the secretaries of various Canadian scientific and technological societies. It was agreed that Dr. A. Sehon would maintain contact with the C.F.B.S. on negotiations with M.O.S.S.T.

There being no further business, the meeting adjourned at 7:15 p.m.

J. Bienenstock, M.D.  
Secretary.

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APPENDIX "A"

STATEMENT

Contributions and Disbursements re Travel Funds for Young Scientists to the Second International Congress for Immunology. Brighton, England, (July 22, 1974).

Contributions

Fisons (Canada) Limited	\$ 100.00	
Miles Laboratories Ltd.	300.00	
Merck, Frosst Laboratories	100.00	
Hoffman - La Roche Limited	100.00	
Canadian Society for Immunology	<u>650.00</u>	\$ 1,250.00

Disbursements

Dr. P. Neveu (Laval-des-Rapides)	\$ 250.00	
Dr. M.E. Percy (Toronto)	250.00	
Mr. S. Assimeh (Toronto)	250.00	
Dr. T. Delovitch (Stanford, ex-McGill)	250.00	
Dr. S.T. Lee (University of Manitoba)	<u>250.00</u>	\$ 1,250.00

May 31, 1974

Balance on hand

\$ 0.0

D.Y.E. Percy, M.D.  
Treasurer.

\*\*\*\*\*



June, 1974

New Members Approved by the C.S.I. Annual Business Meeting

1.	Dr. S. Abrahams	University Hospital, London	Elected
2.	K.E. Aldridge	University of Mississippi	Associate
3.	Dr. S.N. Banerjee	McMaster University	Elected
4.	P.E. Baronowsky	Mead Johnson Research Centre	Associate
5.	Dr. J.G. Chapman	Royal Inland Hospitals, Kamloops,	Elected.
6.	Donna Chow	University of Manitoba	Associate
7.	Dr. R. Clancy	McMaster University	Elected
8.	Dr. S. Cohen	State Univ. of New York at Buffalo	Elected
9.	Dr. R.G. Devlin Jr.	Mead Johnson Research Centre	Elected
10.	Dr. Gilles Dupuis	Université de Sherbrooke	Elected
11.	Dr. Howard Engers	Swiss Cancer Institute	Elected
12.	E. Denis Erickson	Washington State University	Associate
13.	Dr. N. Fadir	The Wellesley Hospital	Elected
14.	Mrs. Judith Falk	Toronto Western Hospital	Elected
15.	Dr. H.C. Fitzsimmons	University of British Columbia	Elected
16.	Dr. J. Gauldie	McMaster University	Elected
17.	Dr. E.W. Gelfand	The Hospital for Sick Children	Elected
18.	J.E. Hall	University of Mississippi	Associate
19.	Dr. K.H.A. Jacob	Manitoba Cancer Foundation	Elected
20.	Dr. J.C. Kennedy	Queen's University	Elected
21.	Dr. F.T. Kisil	University of Manitoba	Elected
22.	Dr. J. Klassen	Royal Victoria Hospital	Elected
23.	Dr. Norbert Kraft	University of Alberta	Elected
24.	Dr. Sho Tone Lee	Manitoba Cancer Foundation	Elected
25.	Dr. A. Liakopoulou	Health Prot. Branch, Nat'l. Health & Welfare	Elected
26.	Dr. B. Liburd	University of Alberta	Elected
27.	I.M. MacDonald	Toronto	Associate
28.	Dr. J.M. MacSween	Dalhousie University	Elected
29.	Paul L. Mann	University of Toronto	Associate
30.	Dr. H.A. Menard	Université de Sherbrooke	Elected
31.	Dr. P.J. Neveau	Institute of Microbiology and Hygiene of Montreal	Elected
32.	Dr. R.P. Orange	The Hospital for Sick Children	Elected
33.	Dr. B. Schober	Lions Gate Hospital, Vancouver	Elected
34.	M.E. Smith	Merck Frosst Labs	Associate
35.	Dr. W.E. Rawls	McMaster University	Elected
36.	Dr. D.M.P. Thomson	The Montreal General Hospital	Elected
37.	Dr. W.A.F. Tompkins	McMaster University	Elected
38.	Dr. M. Wang	Ontario Dept. of Health	Elected
39.	Miss Jena Weicker	University of Toronto	Associate
40.	Dr. H.D. Whitten	University of Mississippi	Associate
41.	Dr. B. Rouse	University of Saskatchewan	Elected.

EMERITUS MEMBERSHIP

Dr. Bacal

Montreal

Emeritus

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APPENDIX "C"

Financial Statement for the Year Ended May 31st, 1974

Cash in Bank at the Beginning of the Year \$ 4,056.11

Income for the Year

Membership Dues - including Journal	\$ 4,102.36	
Travel Bursary Contributions	600.00	
Bank Interest and Exchange	<u>45.30</u>	<u>4,747.66</u>
		\$ 8,803.77

Disbursements:

Travel Bursaries	\$ 1,250.00	
Bulletins and Journals	282.06	
Secretarial Services	500.00	
Stationery & Postage	548.01	
Dr. J. Bienenstock - Travel, C.S.I.	20.25	
Registration Fees - C.F.B.S., 1974	80.00	
C.F.B.S. 1973 Levy	1,794.00	
Travel - M. Raff, Saskatoon	727.88	
Audit Fee	<u>30.00</u>	<u>5,232.20</u>

Balance in Bank at 31st May, 1974 \$ 3,571.57

Notes: The above account has been prepared on a cash basis, and no account has been taken of any members whose dues are in arrears at the date of this statement.

Subject to the foregoing, the above is a true statement of financial activities of the Society for the year ended the 31st May 1974.

D.Y.E. Perey, M.D.,  
Treasurer, C.S.I.

John Coburn,  
Chief Accountant,  
McMaster University Medical Centre  
Hamilton, Ontario.

May 31, 1974.

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Unpaid Membership Dues

June 6, 1974

1 YEAR (1973)

Atkinson, M.  
Axelrad, M.A.  
Bailey, Mr. George  
Beaulieu, M.  
Blake, Helen  
Campbell, D.H.  
Cruse, Julius  
Dobija- Domaradzki, M.  
Fradelizi, D.P.  
Greifeneder, C.  
Guclu, Alex  
Howson, W.T.  
Johnson, C.M.  
Johnston, K.H.  
Kasak, L.  
Kolos, T.O.  
Kramer, T.  
Lewis, A.F.  
Lewis, George  
McClure, Peter  
Marceau, G.  
Millar, Kenneth  
Mittal, K.R.  
Morrell, R.M.  
Perry, M.B.  
Pitzele, S.  
Rice, C.E.  
Ruth, R.F.  
Sheridan, S.  
Sister Mary Ruth  
Steen, Lorraine  
Suchet, J.  
Thibert, R.  
Tisdale, F.  
Turgeon, J.  
Tytmonas, E.  
Valiquette, L.  
Ventura, J.C.  
Vinetti, L.  
Watson, Edna  
Whelton, Bernice  
Whitten, H.D.  
Wightman, K.J.R.  
Wu, C.Y.

2 YEARS (1972)

Bain, Gordon  
Boone, J.E.  
Brassard, A.  
Ching-Hong Chen  
Dufour, D.  
Fitzgerald, J.D.L.  
Forbes, James  
Gauvreau, L.  
Glynn, W.F.  
Gordon, B.L.  
Kenny, C.P.  
Mao, Thomas  
Percy, J.S.  
Quastel, M.R.  
Quinn, - J.  
Sayed, H.I.  
Shivers, B.  
Shokeir, M.H.K.  
McNay, M.L.  
Taguchi, Y.  
Udaka, A.  
Wells, Peter  
Wilson, O.H.

3 YEARS (1971) OR MORE

Axelrad (1969-1973)  
Barcello, R. (1970-1973)  
Bell, A.G. (1971-1973)  
Carr, R.I. (1971-1973)  
Delage, J.M. (1970-1973)  
Garza, J. (1970-1973)  
Giblett, E.R. (1970-1973)  
Guimaraes, M. (1970-1973)  
Guindon, A. (1970-1973)  
Gupta, K.C. (1970-1973)  
Haskill, J.S. (1970-1973)  
Heiner, D.C. (1970-1973)  
Hinton, N.A. (1970-1973)  
Jeejeebhoy, H.J. (1970-1973)  
Mandy, W.J. (1970-1973)  
Mongeau, J.G. (1970-1973)  
Moon, H.W. (none ever)  
Nowry, S. (1970-1973)  
Quevillon, M.C. (1971-1973)  
Reesal, M.R. (1970-1973)  
Sacra, P. (1971-1973)  
Silverberg, D.S. (1970-1973)  
Sollod, A.E. (1970-1973)  
Trimble, A.S. (1971-1973)  
Wedlock, D. (1970-1973)  
Wetherall, J.D. (1971-1973)  
Wicher, K.J. (none ever)  
Wolan, C.T. (1971-1973).

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New Members

The following members have joined the C.S.I. since the last edition of the Bulletin:

1. DR. S.N. BANERJEE, Dept. of Pathology, McMaster University, Hamilton, Ontario. (Elected)
2. Donna A CHOW, Cancer Centre, University of Manitoba, Winnipeg, Manitoba. (Associate)
3. DR. Jack GAULDIE, Dept. of Pathology, McMaster University, Hamilton, Ontario. (Elected)
4. DR. E.W. GELFAND, Dept. of Immunology, The Hospital for Sick Children, Toronto, Ontario. (Associate).
5. DR. Fred T. KISIL, Dept. of Immunology, University of Manitoba, Winnipeg, Manitoba. (Elected).
6. DR. Henri MENARD, Rheumatology, University of Sherbrooke, Sherbrooke, Quebec. (Elected).
7. DR. Pierce J. NEVEAU, Institute of Microbiology and Hygiene of Montreal, Laval-des-Rapides, Quebec. (Elected).
8. DR. William E. RAWLS, Dept. of Pathology, McMaster University, Hamilton, Ontario. (Elected).
9. DR. Barry T. ROUSE, Dept. of Veterianry Microbiology, University of Saskatchewan, Saskatoon, Saskatchewan. (Elected).
10. M. Eugene SMITH, Merck Frosst Labs. Pte. Claire-Dorval, Quebec. (Associate).
11. DR. Wayne A.F. TOMPKINS, Dept. of Pathology, McMaster University, Hamilton, Ontario. (Elected)
12. DR. Mildred WANG, Ontario Department of Health, Toronto, Ontario. (Elected)

August 23, 1974.

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Half-day Society Symposium at the  
C.F.B.S. Meeting in Winnipeg, 1975.

The next meeting of the Canadian Federation of Biological Societies will be held in Winnipeg. It is customary for all the federated Societies to organize a half-day programme, usually in the form of a symposium. In 1975 the Canadian Society for Immunology Symposium will be entitled "Regulation and Suppression of the Reaginic Response". Dr. A. Sehon has undertaken the task of organizing this Symposium

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Communications from the Treasurer

- (a) The C.F.B.S. has imposed a levy of \$3.50 per Associate Member and it was, therefore, approved at the Annual Business Meeting, June 26, 1974 that the levy cost be added to the Society membership dues, for a total of \$8.50.
- (b) The Society now pays \$8.00 per member for C.F.B.S. levy, \$1.00 per member for I.U.I.S. levy, and approximately \$5.00 per member for routine office expenses. It was, therefore, approved at the Annual Business Meeting, June 26, 1974, that the membership dues be increased to \$15.00 per member.
- (c) The Bylaws of the Society state that "dues shall be payable in advance for the coming year". Therefore, it is necessary that the Society "catch-up" with the collection of membership dues. Difficulties exist for the Society in the present situation as the Society is paying levies, symposium expenses, etc. in advance of receiving membership dues for the year.

At the Annual Business Meeting, June 26, 1974, the following collection schedule was approved:

Summer, 1974:	Collection of 1974 dues
Spring, 1975:	Collection of 1975 dues
December, 1975:	Collection of 1976 dues.

D.Y.E. Perey, M.D.  
Treasurer.

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Questionnaire for the Canadian Journal of Immunology.

The problem of the Canadian immunological journal has been lingering on the agenda of several Councils and has been brought up during more than one annual business meeting. This problem was always deferred since it was felt that the community of Canadian immunologists has not reached a critical mass yet to make such a journal viable, and what is more important, assure its high standard. Without adequate inflow of good quality papers, such a journal may easily become a haven for sub-standard second and third rate papers. Once a journal starts losing its good reputation, this process cannot be reversed, because prospective contributors of good papers, naturally, do not want their papers to become tainted with the bad reputation of the journal and prefer to take their papers somewhere else.

On the other hand, there seems to be considerable need for the Canadian journal. Some of our colleagues have claimed that their papers, submitted to American journals, have been unjustly rejected because they did not come from a laboratory located in the U.S. In addition, a new move by the Canadian Federal Government added substantial weight to the arguments of the proponents of the journal. A Ministry of Science and Technology has been created by the Federal Government and it has become apparent that in order to secure the support of this Ministry for research in immunology, the immunologists must make themselves known as a group. One of the ways by which this could be achieved was the publication of the Canadian journal.

All these arguments were brought up and weighted by Dr. A. Sehon during the Annual Business Meeting, in Hamilton (see Minutes). After some discussion, it was decided that a questionnaire be sent to the membership; Dr. A. Sehon was empowered to conduct such polling. Recently, the results of his questionnaire became available:

Dr. Sehon received 149 answers, which constitute approximately 50% of the total membership in good standing. The votes were broken down as follows:

	No	%
In favour of Canadian Journal of Immunology	63	42
Not in favour of the Canadian Journal of Immunology	53	36
In favour of a broader title	33	22
Total	149	100

Further action along this line has not been undertaken yet, but it is clear that the response has been rather luke warm. Some doubts may exist whether contributions from 63 people can keep a journal viable. The final conclusion has not been reached yet. Dr. Sehon is still working on this problem and will make further reports to the membership.

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SIX YEARS OF THE INTERNATIONAL UNION OF IMMUNOLOGICAL SOCIETIES -

PRESIDENTIAL REPORT (BRIGHTON, 1974).

B. Cinader

Institute of Immunology, University of Toronto, Toronto, Canada M5S 1A8.

The International Union of Immunological Societies was created informally in 1968 and received its constitution in 1971 at the first International Congress of Immunology. A number of considerations motivated those who founded our international organization. There was first the fact that immunology had become one of the most productive streams of research which propelled advances in modern biology, that immunology, as a discipline, had become transformed from its original objectives, preoccupied with infectious diseases and assay techniques, to a broad inquiry into the regulation, evolution, genetics, differentiation and into the cellular processes which result in humoral and cell mediated immunity. There was the second fact: as the theoretical basis of our understanding of immune processes widened, the range of applicability extended into a vast variety of areas of medicine and into industrial fields. It became relevant to diagnostic and therapeutic goals of obstetrics, pediatrics, gynaecology, surgery, etc. It had become quite apparent that research and teaching had to acquire a sufficient measure of autonomy so that developments could occur under optimal conditions. This was easy enough in Research Institutes but presented a very difficult problem in Universities and Medical Schools. In the latter, the departmental structure had been defined by the most active research endeavours and techniques of the 19th century. By the middle of the twentieth century parts of this structure had lost their initial progressive research justification, but were being maintained by institutional inertia and by the territorial imperative of incumbents. In this situation, it became difficult to create the University Departments of Immunology, which were needed to allow for interaction of subdisciplines in research and to secure the research training which was sufficiently broad to assure the adaptive capacity of the products of the research training. The need to demonstrate the range and potency of the New Immunology was a further motive for the foundation of I.U.I.S.

The impressive development of the New Immunology presented not only external, but also internal problems. Together with the impressive growth had occurred progressive subspecialisation. Some of the subspecialties were being well represented at Congresses of Biochemistry and Microbiology, but there was no forum for consideration of the whole range of immunological research. Clearly, it was crucial that subspecialties should not become isolated from one another and that there should be a rapid flow of information between subspecialties. International Congresses could achieve this in terms of information transfer,



and in terms of opportunities for contacts which would secure a continuation of exchange. This was yet another motive for the formation of an international organization which would optimize the opportunities for exchange; the first objective was the organization of International Congresses which would cover the entire field. However, International Congresses in other branches of science had become unwieldy - had become cumbersome dinosaurs. The splitting of Congresses into subspecialty areas, tried in some disciplines, succeeded in perpetuating organizational and mass-meeting aspects without maintaining the aims of cross fertilization i.e. the enhanced possibility of exposure of scientists to research which might appear to be irrelevant in terms of its original context, but may have useful implications. It was clear from the beginning of our consultations that, our Congresses would have to learn from these failures, have to be so constructed as to promote diffusion across subspecialty boundaries and also permit coherent presentation of whole areas of active growth. To this end a format was developed, which consisted exclusively of symposia and workshops. The function of the former being presentation of knowledge to the community as a whole, and that of the latter being the involvement of all or, at least of most of the Congress participants in the active processes of discussion, data presentation and opinion exchange. By and large, this format proved to be successful and it was taken over by the 2nd Congress. Its usefulness will doubtlessly remain under constant scrutiny; it will be modified as new conditions develop and require organizational adaption to these new conditions.

Right at the beginning of our consideration for the development of a mechanism for international exchange of opinions, views and research approaches was the recognition that it had become more and more difficult for young investigators to make themselves heard in the existing, exclusive workshops. We intended to create workshops in which the young investigator could make a major contribution. The existing workshops had also become geographically limited and we intended that we should overcome this second aspect of exclusiveness. This became one of the specific aims of the I.U.I.S., was implemented by its Symposia Committee and was one of the most fruitful activities of our international organization.

Underlying all communications is the terminology which must form the basis for this communication. It is clear that terminology must be unambiguous, as simple as possible, as coherent as possible with biological mechanisms, and convenient for printing. Almost any such linguistic convention must be regularly revised, since Immunology is in a continuing ferment which yields new facts and new insights. To fulfill these functions I.U.I.S. formed a Nomenclature Committee and appropriate sub-committees. There are problems which have been repeatedly encountered by our sub-committees. "Is it too soon to set up a nomenclature? Perhaps we shall know more tomorrow and be compelled to scrap our nomenclature." At times, it became clear that a definitive nomenclature for some particular system was not in our grasp, but a nomenclature was nevertheless desirable to allow communication with non-specialists and to minimize the obstacles to learning, which are put in the way of students by conflicting designations. We often have a nomenclature which has historic rather than mechanistic justification. This becomes a stumbling block for new investigators who enter the field and even more so for students, particularly medical students.



A disproportionate part of the learning effort may be consumed by a cumbersome terminology. For instance, it appears to be reasonable that components, which are ultimately recognized to be part of a chain of reactions, should be designated by numbers in the sequence of interactions and not in the sequence of discovery. Quite naturally, those who have been involved in the process of discovery have sentimental and "facilitation" commitments to the historical designation. Those entering the field do not have this kind of commitment, but in the nature of things, are not heard until they have been established as investigators and have become "aculturated" to the prevailing language and have thus entered the establishment. Nevertheless, there are good reasons for conservatism! It would be counterproductive to revise nomenclature every year, and totally confusing if every discovery of a new component involved a complete revision of the designation of each component. How does one determine a point in time when the new discovery of additional components has become so slow that it seems justified to rename all the components? I have deliberately chosen a particularly difficult area in which the right moment for action is the central concern of a subcommittee of experts. Another area, in which revision is needed, presents fewer objective problems. It concerns fields in which the same component has been discovered by several individuals, where precedence is not easily assigned and where relative merit of different nomenclatures is not easily agreed upon. A prior commitment to find a solution, acceptable to all, is needed in such situations.

Ultimately, a system of nomenclature, even if it were perfect would be completely useless if it were not accepted by the leaders in the field and by those who teach the subject in the universities. Thus a broad and continuing series of dialogues is required and the International Union of Immunological Societies provides the organizational basis for this dialogue and for the gradual evolution of a coherent system of designations. The second Congress of Immunology will afford an opportunity for considerable progress in this area.

After protracted discussion, during the preceding 12 months, it was decided, at the last Council meeting in Strassburg (1973), to set up a committee, concerned with Clinical Immunology. It will have a teaching function as well as an advisory function for other I.U.I.S. committees which are responsible for standardization, nomenclature and international symposia. It will come to grips with the regional disparity of the type of clinical immunology which needs to be taught and practised. In particular, it is hoped that this committee will try to evolve syllabuses for Clinical Immunology, specifically adapted to the clinical and diagnostic requirements of tropical areas of Africa, South America and Asia. We now have immunological Societies of Chile, Argentina, Brazil, India and Nigeria which can consult with our clinical committee as to specific developments which are needed to solve specific regional needs.

There is a particularly pressing need to deal with the standardization of Immunological assays and reagents which have become an important component of the activities of many diagnostic hospital laboratories.



Good and not so good reagents are being provided by an ever increasing number of commercial firms. In fact, a multi-million dollar commercial business has grown up - yet there are very few standard reagents which can guide the producer or the consumer. The I.U.I.S. standardization committee has endeavored to determine what standard reagents are needed, to rank them in some order of urgency and importance and to co-ordinate the steps which start with the preparation of reagents, their evaluation and finally their distribution in a stable state. W.H.O. has concerned itself for decades with the establishment of immuno-therapeutic reagents, and is now co-ordinating the development of immuno-diagnostic standard reagents. A warm and close co-operation has developed between I.U.I.S. and W.H.O. These activities are beginning to bear fruit and will, we hope, result in an ever larger number of W.H.O./I.U.I.S. immuno-diagnostic reagents. As in the case of nomenclature, broad acceptance of a standard reagent is as important as the quality and stability of a reagent. Acceptance is easily secured if the users are involved in the decision making processes. An organization like ours can easily avoid the danger of elitist decision making processes by a small circle of those "who know best." With this in mind, I.U.I.S. has developed an international panel of diagnostic clinical immunologists who will be consulted by questionnaire as to the reagents which they regard as important for first attention. Members of this panel will also be involved in spearheading the use of standard reagents which have passed evaluation and screening procedures in the I.U.I.S./W.H.O. standard laboratories responsible for initial assay and validation of a particular standard reagent. It is clearly important that all national societies must concern themselves with the continuous updating of the international consultative panel. Future usefulness of this panel will depend on its conscientious use by the W.H.O./I.U.I.S. Standardization Committee and the regular review of its composition by the national and regional societies.

While the I.U.I.S. Symposium Committee concerned itself with mutual education of scientists, other more "assymmetric" educational functions became the task of the I.U.I.S. Education Committee. Its concerns were the transfer of information from highly specialized to less specialized individuals. Attention must also be given to the needs of specialists in other fields. This requires an organizational structure very different from that of I.U.I.S. workshops and usually much broader themes for meetings; summer schools are one type of useful activity.

I have so far addressed myself to questions of the international co-operation as conceived and implemented by the Council of I.U.I.S. As these activities unfolded and progressed, needs for additional regional and national organization began to be apparent. New regional and local societies came into being: at this moment, we have 30 national societies which are distributed with unequal density over the face of the world; there is no continent without an Immunological Society. Gradually, we hope to expand our activities in Asia, Africa and South America. It is the aim of the I.U.I.S. to support new local organizations with the means at our disposal.



A special problem arises in the beginnings of national activities, often in one centre with a dozen or so immunologists. In these circumstances, a formal national organization is not useful and activities develop best with regional support from established societies in neighbouring countries. It is our practice to give such groups observer status on the I.U.I.S. Council, to accord their members all privileges of I.U.I.S. member societies. Formal admission of a national society occurs when it includes the vast majority of active immunologists, working in the country and after it has had a number of regular annual scientific meetings. It is clearly important that admission of newly founded societies should not be undertaken precipitously. We must avoid the danger of creating a local organization which exists in name, but is not active, which does not include younger research oriented investigators, and which fails to perform its international participation in I.U.I.S. endeavours. It is conceivable that a society may have been active at one time, but that it may ultimately deteriorate into a paper organization. We must find an appropriate mechanism to remove a society from I.U.I.S. if it has ceased to fulfill its role.

While the International Congress occurs at 3 year intervals, there is also room for large regional meetings in the intervals between International Congresses. Meetings of the I.U.I.S. Commission for Europe represent an evolving model that may be adapted to the needs of other regions. So far, the I.U.I.S. Commission for Europe has organized its first, and is shortly going to hold its second meeting. Though the participants of these meetings are overwhelmingly drawn from Europe, the meetings are of course open to immunologists from other continents.

The international activities which I have so far described depend on two elements - the imaginative and dedicated participation of individuals and the financial means by which this dedication can be allowed to operate. There has never been any deficiency in the number of colleagues who were able and willing to provide expertise, time and labour for any of our collective endeavours. All too frequently, the financial basis for these activities became an additional burden which had to be placed on the shoulders of these individuals. We must first consider the means by which this additional pressure should and must be reduced. Our efforts have been proceeding in three separate campaigns, one concerned with the financing of Congresses, the second directed to obtain funds for I.U.I.S./W.H.O. standardization and the third aimed at obtaining funds for general purposes, which include the financing of I.U.I.S. workshops, I.U.I.S. summer schools, I.U.I.S. committee and subcommittee meetings and the I.U.I.S./W.H.O. Education Institute in Amsterdam.

The ultimate financial responsibility for International Congresses always rested with the host-society and will remain so. The contribution of I.U.I.S. should consist in a "priming" fund which will be regarded as a loan, to be returned to I.U.I.S. at the end of the Congress. Alternatively, it might become an outright donation to the Congress, on condition that all the income over expenditure would be turned over to I.U.I.S. The second Congress of Immunology has started the process towards the creation of a fund for International Congresses.



We have separated fund raising for standardization and for general I.U.I.S. purposes, since they were directed at different sources of funding. The participation of I.U.I.S. in standardization is clearly a service operation, I.U.I.S. offers the talents, expertise and imaginative capacity of its members for an operation which forms the quantitative and qualitative basis for the control of immuno-diagnostic reagents, and thus fills a social need. It is clear that quality control must be the concern of every Ministry of Health, and that it could not be discharged adequately by such ministries without the provision of standard reagents. Fund raising efforts were, therefore, directed to ministries of health, and specifically, to individuals in the ministries designated by national societies. Support was requested by a letter from the President of I.U.I.S. and by personal representation by an appropriate spokesman of the National Society. So far, financial contributions have been obtained from Germany, Canada, Switzerland and Sweden. British support consists of the donation of reagents and services; contracts for the development of individual reagents are being negotiated with various U.S. agencies responsible for quality control and research. We hope that every Society will become involved in the negotiations which I have outlined above, and which have been successful whenever an adequate effort was made by the National Society. The funds already obtained have allowed us to start I.U.I.S./W.H.O. activities towards the preparation of new standards, to have had a W.H.O./I.U.I.S. standards meeting in Geneva and to contribute financially to the organization of a meeting on fluorescence-measurement, as part of the development of immunofluorescent reagents. We have also been able to make a contribution towards W.H.O./I.U.I.S. workshops, one dealing with allergens, the other with "natural" sperm antisera which might have a potential as reagents to be used in infertility studies.

A second fund source is needed to cover general activities of I.U.I.S. Among these, the I.U.I.S. workshops have been individually funded and the scientific organisers have had to function as fund-raisers. This became burdensome and led to repeated, cliff-hanging situations in which the completion of funding often occurred only at the last moment. If we continue to have many of our workshops in geographic areas where they can do most good, we will continue to be compelled to raise some money outside the country in which workshops are held. This compounds the difficulty of ad hoc fund-raising and constitutes a particularly strong argument for provision of priming money from a central I.U.I.S. fund. In the past, small sums have occasionally been provided from the membership-income of I.U.I.S., but this was only possible because most of the secretarial expenses of I.U.I.S. were donated by the officers of I.U.I.S. We need an annual income of \$10,000 - \$12,000, if we are to optimize the location, participation and frequency of our workshops. I.U.I.S. summer schools have, so far, depended on W.H.O./I.U.I.S. co-operation and on travel funds being found, in their own countries, by the majority of lecturers. The value of such summer schools in South America, Africa and Asia is self-evident. If we were to organize only one such school per annum, i.e. one every three years on each of the three continents, we would need approximately \$10,000 per year.



Our committee meetings, held annually, have entirely depended on the ability of participants to find their own travel funds. This has resulted in irregular attendance even though we attempted to hold such meetings in conjunction with scientific meetings, to facilitate the processes of funding for individual members. It is clear that, as our various activities develop, the need for meetings will increase. This may be illustrated by the sub-committees concerned with nomenclature, which can transact much of their business by correspondence but must ultimately meet to discuss any remaining hard core of disagreement. A sum of \$8,000 per annum would be needed to assure the participation of committee members who cannot obtain their own travel funds. This sum might be reduced through funding by National Societies and I shall return to this point in a later section of this report.

The I.U.I.S. Education Committee has recommended that I.U.I.S. should contribute a single donation of \$10,000 to a W.H.O./I.U.I.S. Education Institute in Amsterdam. The tasks of this Institute include courses for technical personnel and courses in Clinical Immunology. In both cases, this would contribute to the development of international standards of expertise and would provide one mechanism for the development of immunology in countries which have recognized the need for it. Other activities of this type, in other regions, make it desirable to have a further annual sum of \$10,000. On the basis of the foregoing considerations, we need to find external support of \$48,000 per annum. In relation to the work outlined, this sum appears to be disproportionately small. This is so because we contribute expertise without cost. Only an organization like ours, depending on the idealism of hundreds of leading scientists, could do so. This is a most potent argument in our fund raising activities since donors can be assured of a unique yield of achievement.

The general purposes of I.U.I.S. are presently being financed from three sources i) the contribution from each immunological society, ii) external funds received by a campaign, and iii) funds obtained from foundations and commercial firms.

At present, each immunological society pays annually \$1.00 per member. Some societies cannot transfer their contributions to a central fund and are keeping their contributions in accounts which will be available to I.U.I.S. in the home area of the Society. These sums will be most useful for I.U.I.S. workshops or committee meetings. They are, however, necessarily missing from the money needed for administrative purposes. The members' fee has been barely sufficient to cover postage, printing, expenses for such publications as the blue book and have only left us without a deficit because of the general practice of the officers of the society to secure secretarial help without charge to the International Union. If this practice were not followed in future - and an hourly charge for secretarial help could certainly be justified - we would find it difficult to fund our central activities. The American Association of Immunologists has pioneered another type of contribution, by undertaking to provide annual travel funds for one of its members to each of the I.U.I.S. committees. If this practice were adopted by



every Immunological Society, it would greatly facilitate progress in the activities of each of our Committees and guarantee regular attendance. Some National Societies may not be able to finance travel from their own funds, but almost each will be able to negotiate these funds by representation to appropriate governmental or national granting agencies.

General fund raising has so far been restricted to activities of the President, and has yielded an income of approximately \$3,000 p.a. for a three year period. This activity can be intensified by regional finance committees, co-ordinated by the treasurer and relying on identification of funding sources by members of national societies, followed by a formal approach by Treasurer and President.

A further source of funding may become available when we achieve membership of the International Union of Unions which dispose of governmental funds. Our organization has now existed for six years and has held the two congresses required for admission to I.C.S.U. Direct adherence may require patient negotiations and firmness on our part in discussion between national I.C.S.U. committee members and members of corresponding national immunological societies. An application has been made in July, and we have thus initiated negotiations. The central and multidisciplinary role of Immunology will ultimately secure our admission as a direct and independent member of I.C.S.U.

Immunological Research of the last decades has been an exciting adventure in which curiosity and a desire to contribute to human welfare were intimately linked propellants. The International Union of Immunological Societies was founded to sustain the momentum, resulting from both motivations. It was a privilege to serve as President for the first six years of I.U.I.S. and to be associated with many friends and colleagues who sacrificed some of their cherished research-time to international co-operation.

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\*LES SIX ANS D'EXISTENCE DE L'UNION INTERNATIONALE DES SOCIÉTÉS D'IMMUNOLOGIE-  
RAPPORT PRÉSIDENTIEL (BRIGHTON, 1974).

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L'Union Internationale des Sociétés d'Immunologie existe depuis 1968. C'est toutefois en 1971, au premier Congrès International d'Immunologie qu'elle recevait sa constitution. Plusieurs considérations ont motivé

\*Traduit de l'anglais par Dr. Gilles Lamoureux.



ont  
ceux qui ont fondé notre organisation internationale. Premièrement le fait que l'immunologie était devenue un champ de recherche des plus productifs et un propulseur de la recherche en biologie moderne, et également le fait que l'immunologie en tant que discipline, a transformé ses objectifs originaux, davantage préoccupés par les maladies infectieuses et les problèmes techniques, en un vaste champ de recherche sur la régularisation, l'évolution, la génétique, la différenciation aussi bien que sur les processus cellulaires qui donnent naissance à l'immunité humorale et cellulaire. Il y avait également un deuxième objectif d'importance: à mesure que les bases théoriques de notre compréhension des processus immunologiques grandissaient, les applications de l'immunologie s'étendaient à une variété toujours plus grande de domaines autant médicaux qu'industriels. L'immunologie s'est rapidement taillé une place dans le domaine du diagnostic et de la thérapeutique autant en obstétrique, en pédiatrie, en gynécologie, en chirurgie, que dans de nombreux autres secteurs de la médecine humaine. Il est vite devenu évident que la recherche et l'enseignement de cette discipline allaient devoir acquérir une autonomie suffisante pour permettre les développements nouveaux qu'on était en droit d'espérer, et ça, dans les meilleures conditions possibles. Si ces développements allaient être assez faciles dans les institutions de recherche, ils présentèrent des problèmes difficiles dans les universités et les écoles de médecine. On se souviendra que les structures départementales des écoles de médecine ont été établies au XIXe siècle pour répondre aux objectifs de la recherche et de la technique du temps. Déjà, au milieu du XXe siècle, une bonne partie de ces structures avait perdu leur justification initiale, et avait sombré dans l'inertie institutionnelle ou était devenue des chasses gardées aux mains de titulaires omnipotents. A cause de cette situation, il a été difficile de créer des départements universitaires d'immunologie. Pourtant, de tels départements n'en sont pas moins nécessaires si on veut assurer un entraînement adéquat en recherche immunologique, un enseignement capable de s'adapter aux produits de la recherche et qui faciliterait l'élaboration de travaux de recherche interdisciplinaires. Le besoin de démontrer le vaste champ d'action de l'immunologie nouvelle aussi bien que ses applications immédiates dans un grand nombre de secteurs de la biologie, a été un motif de plus qui a favorisé la fondation de l'I.U.I.S. (International Union of Immunological Societies).

Cet impressionnant développement de l'immunologie moderne a suscité de nombreux problèmes. Des sous-spécialisations de l'immunologie surgissaient au fur et à mesure que se développait l'immunologie. Certaines de ces sous-spécialisations ont rapporté leurs travaux aux Congrès de Biochimie et de Microbiologie, mais il manque souvent, à ces niveaux, des chercheurs spécialisés capables d'analyser toute la gamme de la recherche immunologique présentée. Il devenait crucial que ces sous-spécialités de l'immunologie ne s'isolent pas les unes des autres et puissent avoir des échanges d'information entre elles. Les Congrès Internationaux peuvent provoquer ces échanges d'information en même temps que fournir des occasions de rencontres avec les chercheurs capables d'assurer une continuité. L'organisation de ces rencontres et échanges devenait un motif supplémentaire pour la formation d'une organisation internationale qui favoriserait les occasions d'échanges;



l'un de nos objectifs primordiaux a donc été d'organiser des Congrès Internationaux qui engloberaient toutes les sous-spécialités reliées à l'immunologie. Beaucoup de Congrès Internationaux sont devenus énormes et ont perdu de leur efficacité. La division des congrès en sujets sous-spécialisés, déjà expérimentés dans certaines disciplines, a réussi à maintenir en vie certaines organisations tout en conservant les avantages des grands rassemblements, mais en perdant les avantages de fertilisation croisée; c'est-à-dire la possibilité d'exposer les scientifiques à des recherches, qui peuvent paraître peu importantes à un chercheur particulier, mais qui pourraient avoir des implications utiles. Il semblait clair dès le début de nos consultations que nos congrès devraient apprendre des erreurs des autres et devraient être planifiés pour encourager la diffusion à travers les frontières des sous-spécialités, aussi bien que de permettre une présentation plus cohérente de tous les domaines en croissance active. C'est dans ce but unique que fut conçue la forme actuelle de nos congrès qui consistent exclusivement en symposiums et en ateliers de travail. La fonction des symposiums étant la présentation de la connaissance mise à jour en tant que tout, alors que celle des ateliers de travail, vise la participation active de tous, ou au moins de la plupart des participants, au processus de discussion, de présentation de travaux et d'échange d'opinions. Cette formule s'est avérée excessivement utile et a été reprise en entier par les organisateurs du Second Congrès International d'Immunologie. Son utilité devrait indiscutablement faire l'objet d'examen constant et la formule sera modifiée au fur et à mesure que de nouvelles conditions seront développées et nécessiteront une adaptation à ces nouvelles conditions.

Lorsque nous avons commencé à penser au mécanisme d'échange d'opinions à l'échelle internationale, il est vite apparu qu'il allait être de plus en plus difficile aux jeunes chercheurs de se faire entendre dans les différents ateliers de travail. Notre intention a été de créer des ateliers de travail où les jeunes chercheurs pourraient apporter une contribution majeure. Les ateliers de travail tels qu'ils existent présentement sont géographiquement assez limités et parfois exclusifs à certains chercheurs. Nous avons l'intention de surmonter cette seconde difficulté, et ceci est même devenue une préoccupation spécifique de l'I.U.I.S. C'est pourquoi son comité de symposiums a été l'un des plus actifs et des plus utiles dans notre organisation internationale.

A la base de toute communication entre chercheurs il y a les problèmes de terminologie. Il est évident que la terminologie ne doit pas être ambiguë, doit être aussi simple que possible, aussi cohérente que possible avec les mécanismes biologiques connus et utiles pour la publication. Comme pour la linguistique, l'immunologie qui est en perpétuelle fermentation donne naissance à de nouveaux faits et à de nouvelles visions des phénomènes biologiques et elle doit être révisée régulièrement. Pour remplir ces fonctions l'I.U.I.S. a formé un comité de nomenclature et des sous-comités appropriés. Il y a eu de nombreux problèmes rencontrés par beaucoup de sous-comités. Est-il trop tôt pour définir une nomenclature? Les connaissances de demain nous obligeront-elles à abandonner la nomenclature que nous pourrions



imposer maintenant? Il est quand même devenu évident, dès le début, qu'une nomenclature bien définie pour des systèmes particuliers n'était pas encore réalisable mais qu'une nomenclature était néanmoins désirable pour permettre de communiquer avec les non spécialistes et minimiser les obstacles de l'enseignement présenté aux étudiants de manière à prévenir des conflits. Souvent les nomenclatures ont des justifications historiques plutôt que mécanistiques. La nomenclature est un obstacle pour tous les nouveaux chercheurs qui entrent dans le domaine de l'immunologie nouvelle aussi bien que pour les étudiants, mais particulièrement pour les étudiants en médecine. Une partie parfois disproportionnée de la préparation des cours peut être justement absorbée par une terminologie encombrante. Par exemple, il paraît raisonnable de présenter les composantes qui font partie d'une chaîne de réactions par des nombres selon la séquence des interactions plutôt que par la séquence des découvertes. Naturellement, ceux qui ont été impliqués dans les processus de découverte ont, par sentiment, une facilité d'enseigner par ordre de découverte historique. Par contre, les nouveaux arrivés dans le champ de l'immunologie n'ont pas cet impératif et par la nature des choses, ne sont pas considérés, aussi longtemps qu'ils n'ont pas été établis comme chercheurs ou n'ont pas adapté le langage des pères. Il y a quand même de très bonnes raisons pour favoriser un conservatisme. Il ne serait pas avisé par exemple de réviser la nomenclature chaque année et une confusion totale pourrait naître si chaque découverte d'un nouveau composé impliquait une révision complète de la désignation de chacun des composés d'une réaction. Comment alors déterminer le temps où une nouvelle découverte serait suffisamment établie sur une base solide pour justifier une re-nomenclature de tous les composants? Dans des domaines assez particuliers, je crois que le meilleur moment pour ce type de changements devrait être décidé par les experts de sous-comités concernés. Dans les domaines où une révision s'impose d'elle-même, il peut y avoir beaucoup moins de problèmes. Les problèmes de nomenclature se recontrent surtout dans les domaines où le même composé a été découvert par plusieurs chercheurs, où il est difficile d'établir une priorité, et où il n'est pas toujours facile de démontrer les avantages d'un changement de nomenclature. Il importe de trouver une solution acceptable à tous dans de telles situations.

Finalement, un système de nomenclature, même en étant parfait serait complètement inutile s'il n'était pas accepté par ceux qui oeuvrent dans le domaine aussi bien que par ceux qui enseignent le sujet dans les universités. Pour surmonter ces difficultés, une série de dialogues continuels est nécessaire et l'Union Internationale des Sociétés d'Immunologie fournit la base structurelle pour un tel dialogue, en même temps qu'elle permet l'évolution vers un système cohérent de nomenclature. Dans ce sens, le Second Congrès International d'Immunologie ouvre la voie à d'immenses progrès.

Après des débats ardues qui ont duré près de douze mois, il a été décidé à la dernière réunion du conseil tenue à Strasbourg en septembre 1973, de créer un comité qui s'occupera de l'immunologie clinique. Ce comité aura une fonction d'enseignement et un rôle de consultant auprès des comités de l'I.U.I.S. responsables de la standardisation, de la nomenclature et des symposiums internationaux. Il tentera d'enrayer les disparités régionales des différents secteurs où oeuvrent l'immunologie



clinique, lesquels ont besoin d'être pensés en fonction de la pratique. On souhaite particulièrement que ce comité élabore un vocabulaire de l'immunologie clinique, spécialement adapté aux exigences de la clinique et du diagnostic dans les régions tropicales d'Afrique, de l'Amérique du Sud et de l'Asie. Il existe maintenant des sociétés d'immunologie au Chili, en Argentine, au Brésil, en Indes, et au Nigéria. Celles-ci pourront consulter notre comité d'immunologie clinique au fur et à mesure que les nouveaux développements seront nécessaires pour solutionner les besoins spécifiques d'une région.

Il existe aussi un pressant besoin de standardisation des faits immunologiques, aussi bien que des réactifs qui sont devenus des outils importants dans les activités de plusieurs laboratoires de diagnostic hospitalier. De bons et de moins bons réactifs sont mis sur le marché par un nombre de firmes commerciales toujours grandissant. Un commerce impliquant plusieurs millions de dollars s'est développé en réponse à ces besoins. Cependant, il y a encore très peu de réactifs standardisés capables de servir de guide aussi bien aux producteurs qu'aux consommateurs. Le comité de standardisation de l'I.U.I.S. fait un effort constant pour déterminer quels sont les réactifs nécessaires, comment on peut les classer en ordre d'urgence et d'importance et pour coordonner les étapes qui sont impliquées dans la préparation de ces réactifs aussi bien que dans leur évaluation et leur distribution en forme stable. L'O.M.S. a été impliquée depuis plusieurs décades dans l'établissement de réactifs immunothérapeutiques et s'occupe maintenant de coordonner le développement des réactifs standardisés d'immunodiagnostic. Une grande coopération s'est développée entre l'O.M.S. et l'I.U.I.S. Ces activités commencent maintenant à porter des fruits qui résulteront, nous l'espérons, dans la production d'un plus grand nombre de réactifs d'immunodiagnostic O.M.S./I.U.I.S. Comme pour le cas de la nomenclature, l'acceptation par les immunologistes sur une large échelle des réactifs standardisés est aussi importante que la qualité et la stabilité du produit même. Cette acceptation sera d'autant plus facile que les usagers seront eux-mêmes impliqués dans les processus de décision. Une organisation telle que la nôtre peut facilement éviter le danger d'accepter une décision dogmatique prononcée trop hâtivement par des chercheurs même réputés. Avec toutes ces considérations en tête, l'I.U.I.S. a dressé une liste d'immunologistes cliniques internationaux déjà impliqués dans le diagnostic. Ils seront consultés par questionnaire au sujet des réactifs qu'il serait nécessaire de mettre au point en premier lieu. Les membres de ce groupe seront également chargés du bon usage des réactifs standardisés qui ont subi une évaluation minutieuse dans les laboratoires de standardisation de l'O.M.S./I.U.I.S. Ces experts seront responsables des essais préliminaires aussi bien que de la validation d'un réactif standardisé particulier. Il faut que toutes les sociétés régionales participent à la formation et révisent la composition de ce Comité de consultants. L'importance du service futur que pourra rendre ces experts, dépend de leur utilisation adéquate par le comité de standardisation de l'O.M.S./I.U.I.S. et de la révision régulière de sa composition par les sociétés nationales et régionales.

Pendant que le comité des symposiums s'occupe de la formation mutuelle des scientifiques, le comité d'éducation s'occupe des fonctions éducationnelles beaucoup plus diversifiées de l'I.U.I.S. Sa principale



preoccupation a été de trouver les moyens de transférer l'information des chercheurs hautement spécialisés vers les moins spécialisés. Une attention particulière doit également être donnée aux besoins de spécialistes dans d'autres champs de la biologie. Ceci requiert, cependant, des structures d'organisation très différentes de celles des ateliers de travail de l'I.U.I.S. et souvent, des occasions de rencontres beaucoup plus importantes: les cours d'été sont un exemple type de cette espèce d'activités.

Je n'ai parlé jusqu'à maintenant que de questions de coopération internationale telle que conçue et mise en pratique par le conseil de l'I.U.I.S. A mesure que les activités se déploient et progressent, de nouveaux besoins se font sentir au niveau régional aussi bien que national. De nouvelles sociétés régionales et locales commencent à apparaître: il existe présentement une trentaine de sociétés nationales distribuées un peu partout dans le monde; il n'y a pas de continent sans société d'Immunologie. Graduellement, nous espérons étendre nos activités en Asie, en Afrique et en Amérique du Sud. L'un des buts de l'I.U.I.S. est d'aider, en autant que nos moyens nous le permettent, la formation de nouvelles organisations locales.

Des problèmes assez spéciaux sont nés avec la formation de nouvelles sociétés nationales; ces problèmes se rencontrent surtout dans les régions, où il n'y a pas plus d'une douzaine d'immunologistes. Dans certaines circonstances, la mise sur pied d'une organisation nationale n'est pas utile et l'activité de la recherche peut fort bien se développer à son meilleur à un niveau régional, avec la participation de sociétés déjà établies dans des pays voisins. Notre politique est de donner à un tel groupe un statut d'observateur à l'I.U.I.S., et de donner à leurs membres tous les privilèges des membres des sociétés de l'I.U.I.S. L'admission définitive d'une société nationale se fait quand la grande majorité des immunologistes travaillant dans une même pays sont groupés et quand il y a eu un certain nombre de réunions scientifiques annuelles régulières. Il est très important que l'admission de sociétés nouvellement fondées ne soit pas entreprise d'une façon précipitée. Nous devons éviter le danger de créer une organisation locale qui existe en nom, mais qui n'est pas active, qui n'inclue pas les jeunes chercheurs et qui ne se conforme pas à la conduite des sociétés internationales. Il est également concevable qu'une société puisse avoir été active à un temps donné et qu'elle ait dégénéré en une simple organisation sur papier. Nous devons trouver un mécanisme approprié pour pouvoir retirer de l'I.U.I.S. une société qui ne remplit plus son rôle.

Quand les Congrès Internationaux se tiennent à intervalle de trois ans, il y a suffisamment de temps pour que des congrès régionaux d'importance s'organisent entre-temps. Les rencontres de la Commission Européenne de l'I.U.I.S. en sont un modèle qui pourraient s'étendre au besoin à d'autres régions. Depuis sa fondation, la Commission Européenne de l'I.U.I.S. a organisé son premier congrès et est présentement sur le point de tenir son second. Même si ceux qui participent à ces congrès sont surtout européens, ces congrès sont naturellement ouverts aux immunologistes de tous les continents.

Les activités internationales dont j'ai parlé jusqu'à maintenant dépendent de deux facteurs; le dévouement et la participation bénévole des individus, et des moyens financiers qui vont permettre la réalisation



de ce dévouement. Il n'y a jamais eu de mesquinerie chez les collègues qui ont consenti à faire des expertises quand il s'est agi de donner leur temps et leur travail à notre cause. Trop fréquemment l'aspect financier de ces activités a été un fardeau additionnel qui a dû être placé sur les épaules des chercheurs demandés en expertise. Nous devons d'abord considérer les moyens qui pourraient et devraient réduire ces fardeaux additionnels. Nos efforts se sont portés à trois niveaux différents. L'un concernant le financement des congrès, le second l'obtention de fonds pour la standardisation de l'O.M.S./I.U.I.S. et le troisième l'obtention de fonds pour les buts généraux, incluant le financement des ateliers de travail de l'I.U.I.S., les écoles d'été de l'I.U.I.S., les rencontres des comités et des sous-comités de l'I.U.I.S. et l'Institut d'Education de l'O.M.S./I.U.I.S. à Amsterdam.

La responsabilité financière majeure des Congrès Internationaux demeure et demeurera encore la responsabilité de la société qui reçoit. La contribution de l'I.U.I.S. devrait consister en un fonds de base, qui devrait être considéré comme un prêt et être retourné à l'I.U.I.S. à la fin du congrès. Alternativement, cette contribution pourrait devenir une donation au congrès, à la condition que toutes les recettes du congrès soient retournées à l'I.U.I.S. Le Second Congrès d'Immunologie a mis sur pied la création d'un fonds pour les congrès internationaux.

Nous avons obtenu des fonds de sources différentes pour la standardisation et pour les buts généraux de l'I.U.I.S., l'intérêt de financement étant différent. La participation de l'I.U.I.S. à la standardisation se conçoit clairement comme un service où l'I.U.I.S. fournit les talents, l'expertise et la capacité imaginative de ses membres à un travail qui sert de base qualitative et quantitative pour le contrôle des réactifs d'immunodiagnostic, et ceci remplit un rôle social. Il n'en demeure pas moins évident que les contrôles de qualité doivent demeurer la responsabilité des Ministères de la Santé de chaque pays et que chaque ministère ne pourra remplir adéquatement cette charge sans être assuré de l'approvisionnement des réactifs standards.

Nos efforts pour obtenir des fonds ont, à cause de ceci, été dirigés aux différents ministères de la santé et spécialement à des individus à l'intérieur de ces ministères qui nous avaient été désignés par les sociétés nationales. Ces demandes de support ont été demandées conjointement par lettre du Président de l'I.U.I.S. et par requête personnelle d'un représentant de la société nationale. Jusqu'à maintenant, des contributions financières ont été obtenues de l'Allemagne, du Canada, de la Suisse et de la Suède. Le support de La Grande-Bretagne consiste en la donation de réactifs et de services; des contrats individuels pour le développement de réactifs sont négociés par différentes agences américaines responsables pour les contrôles de la qualité et de la recherche. Nous espérons que chaque société s'occupera de ces négociations qui ne seront fructueuses que quand un effort adéquat aura été déployé par la société nationale. Les fonds déjà obtenus nous ont permis de commencer notre travail pour la préparation des nouveaux standards, pour organiser un congrès à Genève sur les standards O.M.S./I.U.I.S. et pour contribuer financièrement à l'organisation d'une rencontre sur les techniques de fluorescence quantitative qui font partie du développement des réactifs d'immunofluorescence. Nous avons également contribué aux ateliers de travail O.M.S./I.U.I.S., l'un sur les allergènes et sur les sérums naturels



anti-sperme qui pourraient avoir une grande importance comme réactifs utilisés dans les études d'infertilité.

Une seconde source de financement est nécessaire pour couvrir les activités générales de l'I.U.I.S. Citons principalement les ateliers de travail de l'I.U.I.S. qui sont supportés individuellement et où les organisateurs agissent comme bailleurs de fonds. Ces situations créent des inconvénients sérieux qui conduisent souvent à des situations où le remboursement des fonds n'arrive qu'au dernier moment. Si nous continuons à tenir nos ateliers de travail dans les locations géographiques où le travail peut s'effectuer le plus adéquatement, nous serons forcés de continuer de demander les argents nécessaires en dehors des pays où se tiennent ces ateliers de travail. Ceci accentue les difficultés d'obtenir des fonds "ad hoc" et constitue un argument particulièrement fort pour l'obtention des argents nécessaires provenant d'un fonds central de l'I.U.I.S. Dans le passé, de petites sommes d'argent ont occasionnellement été données à partir des contributions des membres de l'I.U.I.S., mais ceci n'a été possible que parce que la grande partie des dépenses de l'I.U.I.S. a été donnée par les dirigeants de l'I.U.I.S. Actuellement, nous avons besoin annuellement de \$10,000.00 à \$12,000.00 pour maintenir la location, la participation et la fréquence de nos ateliers de travail.

Les Ecoles d'été de l'I.U.I.S. ont, jusqu'à maintenant été subventionnées par la coopération de l'O.M.S./I.U.I.S. et par des fonds de voyage obtenus à même les fonds personnels des professeurs-chercheurs. La valeur de ces Ecoles d'été en Amérique du Sud, en Afrique et en Asie est évidente par elle-même. L'organisation d'une Ecole d'été à tous les trois ans sur chacun de ces trois continents nécessite approximativement \$10,000.00 par année. Les recontres de nos comités, tenues annuellement, ont entièrement été défrayées par les participants à même leurs propres fonds de voyage. Ceci n'a permis qu'une présence irrégulière, même si nous nous efforçons de tenir ces réunions conjointement avec une réunion scientifique pour défrayer plus facilement des fonds de voyage de chaque membre. Il est clair qu'à mesure que nos différentes activités se développeront, le besoin de réunions augmentera. Ceci peut être démontré par les sous-comités impliqués dans la nomenclature; une partie du travail peut être effectué par correspondance, mais les experts doivent éventuellement se rencontrer pour discuter les champs de désaccord qui demeurent. Une somme de \$8,000.00 par année devrait être nécessaire pour assurer la participation des membres du comité qui ne peuvent obtenir leurs propres fonds de voyage. Cette somme d'argent pourrait être réduite si ces fonds provenaient des sociétés nationales et je reviendrai sur ce point au cours de ce rapport.

Le Comité d'Education de l'I.U.I.S. a recommandé que l'I.U.I.S. contribue une donation de \$10,000.00 à l'Institut d'Education O.M.S./I.U.I.S. d'Amsterdam. Cet Institut assume la responsabilité des cours de formation du personnel scientifique et des cours de formation en Immunologie Clinique. Ces cours de formation vont contribuer au développement des expertises sur les standards internationaux et permettent le développement de l'immunologie dans les pays où il y a un urgent besoin. D'autres activités de ce genre, dans d'autres régions nécessiteraient un apport additionnel d'environ \$10,000.00.



Sur la base de toutes ces considérations, nous devons trouver un support additionnel de \$48,000.00 par année. En relation avec le travail envisagé, cette somme apparaît disproportionnellement minime, et il en est ainsi parce que les contributions d'expertise se font sans coût. Seule une organisation comme la nôtre, reposant sur l'idéalisme de centaines de scientifiques reconnus, peut faire ceci. Cet exemple est un argument de valeur quand il s'agit de trouver les fonds nécessaires à nos activités, parce que les agences qui donnent les fonds peuvent être assurées d'une participation assez unique à notre Société.

Les besoins généraux de l'I.U.I.S. sont présentement financés à partir de 3 sources, soit 1<sup>o</sup> la contribution de chaque société d'Immunologie, 2<sup>o</sup> les fonds de l'extérieur reçus d'une campagne de souscription et 3<sup>o</sup> les fonds obtenus de certaines fondations ou firmes commerciales.

Présentement, chaque société d'Immunologie paie un dollar par membre annuellement. Quelques sociétés ne peuvent pas transférer leurs contributions à un fonds central et conservant ces contributions dans un compte qui sera disponible à l'I.U.I.S. lorsqu'elle oeuvrera dans cette région. Ces sommes d'argent seront extrêmement utiles pour les ateliers de travail de l'I.U.I.S. ou pour les réunions de comités. Nécessairement, ces montants ne contribuent pas aux sommes d'argent nécessaires pour notre administration. La contribution des membres a rarement été suffisante pour couvrir les frais de poste, d'imprimerie ou les dépenses pour telle publication comme le livre bleu, et s'il n'y a pas eu de déficit, c'est uniquement parce que, c'est la pratique générale des directeurs de la société d'assurer sans charge l'aide de secrétariat. Si ce mode de fonctionnement n'était plus permis dans le futur (et une charge horaire pour le secrétariat peut certainement être justifiée) nous trouverions difficile le financement de nos principales activités. L'Association Américaine d'Immunologie a développé un autre type de contribution, en prenant la charge d'assurer les fonds de voyage à chacun de ses membres qui participeront à un comité de l'I.U.I.S. Si cette forme de financement était acceptée par chaque société d'Immunologie, les activités de chacun de nos comités seraient grandement facilitées et la présence des membres aux réunions serait garantie. Certaines sociétés nationales peuvent ne pas être capables de financer les fonds de voyage à partir de leurs propres fonds, mais presque toutes seraient capables de négocier certaines sommes d'argent par des demandes à différents niveaux gouvernementaux ou aux agences nationales de recherche.

Jusqu'à maintenant, seul le président s'est chargé de la collection de ces fonds et cette collection a coûté une somme d'environ \$3,000.00 par année au cours des trois dernières années. Cette activité devrait être intensifiée par des comités régionaux de financement et coordonnés par le trésorier qui identifierait les différentes sources de fonds possibles suggérées par les membres des sociétés nationales et une demande formelle devrait être faite par le trésorier et le président.

Une autre source de financement pourra être disponible quand nous serons membres du Conseil International des Unions Scientifiques (I.C.S.U.) qui disposent de fonds gouvernementaux. Notre organisation existe maintenant depuis six ans et a tenu les deux congrès requis pour



l'admission au I.C.S.U. Notre acceptation directe nécessitera probablement de patientes négociations et de la fermeté et de la part des différentes Sociétés Nationales d'Immunologie. Une application a déjà été soumise en juillet, et nous avons commencé nos pourparlers. Le rôle prépondérant et multi disciplinaire que joue l'Immunologie nous assurera sûrement une place au sein du Conseil International des Unions Scientifiques comme membre indépendant à part entière.

Le recherche immunologique des dernières décades a été une extraordinaire aventure propulsée par la curiosité et le désir de contribuer au bien-être de l'humanité. L'Union Internationale des Sociétés d'Immunologie a été fondée pour maintenir le tempo de développement résultant de chacune de ces deux motivations. Ce fut pour moi un privilège de servir comme Président de l'I.U.I.S. au cours de ces six dernières années et de travailler en étroite collaboration avec plusieurs amis et collègues qui ont sacrifié à la coopération internationale les heures les plus précieuses de leurs recherches.

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#### IMPORTANT DEVELOPMENTS DURING THE 2nd INTERNATIONAL CONGRESS OF IMMUNOLOGY, IN BRIGHTON.

During the Congress, 8th and 9th I.U.I.S. Council Meetings, 2nd I.U.I.S. General Assembly Meeting, as well as various committee meetings have taken place. It would be impossible to publish here a detailed account of all of these meetings. An attempt will be made to give only highlights which may be of interest to most of our readers. Anyone interested in a particular detail of a given meeting may obtain more information by writing to the Editor of this Bulletin, or to a Canadian representative on a given committee. The presidential address by the stepping-down President, Dr. B. Cinader, was given during the 8th Council Meeting, and was distributed to the General Assembly delegates. This report appears in its entirety in this Bulletin.

#### I.U.I.S. Council and Assembly Meetings:

The 8th Council meeting was held on July 21, 1974. Canadian representative: Dr. B. Cinader. The 2nd Assembly Meeting was held on July 21, 1974. Canadian representatives were: J. Bienenstock, B. Cinader and S. Dubiski. The 9th Council Meeting was held on July 27, 1974, and Canadian representative were: B. Cinader and S. Dubiski.

#### Future Congresses:

The 3rd International Congress will be held in Sydney, Australia, on July 1 to 8, 1977. In contrast to previous Immunology Congresses, this one will be held under the sponsorship of the Australian Academy of Sciences, for financial reasons. Due to the fact that fund raising in Australia is very difficult, this sponsorship is essential for the Congress, since only the Academy of Sciences is likely to get support from the Government. Although the Academy of Sciences is nominally organizing the Congress, Drs. Nelson, Penny and Cooper are on the Organizing Committee.



Dr. Nelson is responsible for the scientific program. Some professional organizers are also involved. The Organizing Committee has already booked accommodation for about 2,000 people. There will be additional rooms in the University of New South Wales. The major part of the Congress will be held in a new hotel, and at least one session will be held in the new Sydney Opera House. The University of New South Wales will provide rooms for the workshops. The major problem will be the travel to Australia. Dr. Humphrey asked if there was a provision for bursaries. No definite answer to this question could be given by Dr. Cooper.

A proposal was made to hold the 4th International Congress in Paris in 1980. In Paris there is no problem with accommodation and congress facilities. However, the Congress will be possible only if the financial support of the French Government could be secured by the French Society. The possibility of having the 5th Congress (in 1983) in Japan was discussed. No further action was taken and the Japanese representative, Dr. Yamamura, promised to investigate the matter.

#### I.U.I.S. Financial Situation:

Dr. Miescher, the Treasurer, reported that at present the I.U.I.S. financial resources amount to approximately \$19,000. Some countries are still in arrears with their membership dues. The formation of the Finance Committee has been proposed previously, but such Committee could not be established, as it was impossible to find people willing to participate. It was decided that the Treasurer should establish separate accounts for each Committee, since very often money raised, or received, by the I.U.I.S. is earmarked for a particular I.U.I.S. activity (e.g. standardization, symposia, etc.).

It was agreed that \$3,000. per annum should be given to the account of the Symposium Committee. Possible sources of revenue to support I.U.I.S. activities were also discussed. One of such sources would be benefits from the congresses. However, these funds go to the national society organizing the congress. Furthermore, there is a rule that no congress sponsored by the Australian Academy of Sciences must make any profit. Nevertheless, it would be possible to add a small amount to the registration fee and earmark it for the I.U.I.S. An appropriate request will be made to the Australian organizers.

#### Admission of new Societies:

India was accepted provisionally in Strasbourg. It could not yet be accepted as a full member, since the Indian Society did not have two national meetings.

Italy has one large Society which is already a full member, but which has shown little activity and no participation in I.U.I.S. activities. Another group, led by Dr. Celada, seems to be more active but cannot be accepted by I.U.I.S., since only one national society from each country can be the I.U.I.S. member. The matter was left pending for the time being. A similar situation exists in Brazil. Last year, the I.U.I.S.



Council accepted the Sociedade Brasileira de Immunologia, a young society to which several basic immunologists belong. Recently, another (older) Brazilian society, Sociedade Brasileira de Alergia e Immunopatologia, requested admission to I.U.I.S. It was decided that this, and similar problems, should be solved by the national societies between themselves. Dr. Humphrey will write on this matter to both societies involved.

Spain. A national society is being formed and in October it will hold its first meeting. The membership, at present, is about 35 immunologists.

Czechoslovakia. The admission of this Society is still pending, waiting for the constitution and list of members.

U.S.S.R. So far it has not been possible to found an independent immunological society. At present the Soviet immunologists form an immunology section of the Microbiological Society. The Section includes only people from Leningrad and Moscow. There have been several meetings of this Section, under the auspices of the Association of Microbiology. It was decided to give the Soviet immunologists an observer status and to grant them a full membership when they fulfill the appropriate criteria.

Iran, Lebanon, Turkey and Mexico hope to form a national society soon. In several countries, e.g. in Africa or Asia, there are only a few immunologists. The discussion indicated that, in such cases, formation of a regional society, modelled on the Scandinavian Society, should be encouraged.

I.U.I.S. European Federation. It was proposed that European Societies form a Federation, the main purpose of which would be to facilitate the organization of joint European meetings. The first such meeting has been already held, in 1973, in Strasbourg. These meetings should be open and relatively inexpensive. The European Federation should not compete with I.U.I.S., it will not collect money independently and all its financial aspects will be channelled through I.U.I.S. The question of the formation of European Federation will be put to a vote on two levels: first, its formation and rules should be approved by two-thirds of all European Societies; then, a postal ballot among the Council members will be held and the question will be decided by simple majority.

#### I.U.I.S. Committee for Immunological Projects in Developing Countries.

A preliminary, informal meeting has taken place, on July 26, 1974, and was attended by delegates of various countries from Africa, Asia, Central and South America. It was suggested there that an I.U.I.S. Committee for Research and Training be set up to deal with immunological problems of developing countries. Before formal constitution of the committee, information about the situation in these countries, and their needs, should be collected by a working party. The first task would be the creation of a directory of immunologists in developing countries, and start co-operation with the W.H.O. The members of the working party were proposed. Their work will be co-ordinated administratively with the General Secretariat of I.U.I.S.



### New Officers of the I.U.I.S:

The Assembly elected the following officers: President - J. Humphrey (United Kingdom), Vice-President - M. Sela (Israel). B. Cinader has become the Past-President. A. deWeck and P. Miescher, both of Switzerland, have agreed to serve as Secretary General and Treasurer respectively for another term. There were no other candidates, and they were elected by acclamation. The following Council members were elected: H. Ambrosius (German Democratic Republic), J.-C. Cerottini (Switzerland), G.N. Cooper (Australia), S. Dubiski (Canada), M. Feldman (Israel), J. Gergely (Hungary), B.D. Jankovic (Yugoslavia), J. Lisowski (Poland), H. Metzger (U.S.A.), I. Moraru (Romania), J.B. Natvig (Norway), D. Parrott (United Kingdom), K.W. Pondman (Netherlands), G. Voisin (France), O. Westphal (Federal Republic Germany), and Y. Yamamura (Japan).

The next Council meeting will take place in Amsterdam, between September 17 and 19, 1975.

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### REPORTS OF THE I.U.I.S. COMMITTEES

#### Clinical Immunology Committee.

The Committee was appointed by the I.U.I.S. Council at its meeting in Strasbourg, September 5, 1973. Its Chairman is J. Natvig of Norway, the Canadian representative is S. Freedman. W.H.O. is represented by: Drs. Goodman, Lambert and Torrigiani.

The aims of the Committee on Clinical Immunology are as follows:

1. To work together with the national societies for immunology with other I.U.I.S. Committees and the W.H.O. Department of Immunology to help to establish and organize departments and centres for clinical immunology, including that related to tropical diseases.
2. To provide training possibilities for education in clinical immunology.
3. To develop criteria for acknowledgement of clinical immunology as a speciality by nationally recognized agencies.
4. To evaluate immunological tests and immunological treatment necessary for the diagnosis and treatment of patients with immunological disorders.

The Committee met at Strasbourg, France, September 7, 1974; at Montpellier, France, March 24, 1974, and at Brighton, July 20 and 24, 1974.

#### Background:

Whatever its size and scope, a clinical immunology department should have a core group of dedicated individuals working full time. The basis of the department would be a complex of laboratories equipped for serological, immunochemical, cellular-immunological and immunopathological



investigations. A clinical immunology department organized in this way would be actively engaged in research programs designed to ensure an effective link between advances in basic immunology and the clinical investigation of immunological disorders. It is essential that a clinical immunology department should maintain effective contact with patients, e.g. through a consultation service or the direct care of patients within the department.

The clinical immunology department should be organized generally according to the recommendations listed in the W.H.O. expert Committee for Clinical Immunology, Report (Techn. Rep. Series No. 496/1972).

"In all nations, basic immunology should be used for the benefit of patients by:

- a) applying the expert knowledge of the immunologist to the various clinical specialities;
- b) providing tests for diagnosis and for assessing disease activity in persons with immunological disorders;
- c) establishing programs of basic and clinical research that could lead to the development of new diagnostic tests, and of new approaches to the management of immunological disorders;
- d) providing facilities for teaching and training".

Special consideration may apply for developing nations imposed by the relative shortage of trained personnel, laboratory facilities and money. It is also recognized that clinical departments in these countries are faced with special situations due to the prevalence of infectious epidemic diseases, nutritional disorders and over-population. These conditions require specialized immunological knowledge and techniques which are more available in the developed countries, but are not sufficiently represented in these areas.

#### Proposals:

During the past decade, the explosive expansion of knowledge and techniques in immunology have provided new opportunities to apply immunology to problems of human disease. On this basis, many immunological aspects of importance in the diagnosis, evaluation of disease activity, prognosis, prophylaxis and therapy can be outlined. It has become an important task to organize clinical immunology to provide two important service functions, namely:

1. The provision of laboratory services related to immunology.
2. The provision for patient care - scope of the Clinical Immunology Department:-

In the two major areas of laboratory procedures and patient care, the department should be concerned with the following major functions:

- Evaluation of the immune status of the patient.
- Immunological deficiency diseases.
- Autoimmune disorders and other immunological diseases.
- Dysproteinemias,
- Immunohematology,



- Transplantation immunology.
- Immunology of infectious diseases.
- Tumor immunology.
- Immunotherapy and immunosuppressive therapy.

The above should not preclude the involvement and application of immunology in other diseases and health problems such as malnutrition, reproduction and others.

In some institutions, some of the above mentioned services are offered in already existing departments. If that is the case, the Clinical Immunology Department should function in close association with the existing facilities.

The laboratories related to immunological services should contain provision for the following investigations:

1. Serological
2. Immunochemical
3. Cellular-immunological
4. Immunopathological.

A detailed outline is given in Appendix I.

The size of the laboratory performing immunological services will vary in different areas depending, among other things, on the existing facilities. Where necessary, services can be provided by sharing facilities among neighbouring institutions. It is our belief that these laboratories should be organized as closely together as possible, and should maintain close connections with basic science units of the medical school (s).

#### The Relation to Patient Care:

The extent of involvement with patient care will vary from department to department, however, it is extremely important that stress be placed on having close links with patients either by direct patient care or by consultation. It is desirable to have the possibilities of patient care on some selected patient groups and in some of the following fields: rheumatology, allergy, hematology, endocrinology, nephrology, gastroenterology, cardiology, neurology, dermatology, oncology, infectious disease, immuno-deficiencies, pediatrics and surgery.

#### Providing Training Possibilities in Clinical Immunology:

All clinical immunology departments should provide training in clinical immunology. However, specialized training may be offered in some departments that have the necessary facilities and personnel. The training should be provided at the following levels:

1. For clinicians, both for those involved primarily in laboratory work and those whose emphasis is on clinical practice.



2. For physicians and natural scientists, including Ph.D. and Veterinarians, who will be responsible for laboratory work.
3. For technicians who will perform the specialized laboratory procedures.

- a) For the training of candidates in group 1, the main part of the training should be at a department of clinical immunology where a sufficient number and diversity of patients with immunological disorders are available.

The time required for the training depends on the previous experience and future goals of the candidate. However, approximately four years is recommended for most candidates.

The education for specialists in clinical immunology should include systematic courses as well as laboratory work.

- b) The trainees of category 2 should have a substantial background in basic sciences (e.g. chemistry, biology, microbiology, pharmacology, pathology) as is normally signified by a Doctor's degree. In addition, these candidates should gain experience in basic immunology and should be familiar with the problems of patients with immunological disorders.

#### Research:

All clinical immunology departments should be actively involved in research both at the clinical level and basic immunology. The departments are urged to keep abreast with new techniques that could be applied to clinical investigations. All trainees of categories 1 and 2 should be given the opportunity to participate in research.

#### Recognition of Clinical Immunology as a Speciality:

The Committee supports the statement made in the W.H.O. Report No. 455, p. 18. "an important improvement in the status of clinical immunology would result from certification by nationally recognized agencies. The requirements for certification in the laboratory and clinical aspects of immunology are likely to vary from country to country".

#### APPENDIX I

##### Specialized Laboratory Procedures Required For A Clinical Immunology Department.

<u>Stage</u>	<u>Investigation</u>	<u>Examples</u>
I <sup>1</sup>	Serological	tests for antinuclear antibodies, cold agglutinins, or rheumatoid factors.
	Immunochemical	immunoglobulin quantification and electrophoresis, hepatitis-associated antigen (HAA) determination.

<sup>1</sup>Essential initial serological and immunochemical investigations using well established techniques (automated where possible) that can be carried out by technical staff.



II <sup>2</sup>	Tissue biopsy	detection of immunoglobulin and complement deposits in kidney or skin.
	Cellular immunity	lymphocyte stimulation in vitro, mixed lymphocyte culture, or migration inhibitory factor determination.
	Elaborate serological	tests for anti-DNA, antithyroid antibodies, transplantation antigens.
	Elaborate immuno-chemical	complement components determination, IgE determination.
III <sup>3</sup>	Evaluation of immune function in patients.	performance of skin tests, specific immunization.
IV <sup>4</sup>	Research	detection of lymphocyte receptors, manipulation of the immune response.

<sup>2</sup> More elaborate or expensive techniques, which have to be evaluated by the professional staff of the department, should not be performed without prior consultation with a senior member of the department.

<sup>3</sup> Includes such in vivo procedures as skin tests for allergic diseases, and the evaluation of humoral and cellular immune responsiveness.

<sup>4</sup> Research, as discussed in section 2,3, is essential for maintaining high standards and progress in clinical immunology.

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Standardization Committee: Chairman R.E. Ritts (United Kingdom),  
Secretary: Irene Batty (U.K.)  
Canadian Representative: J. Bienenstock.

There have been a total of six meetings of the main committee in London, Bruges, Strasbourg and Brighton, and several meetings of various sub-committees. Over succeeding meetings the Committee has defined a series of objectives based on needs as evolved from questionnaires to clinical immunologists over the world.

In order to facilitate the work of the Committee, the President, Vice-President and Secretary General authorized a joint I.U.I.S./W.H.O. consultation in Geneva in November 1973. This resulted in agreement to undertake the first of the Committee's high priority projects, Anti-human Ig conjugate and complement under the joint auspices of I.U.I.S./W.H.O.



A definitive budget is not at hand pending W.H.O. accounting. Currently, there is \$700 in the I.U.I.S. treasury, earmarked for the Standardization Committee. In addition, the Committee expects to receive during 1974-1975, funds from the following governments - West German (\$10,000), Canadian (\$8,000), Swedish (\$1,000), U.S. (\$20,000) and an as yet unspecified sum from the Swiss Government.

It is thought that \$2,000 may be received upon application to the Austrian Government. For specific projects it is possible to apply to both the Canadian and American granting agencies for additional funds. However, these are likely to be ear-marked for particular projects and would not be expected to establish and maintain a Secretariat at W.H.O. Geneva. This has repeatedly been identified as a crucial element in this endeavour since standard materials have been produced, and funds must be found for this activity in the future.

Past experience has proven that infrequent meetings with a large committee are not productive. In fact, the major accomplishments have been made by several of the Chairmen, notably Chairmen of the Immuno-fluorescent sub-committee, and complement working with co-opted members.

Consequently, at this Brighton meeting, a proposal was adopted that a smaller Executive Committee of 6-8 members be established and conduct the ongoing business of the Committee by mail whenever possible and meet when required - generally once or twice a year. All business would be circulated to the members for comment before action is taken in substantive projects or changes in procedures.

#### Immunofluorescence and related staining techniques:

The preliminary assays of the two candidate preparations of anti-human immunoglobulin conjugates in the ANF system are finished and were reported at the I.U.I.S. sponsored 5th International Conference on Immunofluorescence and related staining techniques in Leiden last week. It was clear that further assays of these materials in this system were desirable and that more laboratories with wide experience in the method should be asked to participate. The FTA abs system for syphilis and the toxoplasma system assays have been organized and are just beginning. As soon as these trials are finished all the indications are that we shall be able to offer this material prepared and freeze dried by the State Bacteriological Laboratories, Stockholm, as an I.U.I.S./W.H.O. International Reference Preparation.

For the next Immunofluorescent standard, according to the priorities laid down at the Geneva I.U.I.S./W.H.O. meeting of experts, the anti-human IgM conjugate, the NIAID has agreed to fund its preparation. This contract will be through the Chairman and Secretary of the Standardization Committee and the Head of Immunology W.H.O. Again, candidate preparations to the specifications agreed and written at the Geneva meeting are being invited from experts in the field from laboratories both private and commercial. The Chairman of the sub-committee has agreed to organize their assessment, after which the Executive Committee will advise and the contract will be placed.



### Complement:

The sub-committee on complement reported that preliminary tests on antigenic stability were complete and that storage at 0°C or below for one year did not alter or decrease antigenicity. Collaborative testing showed results were within 10%.

Since functional activity was deemed more important, collaborative studies are now in progress on this aspect.

### Serum Proteins:

There are currently 14 litres from a pool of 20 litres of human serum containing no detectable Australian antigen from normal healthy adults in deep freeze. Aliquots are being treated and freeze dried with the hope that one of these preparations will be suitable for nephelometric, radio-immunodiffusion and two dimensional IEP, and that it can be calibrated for its immunoglobulin concentration and functional complement. The Chairman of the sub-committee is organizing the assessment of these parameters after which part of the budget will be needed to finance its freeze drying by the agreed best method. It will then be necessary to organize the calibration of the constituents and at this point the IFCC frozen standard will be calibrated in parallel. It will be very valuable to have such a combined standard.

### Immunoglobulins:

A short communication has been written relating units to mg/ml for these standards and is being published in the journals with world-wide coverage. Progress is now being made in the work of preparing immunoglobulin standards for other species in particular bovine, porcine and ovine, with the help of the U.S.D.A., and equine by Washington State University Pullman.

### Allergen:

In this field there is a great deal of discussion taking place amongst various interested societies. The I.U.I.S. has sponsored a workshop meeting following this congress, and the I.A.B.S. is also holding a meeting at this time. It is thought that the great need at the moment is to make recommendations to W.H.O. so that through C.I.O.M.S. duplication of effort and meetings is avoided. The Allergen sub-committee aims to help by co-opting members from other interested societies.

### Allotypes:

The sub-committee on Allotypes met prior to the Brighton meetings in Rouen, and reported that a panel of 100 sera representing every known haplotype is at hand. They requested designation of several laboratories bearing I.U.I.S. imprimature as holding banks to test proposed or possible new haplotypes.

### Candida and T & B. cell markers:

Two ad hoc sub-committees were appointed to deal with these problems.

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Symposium Committee: Chairman: K. Rajewsky (West Germany).

The report was given by Dr. Askonas who recalled the events organized up to now in Yugoslavia, Norway, Romania and Chile. The main purpose of these events has been the support of young people. The next Symposium will be in East Germany, organized by Dr. Ambrosius on specific immunosuppression. Japan is interested in a symposium or a course, as well as Argentina, Porto Rico and Greece. Dr. Yamamura proposed to organize a I.U.I.S. Symposium in 1976, in connection with the Haematology Congress, since some money may then become available from the Japanese government.

Dr. Natvig stressed that there would be adequate collaboration between the Clinical Immunology and Symposium Committee. Dr. Askonas proposed to establish sub-committees for each Symposium request. Dr. Moraru thanked Dr. Askonas for the successful Romania meeting.

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Education Committee: Chairman: I. Roitt (U.K.).

A list of available teaching aid material in immunology has been collected by Dr. Ruth Arnon, and published in Eur. J. Immunol. (1974, 4, 153-154). The teaching slides of the British Society for Immunology are being updated and will appear in 16 separate sections. The first section should be ready by the end of 1974. These slides will be for sale and will be relatively inexpensive. A proposal for a programme of a basic undergraduate course in immunology is being drafted. The Dutch Society has produced a list of laboratories in Holland, together with a list of techniques which each laboratory was prepared to teach. This document has been sent to all secretaries of the national societies.

W.H.O. immunology division has agreed to hold a register of individuals willing to act as visiting lecturers. Secretaries of national societies will be asked to complete lists of members willing to be visiting lecturers. I.U.I.S. is making efforts to create an Education Institute in Amsterdam. This venture is being organized in conjunction with W.H.O. and it is hoped that financial help will be obtained from the Dutch Government. The Institute would be a center for training of technicians. I.U.I.S. would appoint its representatives to appropriate advisory and trustee bodies.

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I.U.I.S. European Federation;

Further steps were taken towards the formation of this body (formerly I.U.I.S. Commission for Europe). Its main aim is to organize joint European meetings, similar to the meeting in Strasbourg, in 1973. The next meeting will be organized jointly by the British and Netherlands Societies and will be held in Amsterdam, under the name "1975 European Immunology Meeting". Since a discussion, whether or not Pan American organization should be formed, was initiated by the American Association of Immunologists, we felt that it may be relevant to publish the draft constitution of the I.U.I.S. European



#### Federation:

The I.U.I.S., in accordance with article 16 of its constitution, proposes to set up a Commission for Europe. This will be called the I.U.I.S. European Federation.

The objective of the European Federation of the I.U.I.S. are to promote closer contact and co-operation between Immunological Societies in the European area and to facilitate the exchange of scientific information, and of scientists among European countries.

For these purposes the Federation shall approve, sponsor and assist joint meetings between two or more European Immunological Societies. It shall also undertake such activities (e.g. the publication of bulletins and letters) as are consistent with these aims and in harmony with the purposes and statutes of the I.U.I.S. The activities of the Federation shall not conflict with those of the specialized I.U.I.S. Committees at the international level.

Such joint meetings shall be organized flexibly. In general they should be as simple and economical as possible, in order to facilitate attendance by younger scientists.

#### Rules of Business:

1. The European Federation of the I.U.I.S. shall consist of members elected for the purpose by each European Immunological Society or the equivalent body which is adherent to the I.U.I.S. Each Society shall be entitled to appoint one member, but when the membership of the Society exceeds 1,000 it may appoint two members.
2. The members of the Federation shall elect from among themselves a President, two Vice-Presidents and a General Secretary. The President and Vice-Presidents shall hold office for 2 years, and shall not be eligible for immediate re-election to the same office.

The General Secretary shall hold office for 2 years, but may be immediately re-elected for one further period of 2 years. An additional Meetings Secretary may be appointed for up to two years in connection with joint European Meetings sponsored by the I.U.I.S. European Federation; he/she shall be approved by the European Immunological Societies acting as main hosts for the Meeting. Additional Secretaries for ad hoc purposes may be appointed. Their term of office shall be similar to that of the General Secretary.

3. The Federation shall meet on the occasion of each Joint European Meeting and at such other times as may be necessary. The Quorum of a Federation meeting shall be not less than half of its members. When appropriate, business may be conducted by postal ballot.
4. The activities of the Federation shall be financially supported on an ad hoc basis and the Federation shall not levy regular member contributions from its member Societies.
5. These rules will become valid after ratification by 2/3 of the European Societies, and the I.U.I.S. Council. Modifications of



these rules are also subject to ratification by two thirds of European Societies and by the I.U.I.S. Council.

6. The meetings of the European Federation shall be open to all members of the I.U.I.S.

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*More information about the activities of the International Union of Immunological Societies and its Committees is contained in the "Blue Book". This booklet, entitled "I.U.I.S. 1974" has been prepared by the General Secretariat and is available from the Editor of this Bulletin, or from the Secretary-General of the I.U.I.S., Dr. A. deWeck\*, upon request.*

*\*Institut für Klinische Immunologie, Inselspital, 3008, Bern, Switzerland).*

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#### PAN AMERICAN UNION OF IMMUNOLOGICAL SOCIETIES

The I.U.I.S. European Federation has almost been born. Should the equivalent Pan American organization be formed? Discussion on this subject was started by Dr. Henry Metzger, Secretary-Treasurer of the American Association of Immunologists. Below is the letter, and other material, received from Dr. Metzger with the invitation for discussion. Remarks and comments from the readers are invited. They will be taken into consideration when the answer to Dr. Metzger's letter will be drafted.

September 13, 1974. Dear Dr. Dubiski:

I am writing on behalf of the U.S. delegation to the I.U.I.S. It has concerned us that little effort has been made by anyone to promote useful interchange among North, Central and South American immunologists. As we are sure you are aware, a variety of Pan American Unions exist in other disciplines. Frankly, at the moment we are unfamiliar as to what these unions accomplish, but it seems timely to think about this matter.

I am including a copy of a report by the Pan American Association of Biochemical Societies which was presented at the Ninth International Congress of Biochemistry in Stockholm, July 1973. This may serve as a guideline for activities which we might wish to undertake.

We would like to suggest the following:

The U.S. - I.U.I.S. delegation will take the lead in soliciting from all American immunological societies suggestions in regard to the purpose to be served by the formation of a "Pan-American Union of Immunological Societies". It would be useful if each immunological society would inquire among scientists from other disciplines what their experience has been in



this regard. We will organize this material and circulate the information to all relevant societies, and perhaps make some suggestions as to courses of action based on this material.

We propose January 1, 1975, as a target date for the receipt of your comments.

Sincerely yours,

Henry Metzger, M.D.  
Member I.U.I.S. Council  
Secretary-Treasurer, A.A.I.

P.S. The societies to which this letter has been sent are listed on this page. If you know other societies which should be contacted, please let me know right away.

List of Pan American Immunological Societies:

- Argentina - Jorge A. Manni, President; Instituto de Investig. Med. University Nacional de Buenos Aires, Donato Alvarez 3000, Buenos Aires.
- Brazil - O.G. Bier, President; I. Moto, Secretary, 05504 Instituto Butantan CP 65, Sao Paulo SP. Brazil.
- Canada - S. Dubiski, President; Institute of Immunology, 1 Spadina Crescent, Toronto, Ontario, M5S 2J5.
- Chile - C. Moreno, President; Casila 6593, Santiago 4.
- Mexico - (Observer Society). J. Kumate, Hospital Infantil de Mexico, Mexico - 7, D.F.

The Pan American Association of Biochemical Societies (PAABS)

B.L. Horecker - Immediate Past Chairman.

The Pan American Association of Biochemical Societies, now more than three years old, is composed of 12 member Societies, including all of the Biochemical Societies in the western hemisphere. It was founded in July 1969, and came into formal existence in January 1970, with Luis Leloir of Argentina as its first Chairman, D.W. Whitaker of Canada as Vice-Chairman, R.N. Ondarza of Mexico as Treasurer, and W.J. Whelan as Secretary-General. The present officers of the Association are C. Corredor (Colombia), Chairman; B.L. Horecker (U.S.A.), Immediate Past Chairman; R.N. Ondarza (Mexico), Treasurer; and R.W. Estabrook (U.S.A.) Secretary-General. The objectives of the Association, as formulated at one of the early meetings of the Executive Committee, were as follows:

1. *To improve communication among biochemists, including exchange of information about activities of constituent societies.*



2. *To provide international representation in the form of liaison with other groups of biochemical societies, including I.U.B. and F.E.B.S., especially where national societies are too small to sustain such activities.*
3. *To organize group transportation to international meetings.*
4. *To organize periodic meetings of limited scale on topics of special interest, arranged through local societies, with PAABS providing assistance as required.*
5. *To organize workshops or summer schools, again with initiative provided by the individual societies.*
6. *To provide a directory of biochemists in the western hemisphere.*
7. *To encourage publication of scientific reports.*
8. *To promote exchange of biochemists by acting as a clearing-house for exchanges between institutions and visits by touring biochemists.*
9. *To cosponsor awards and fellowships with donors who wish to increase the productivity and prestige of outstanding biochemists in areas where these capabilities are insufficiently recognized.*

Despite its recent history, PAABS has already fulfilled many of these aspirations. The PAABS Bulletin, published twice yearly, provides new information and is distributed to all members of PAABS through their constituent societies. Meetings and workshops under PAABS sponsorship have been held in Argentina, Canada, Chile, Columbia, Mexico, Venezuela and the United States, and others are being planned. The PAABS Education Committee, under the chairmanship of J.W. Sizer (U.S.A.) has organized a symposium on Education in Applied Biochemistry and is represented on the Education Committee of IUB.

PAABS has also launched a periodical, *PAABS Revista*, which provides a new type of reporting in advances in biochemistry and related fields, including brief essays describing important new developments and reprints of the significant publications describing these developments.

Of particular interest to members of constituent societies of FEBS and PAABS is the recent action of the councils of these two organizations which has approved exchange of subscriptions at member's rates to society journals. Thus members of constituent societies of PAABS are now eligible to receive *FEBS Letters* and the *European Journal of Biochemistry*, and members of FEBS can subscribe to *PAABS Revista* at the special rates to members.

PAABS is proud of these achievements, which have been made despite the great distances and difficulties in communication. It will continue to strive for more effective co-operation between biochemists in the western hemisphere, and with their counterparts throughout the world.

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## THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS<sup>\*)</sup>

The International Council of Scientific Unions (ICSU) is an international non-governmental scientific organization composed of 17 International Scientific Unions, 62 National Members, five Scientific Associates and one National Associate. Its principal objective is to encourage international scientific activity for the benefit of mankind.

It does this by initiating, designing and coordinating international scientific research projects; the International Geophysical Year and the International Biological Programme are probably the best-known examples. ICSU acts as a focus for the exchange of ideas, the communication of scientific information and the development of standards in methodology, nomenclature, units, etc. The various members of the ICSU family organize in many parts of the world conferences, congresses, symposia and meetings of experts, as well as General Assemblies and other meetings to decide policies and programmes. In 1973 about 200 were organized.

A wide range of publications is produced including newsletters, handbooks, proceedings of meetings, congresses and symposia, etc., professional scientific journals, data, standards, etc.

Committees or Commissions of ICSU are created to organize programmes in multi- or transdisciplinary fields which are not completely under the aegis of one of the Scientific Unions, such as Antarctic, Oceanic, Space & Water Research & Problems of the Environment. Activities in areas common to all the Unions such as Teaching of Science, Data, Science & Technology in Developing Countries are also coordinated by Committees,

ICSU maintains close relations and works in cooperation with a number of international governmental and non-governmental organizations, and in particular UNESCO (with which ICSU has taken the initiative in launching a number of international programmes such as the International Indian Ocean Expedition, the World Science Information System, International Geological Correlation Project etc.) and with WMO (with which ICSU has taken the initiative in launching the Global Atmospheric Research Programme).

The General Assembly, the highest authority of the Council, is composed of the representatives of the National Members, of the Scientific Unions and of the Scientific and National Associates. The General Assembly elects the Officers, ratifies the nominations of the Scientific Unions to the General Committee, elects the representatives of the National Members, approves the creation or dissolution of the Committees and Commissions and determines the general policy of the Council.

<sup>\*)</sup> The information about ICSU has been reprinted from a booklet "ICSU, statutes and Rules of Procedure" published by ICSU Secretariat, 51 Bld. de Montmorency, Paris 75016.



The General Committee meets annually to review the international scientific scene, to study scientific problems, to encourage and co-ordinate activities between the Unions and other component parts of the Council, including the Council's Special and Scientific Committees, and determines priorities among the scientific activities of the Council.

The sources of funds are diverse. The major contribution is made by the National Members, who pay annual dues to ICSU, the Unions and some of the Committees. Unesco makes available a subvention which is currently of \$265,000. per year; this represents about 13% of the income. In addition, grants have been made for various projects by the Commonwealth, Ford, Nuffield, Rockefeller and several other Foundations.

Much of the work is, however, done by devoted scientists throughout the world, in their spare time, as a contribution towards international cooperation for the benefit of mankind.

An approach has been made to ICSU to request admission of IUIS as a full member. In October, of 1974, the meeting of ICSU at Ankara considered this request. During the discussion, Dr. Silobrcic made a very convincing and impressive plea for admission of I.U.I.S. to I.C.S.U. but the Chairman of the sub-committee of admissions, Sir Harold Thompson (Chemistry, Oxford) ruled that we had not fulfilled all conditions for admission, in that we did not provide written documentation indicating that 12 members (at least 3 of whom must be scientific and 3 of whom must be national members) favoured our admission. We were told by the Canadian National member that we must secure written statements from such International Unions as Biophysics, Microbiology, Biochemistry and Pharmacology. This should state that they favour admission and that they cannot accommodate us into the framework of their own International Union. In addition, we should get written statements of support from as many National members as possible. The latter support can probably be secured by the President of every Immunological Society, by identifying the National representative and by explaining our case.

There are many reasons that make the membership of ICSU desirable. One of them is that ICSU can distribute some money to its member unions. The ultimate distribution of finances depends on the number of National members which support a Union. It also depends on a formula developed by the I.C.S.U. Finance Committee, by which the existing budget of a Union is taken into account in designating the magnitude of the I.C.S.U. contribution to the Union. The larger the budget of the Union the larger the I.C.S.U. contribution (maximum \$15,000).

IUIS will continue its efforts to become a member of ICSU. The written documentation will be submitted to the ICSU Committee meeting in September 1975, which may make us eligible for admission in 1976.

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## SCIENCE POLICY

February 11, 1974.

To Grantees of the Medical Research Council

Dear Colleague:

The Medical Research Council Newsletter Vol. 4, #2, January 15, 1974, has given you the bad news about the 1974-75 budget. Limited increases since 1971 coupled with inflationary pressures have resulted in a decrease in the actual funds available for medical research, and we will all suffer to a greater or lesser extent. Cuts in personnel support programs will hurt our capacity for research in the future, while application of continued unreasonably stringent standards for awarding grants will terminate the research careers of productive and competent scientists.

There seems little point in quarrelling with MRC over policy changes designed to try to stretch an inadequate budget. Rather, we must concentrate our limited resources on the source of the problem, a Federal government whose support of medical research is unenthusiastic, to say the least.

Last year, the CFBS, CSCI, and ACMS, thanks to the hard work of Dr. John Bienenstock and his committee, presented an excellent brief to the Honorable Ministers Marc Lalonde, C.M. Drury and J. Sauvé. This brief documented the case for medical research and showed the detrimental effects of austerity budgeting. In spite of giving us a good reception, the Government has not produced a budget which would even permit maintenance of the status quo. Instead, we are told that priorities must be given to social security and international development, that we should document the cost benefits of medical research, and that there is no evidence for public support of medical research. (What evidence is there of public support for developmental assistance to underdeveloped countries, which has increased by 160 million dollars in only 3 years to 491 million in 1972/73? On the other hand, public donations for medical research amount to nearly half the MRC budget).

We intend to present another brief this year, but obviously that is not, by itself, enough. Your committee, and the executives of the CFBS and CSCI, and ACMS cannot provide evidence of public support for medical research. You can. Fifteen minutes of your time to write your local M.P. about the situation in your own words will do more than all the briefs we can produce. Write also to one or all three of the Cabinet Ministers named above, and to any others to whom you think it desirable. Note that it must be your personal letter, not an endorsement of one we have composed. The content of letters is up to you but general areas worth covering concern the impact of research (or loss thereof) on health care services and medical education as well as on the merits of Canadian Medical Research per se. Actual facts about loss of employment for skilled technicians, promising junior researchers, etc., are highly pertinent. Letters from such people as well as graduate students and their families may also be effective.



The best timing for a letter to M.P.'s. is now; that for Cabinet Ministers is the end of May, when the budget for 1975/76 will be in its preliminary stages. The undersigned would welcome copies of letters as well as your private comments.

One other point; a brief from the C.M.A. (Manufacturers) in favor of medical research cuts more ice than one from the C.M.A. (Medical). Similarly, a letter from a private citizen who is not a scientist obviously carries more weight. The man or woman who regularly contributes \$10 or \$25 to Cancer or Heart might well consider an 8¢ stamp a good investment if it will help provide more taxpayers money for the same research he is interested in. Talk to your neighbours and friends.

We might add that the CFBS, CSCI and ACMC are co-operating on a common front to try to improve the situation. Members of the CSCI Council in particular have recently conducted a vigorous campaign to convince, personally, various Cabinet Ministers of the merits of our case. They, in turn are aware of this letter, although they have not had an opportunity to approve it in detail. Future action, such as our next brief, will also be assembled on a co-operative basis.

We sincerely solicit your help. With our best wishes,

Sincerely yours,

Neil Madson, for the  
Science Policy Committee of the  
Canadian Federation of Biological  
Societies,  
Department of Biochemistry,  
University of Alberta  
Edmonton, Alberta T6G 2E1.

\* Physiology Canada 4:63-77 (April, 1973).

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Submission to the Medical Research Council

In reply to the request by the President of the Medical Research Council, Dr. G. Malcolm Brown, a submission from the Canadian Society for Immunology has been prepared and sent to the Office of the President. The submission was prepared in consultation with members of the Council, and other active members of the C.S.I. The text of the submission is given, preceded by the letter from the President of the M.R.C., in which he invited the C.S.I. to prepare such submission.

July 8, 1974.

Dear Dr. Dubiski:

As part of the continuing review of its program the Medical Research Council plans to meet in special session early in November to discuss Council's objectives and the policies by which these objectives may best be reached in the years immediately ahead.



Council itself includes representatives from a variety of disciplines in the health sciences. It will also have the benefit of recommendations put forward from time to time by its standing committees which include many who are not members of Council. It would be helpful to have in addition the views of scientific and academic organizations. I, therefore, write now to invite your Society to submit whatever statement it wishes on the role of the Medical Research Council, now and during the next five years, in the support of health science research in Canada.

Council members would hope to have an opportunity to study in advance of their meeting the statements which are received. I would, therefore, request that your submission reach this office not later than October 4.

Yours sincerely,

G. Malcolm Brown, M.D.  
President,  
Medical Research Council of Canada.

C.S.I. Submission to the M.R.C.

The Medical Research Council of Canada has played a crucial role in promoting the development of contemporary immunology in our country. It owes its success to individual grants in support of the research of imaginative individual scientists and to the peer review system which has permitted identification of these individuals. Officers and the staff of the Council ought to be congratulated on their success in keeping bureaucracy to a minimum and maintaining flexibility within the framework of regulations and instructions. In consultation with members of the Canadian Society for Immunology, I would like to submit the following proposals, the implementation of which would be beneficial to Canadian medical research:

1. Better dialogue between M.R.C. and the scientific community. At present communications between the M.R.C. and the scientific community are effective through:
  - a) Open meetings of scientists held with the representatives of the M.R.C.
  - b) The careful review of grant applications by extramural referees and by committee members, and the relative ranking by peer committees.
  - c) A proportion of the Council members are active scientists.

Although these ways have their merits and should be continued, they do not constitute, in our opinion, a sufficiently sensitive and efficient channel by which the scientific community can make itself heard. The present set-up ignores the fact that the scientific community in Canada is organized in a number of societies, many of them are linked by the Canadian Federation of Biological Societies. These learned associations have shown deep concern with the problems of the organization and financing of medical research in Canada. The Federated Societies are at present the principal umbrella organization representing the



scientific interests of the majority of Canadian investigators. We would like to propose that representatives of the Canadian Federation of Biological Societies and of other leading scientific societies, not associated with the Federation, become members of the Council. Such representation would permit the full dialogue between the Council and the scientific community. Representatives of the scientific societies would not only relay information from the Council to the scientists but they would also be able to express the wishes of their constituencies before the Council. At present, individual scientists who are members of the Council, although belonging to their respective societies, do not have the authority to speak for these societies, and their membership. Implementation of the above proposal would not involve profound changes in the present structure of the Council. It is the strong opinion of the members of our Society that they should be given an opportunity to influence, in a democratic way, the shaping of M.R.C. policies.

2. The next problem we would like to bring to the attention of the Council is the question of the M.R.C. policy towards group- and contract research: The applications for groups are presently reviewed by ad hoc project committees which clearly are not able to compare the merit of a group proposal with the merits of individually submitted applications, the later being examined by the Grant Committees. Yet such a comparison is a necessary corollary for evaluation of a proposal in terms of the international standard which ultimately determines excellence. As a consequence of the separation of assessment, the effectiveness of the peer review system is undermined. In our opinion group assessments should be carried out by ad hoc committees and the appropriate Grant Committee should have the results of this assessment available when setting of priorities for all other proposals.

Should M.R.C. encourage or discourage the formation of groups? There are two types of group research. The first is based on an individual who has achieved a breakthrough in basic or in applied research, and the group is set up to exploit this breakthrough. The justification for this kind of group research is obvious. The second type of group is created to conduct research in an area designated by the Council in the hope of achieving a breakthrough. This type too, in my opinion, is a positive development. It contributes significantly to the advancement of knowledge in a given area by creating a fruitful research atmosphere, attracting good collaborators and creating a critical mass of investigators for fruitful co-operation, discussion and exchange of ideas. This is especially true at universities where research has no strong tradition. Thus, most of the groups are giving a reasonable or good return for the funds invested in them and, during the times when research budgets are ample, the second type of investments should be made, and formation of groups should be encouraged. However, in times of restricted budgets, commitments of substantial sums of money to group research, directly endangers the support of individual initiative. Individual research, on the whole, also provides equally good, if not better, return for the money invested, and for that reason support for groups should not be provided at the cost of cutting off the support of individual research.



3. Next, we would like to propose some changes in M.R.C. regulations dealing with training of young scientists. These could be best discussed in a direct dialogue between the M.R.C. and the representatives of the scientific community as outlined in the first of our proposals. However, I will address myself to some of them briefly:

- a) According to the M.R.C. regulations graduate students can only be supported for four years. In general, it takes a minimum of two years to complete an M.Sc. and a minimum of another three years to finish a Ph.D. programme. Even if a student proceeds directly from his first degree to a Ph.D. programme, it would take closer to five than four years to finish the programme. The duration of support by M.R.C. should be correlated with the requirements of the schools of graduate studies, so that no situations could arise in which a student, accepted by a School of Graduate Studies, would lose his financial support in the final year of his study.
- b) M.R.C. fellowship and grant support determine the quality of contemporary research and have far reaching effects on research of the future. It is quite clear that training of a young scientist forms the basis of the quality of research by the future generation. M.R.C. has developed excellent methods of selecting good Canadian candidates and the only improvement I can suggest in this regard concerns an increase in number of trainees. There is, however, a further point which needs attention. Canada is an immigrant country, a substantial proportion of its scientists still come from abroad. They come at various stages of their development. However, Canadian positions are becoming less and less attractive to most of these people. One category to which Canada can still be an attractive country for future work is the prospective graduate student. The process of selection of a graduate student on the basis of merit is lengthy enough: meeting the deadlines of the universities for admission is, therefore, difficult to achieve. Having to go through the complicated immigration formalities, before a student can be accepted, compounds the existing difficulties and causes a serious handicap for students coming from abroad. We propose that financial support from grants should be freely extended to outstanding students who are not landed immigrants. Good students from outside Canada would thus be allowed to start training without long delays and might be later encouraged to apply for landed immigrant status.
- c) Another of the present M.R.C. rules - the two-year limit on post-doctoral training is not sufficient for most of young Ph.D.'s. After two years of post-doctoral training only a very small proportion of the brightest and the most aggressive are ready to become independent investigators. The majority would need another one or two years of fellowship, perhaps in a different laboratory. As a rule they go to the United States for another two post-doctoral years and afterwards do not come back, even if there are openings for scientists in Canada. Support for post-doctoral training should, therefore, be extended to five years after completion of the Ph.D. As a rule, a post-doctoral fellow should spend his training in two different laboratories. The age limit for post-doctoral candidates should be raised accordingly. The objection may be raised against this proposal, that a period of almost



10 years is envisaged between a first degree and a permanent appointment. The fact of life is exactly that! At present, two - three of those training years are often taken outside the system of Canadian support. This removes from Canada young men and women at a stage where their contribution would be most valuable to our own research. Thus, we lose at least two years of potential contribution to Canadian research and often six years (and in fact more) of a national educational investment training of a scientist who does not come back to Canada.

4. So far I have dealt with administrative changes which will require some increase in expenditure. However, this is only a small component of the budgetary increases that are needed.

In the past few years, the budget of the M.R.C. did not keep pace with the general inflation rate and, as a result, the effective financial support for medical research in Canada has suffered a serious setback. Fewer and fewer M.D's. are looking for a future in Canadian medical research. The quality of new trainees, graduate students and post-doctoral fellows is deteriorating. The impact of this crisis will be felt for years to come! There is little doubt that this phenomenon is directly related to budgetary restrictions which resulted in arresting the growth of Canadian research for the past few years. We do not see any apparent way to reverse this trend short of increasing the budget. We feel that measures must be taken to advise Government, Parliament and the public of the serious dangers which threaten the development of Canadian medical research. Medical research in Canada has not yet reached the point at which it should become stabilized. As far as medical research is concerned, we are still a developing country and this should be reflected in a steady and substantial increase in research funds, to allow us to make the impact on the lives and culture of our people, commensurate with our gross national income.

5. Canada is involved in many ways in assisting other countries in the development of research. One such example is the International Development Research Centre. The impact of Canadian aid would be greatly increased by intensification of consultation with the scientific community. Perhaps an M.R.C. initiated Committee could survey our national effort in this direction and outline concrete plans for co-operation with scientific societies to increase the impact made with the current Canadian expenditure on research in developing countries.

In summary, this submission suggests:

- 1) That an effective dialogue be initiated between the M.R.C. and the Canadian scientific community. This dialogue can be conducted through representatives of the Canadian Federation of Biological Societies and other non-federated societies on the M.R.C. Council.
- 2) That preference should be given to the support of individual research and to the peer review system. The deficiencies of contract research and especially of M.R.C. groups aimed to create, rather than to exploit, an original breakthrough in a given area were discussed.



- 3) Small changes in the M.R.C. regulations were suggested which would result in better training of graduate students and post-doctoral fellows.
- 4) It was further pointed out that there is a deepening crisis in the medical research in Canada caused by the budgetary restrictions during the past few years. Canadian research still needs a period of growth and this should be reflected in a steadily increased funding of medical research.
- 5) Finally, it was suggested that M.R.C. should investigate the possibility of offering the expertise of Canadian scientists in assistance of the Government's foreign aid programmes designed to help other countries in development of research.

Toronto, September 24, 1974.

S. Dubiski, President C.S.I.

The receipt of the submission was acknowledged by the office of the President:

October 2, 1974.

Dear Dr. Dubiski,

I should like to thank you for the statement you provided us September 24, 1974 concerning the views of the Canadian Society for Immunology on the role of the Medical Research Council in the support of health science research in Canada.

Your statement will shortly be distributed to all members of Council for consideration.

Yours sincerely,

G. Malcolm Brown, M.D.

Ottawa, October 2, 1974.

Role of M.R.C. in the Support of Health Science Research in Canada.

A statement submitted to the M.R.C. by the Canadian Federation of Biological Societies.

In the post-Lamontagne era it is surely not a gesture of premature despair to suggest that almost everything worth saying about science policy in Canada of the '70's has already been said. There appears now to be a wide consensus that the objectives of an agency such as M.R.C. must be multiple and that the reasons for support of medical research are diverse. It is recognized that a state such as Canada, as part of its claim to membership in an advanced civilization, will wish to support its most intellectually gifted members as they enquire into the nature of the world



and the nature of man. It is believed that from a deepened understanding of man's physical and psychical make-up will come significant advances in the prevention and cure of his diseases. It is also understood that Canada must have a stock of highly trained personnel contributing to the plateau of scientific knowledge from which the great peaks of discovery emerge and also capable of rendering discoveries made elsewhere usable in local Canadian situations. This latter point shows the issue of regional disparity to be a real scientific concern as well as a matter of political sensitivity. There is widespread agreement that effective medical education at the undergraduate or postgraduate level demands the participation of teachers who have engaged in the process whereby the knowledge to be transmitted was originally won. It is now clearly recognized that a body such as M.R.C. cannot be passive, responding to the requests of its clientele, but must be indeed an agency actively seeking to promote new areas of research and development. There would be general agreement with the contention of the President of M.R.C. that initiative and direction from the agency may become increasingly important as one passes towards the application end of the R and D spectrum. All these statements, implicit in earlier M.R.C. policies, have become increasingly explicit in the last five years or so and are now in the process of being transformed into truisms. It is difficult to believe that M.R.C. in its November self-examination is going to add significantly to this list of objectives or to delete from this list although it will surely be able to articulate its aims more clearly and felicitously than we have done here.

The problem which all of this explication leaves unsolved is that of priorities and particularly the assignment of appropriate proportions of a finite budget to these various ends. One first warning which the C.F.B.S. would make is to suggest that it would be inadvisable for Council to adopt inflexible guidelines in this regard for a five-year period. Anything looking like a "five-year plan" might be very dangerous in a period when both social and scientific priorities are in flux. It is our contention that planning must be a continual process. For this process to be effective there must be a clear willingness on the part of M.R.C. to develop very open channels of communication to and from the scientific community (We are not concerned to deny the legitimate interests of the public at large but feel that that claim needs no brief from us and can well be left to natural pressures from an elected Government). Many of the briefs which Council will be receiving from our constituent societies lay great stress on this issue and in some cases suggest specific mechanisms. We are less concerned here to discuss the details of these mechanisms than to emphasize our support for a general philosophy of participatory planning and to report to Council the very widespread concern among medical research workers across the country about this problem. The concern seems to us of such intensity that Council may wish to consider structural changes designed to incorporate more working scientists at decision-making levels either in formulation or administration of policy.

It is perhaps important to emphasize that this is not a matter to be dismissed as an expression of simple self-interest. The question is whether it is possible for M.R.C. to plan effectively towards its goals



without such participation. We think it is not possible.

Planning, we have suggested, should be a continual process to ensure flexibility as the priorities of society change and science advances in technique and in the opening of new fields. Flexibility is also desirable in the mechanisms as well as the aims of M.R.C. Our correspondents have repeatedly raised the problem of increasing bureaucratization of M.R.C. By this phrase we understand the process whereby the grantee finds the use of his funds hedged in by an increasing list of regulations stipulating the manner in which these funds may be employed. As the Canadian Society for Cell Biology remarks it is particularly frustrating when these rules change during the life-time of a grant. Given an overall policy whereby M.R.C. allots funds towards its various ends, does it increase the effectiveness of use of these funds to accompany them with detailed regulation concerning their expenditure? It would be our contention that by limiting the initiative of the individual in this regard M.R.C. has in fact significantly decreased the effectiveness of its resources. It is particularly important in a time of severe inflation that the individual grantee be given maximum discretion in the use of funds since it is unlikely that administrative procedures and regulations can keep pace with a rapidly changing situation which produces diverse local effects.

Council might also wish to consider the possibility of greater flexibility in defining the boundaries of the health spectrum within which its activities are confined. Our constituent societies, spanning as they do a broad range of interests, have queried the desirability of the present policy decisions which exclude public health research on the one hand and, on the other, cell biology outside medical schools from eligibility for M.R.C. grants. As a Federation it is not easy for us to take a stand on the merits or demerits of particular extensions across the M.R.C.'s. granting boundaries but we do urge that, again in its own interest, Council should keep the question of these limits under constant review.

G.R. Williams  
Chairman of the Board  
Canadian Federation of Biological  
Societies.

Toronto, September 26, 1974.

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## APPLIED IMMUNOLOGY

In addition to the strictly professional excitements of symposia, workshops and private encounters, the trip to Brighton offered to most of us many non-professional delights. By these I do not mean the experience of having to share hotel rooms with other colleagues since, as far as I am aware, Messrs. Cook & Sons did not mix the sexes when assigning two strangers to one room. What I have in mind are the cultural events which were planned by the organizers of the Congress, plus others which just happened to coincide with the Congress.

For many of us, all this started a week before the Congress. In an earnest attempt to save grant money, many Canadians went to London on a 14-day chartered flight and waited for almost a week for the Congress to begin. This week in London strained my private purse enormously, and also made me starve for good coffee. British coffee seems to be brewed from coffee grounds which were once used in Italy and then re-used in North America. English tea, although the best in the world, could not always be used as a substitute because only non-British (i.e. barbarians) drink tea at coffee time. To prevent the immunologists becoming such barbarians, tea was not available at Brighton during the "coffee breaks".

However, these minor inconveniences only enhanced the pleasant aspects of my stay. With my biological clock working to my advantage, I enjoyed London by night. On one of the first nights, I saw a performance of *Pygmalion*. It was a delightful and exhilarating performance. The spectators were, however, cheated out of an entire banquet scene. Instead they were shown an impressive collection of the latest gadgetry for recording human speech (A.D. 1914, of course) in Professor Higgins' laboratory.

The next evening I spent at Covent Garden, the place where the story of *Pygmalion* begins. By walking around the building, with other ticketless operagoers, I finally managed to get a ticket for the performance of *Carmen*. *Carmen* was in the original, unexpurgated version, carefully restored by Dr. Fritz Oeser. The passages restored by Dr. Oeser, along with the spoken dialogue, instead of the traditional recitative, gave the performance a strong, dramatic effect. This effect was also due to a superb staging which would take me too long to describe. It was very pleasant to see a Canadian Don Jose. Jean Bonhomme, a very good Don Jose indeed, had a Rumanian Carmen, Viorica Cortez, as a partner. To compensate for a slightly sub-standard heroine, we were treated to a magnificent Micaela, perhaps the best Micaela in the entire history of *Carmen*. This is not very difficult to achieve, because this role of a shy country girl is usually treated as a secondary one and, consequently, cast with third rate singers. Miss Kiri Te Kanawa, Covent Garden's Micaela, has the voice and appearance of a Norma but, nevertheless, in her role she was the personification of shyness, and the ultimate Micaela both in singing and acting. The Congress bought an entire performance of the *Marriage of Figaro* at Glyndebourne and



we were extremely lucky to see Miss Kanawa as Countess Almaviva. In this diametrically different role she was again very impressive and near perfect.

Kiri Te Kanawa comes from New Zealand, is of Maori and Irish parentage, and only recently started her singing career. She sang her first major role in 1971! By plotting these two dates, 1971 and 1974, against the range and dramatic power of her voice, and considering the quality of her acting, one can extrapolate what her career will be, say in 1980. I can risk the prediction that by that time she will be singing rings around any great soprano, past, present or future. The official critics have not quite caught up with her rise to stardom and a rather neutral and reserved article about her appeared in the May, 1974, issue of "Opera News".

*Le Nozze di Figaro* requires a cast of first-class soloists and it is now almost a common practice to economize on Antonio the gardener, Barbarina, his daughter, or other "minor" roles. It is very painful for the audience to listen to such a performance. This was not the case at Glyndebourne. Each and every member of the cast would win the highest praise of Mozart himself. I think his spirit was smiling on that day.

Another attraction offered during the Congress, was a dinner at Michelham Priory. We were bused into the country where, in an old barn, we were given excellent bread and butter, very good mead and a good dinner, while being entertained by "minstrels" in medieval costumes. The secret of enjoyment was the right volume of mead; if you titrated it liberally, you enjoyed the whole thing enormously.

During the Congress, we also had a number of other attractions to choose from; Inaugural Concert, Old Time Music Hall, the Scholars, Music Group of London, etc. so one could have some entertainment every night. Last, but not least, the ultimate of Gilbert & Sullivan, the D'Oyle Carte Opera Company was performing in Brighton. The Gilbert & Sullivan lovers, who are a slightly different breed from the ordinary opera buffs, were absolutely ecstatic and bought all available tickets.

The two weeks went by very quickly, and soon I met all my fellow passengers standing in an endless line, or rather queue, at Gatwick Airport, loaded with memories and duty-free goods.

S.D.

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NEWS

Hans J. Muller-Eberhard Receives the Gairdner Award for 1974.

Seven medical scientists have been named recipients of the 17th annual Gairdner Foundation International Awards by the Foundation president, Dr. K.J.R. Wightman.

This year's recipients are: Dr. Judah H. Quastel, University of British Columbia, for his many contributions in biochemical research; Dr. Hans J. Muller-Eberhard, Scripps Clinic and Research Foundation, La Jolla, California, for his contributions to medicine's expanded understanding of the molecular basis on the complement system in man; Dr. Hector F. DeLuca, University of Wisconsin, for his elucidation of the metabolism of Vitamin D.

Dr. Roger Guillemin, Salk Institute, San Diego, California, and Dr. Andrew V. Schally, Tulane University, New Orleans, for their outstanding work in the identification synthesis and clinical application of hypothalamic releasing hormones; Dr. David Baltimore, Massachusetts Institute of Technology, and Dr. Howard M. Temin, University of Wisconsin, for innovative and significant research on the mechanism of action of viruses in relation to tumor production.

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Special Announcement.

October 7, 1974.

The National Cancer Institute of the NIH is interested in contracting for a series of projects involving research in Tumor Immunology.

Please note the following stipulations:

A request for proposal (RFP) for each project listed below is available on or after 7 October 1974, by written request to Contracting Officer, DCBD, Research Contracts Branch, National Cancer Institute, Room C-437, Landow Bldg., National Institutes of Health, Bethesda, Maryland 20014, Request for RFP must cite the reference number (s) of the desired project (s) as shown below. Requests or inquiries must be in writing.

Projects

Immunodiagnosis

1. Reference No. NCI-CB-53893-31 - Detection of Circulating Antigen-Antibody Complexes in Cancer. RFP available. Proposals due January 7, 1975.
2. Reference No. NCI-CB-53894-31 - Role of Antibody-Dependent Cell-Mediated Cytotoxicity in Tumor Immunity. RFP available. Proposals due January 7, 1975.



3. Reference No. NCI-CB-53895-31 - Measurement of Antigens in Tissue Sections of Human Tumors. RFP available. Proposals due January 7, 1975.
4. Reference No. NCI-CB-53896-31 - Antibodies in Human Organ or Tissue Associated Antigens. RFP available. Proposals due January 7, 1975.
5. Reference No. NCI-CB-53897-31 - Development of Practical Techniques for the Separation and Isolation of Human Tumor Cells and/or Fetal Cells. RFP available. Proposals due January 7, 1975.

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### MEETINGS

September 17 - 19, 1975 - Amsterdam.

1975 European Immunology Meeting organized jointly by the Dutch and British Societies for Immunology under the auspices of the I.U.I.S.

Programme: This will consist of Symposia, open papers on the topic of the Symposia and free open papers. Rooms can be provided for half day Workshops and anyone wishing to organize a Workshop should contact the Meeting's Secretary before January 1975.

Symposia:

1. Immune Status and Disease with special emphasis on Malignancies.
2. Genetics of the Immune Response
3. Immunology of Skin Diseases
4. Immunology of Infectious Diseases.

Registration: The meeting is open to immunologists from all countries and, although it is not proposed to charge a registration fee, registration will be compulsory as the number attending has to be limited to 1,200 people.

Bursaries: The organizers hope to be able to provide some help to a number of scientists of limited means towards the cost of attending the meeting.

#### Dates for Further Action:

1st January 1975	- Final date for applying to organize Workshop.
March 1975	- Second notice with instructions for submitting open papers and making bursary applications.
1st May 1975	- Last date for bursary applications.
1st June 1975	- Closing date for submission of open papers.

#### Meeting's Secretary:

Professor H.L. Langewoort  
(President, Netherlands Society for Immunology)  
Free University  
Medical Faculty  
v.d. Boechorststraat 7  
Amsterdam, The Netherlands.

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18-31 OCTOBER 1975 REHOVOT, ISRAEL

International Training Course on Molecular and Cellular Aspects of Antigenicity.

This course is organized by the Weizmann Institute of Science, under the auspices of the International Cell Research Organization (ICRO), the United National Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO). The course is intended to acquaint the participants with the techniques employed in building artificial and synthetic antigens, in the sensitive and specific detection of antibodies, in the immunospecific isolation of antibodies, as well as with techniques of cell fractionation and induction of immune response in vitro.

Experiments will include the synthesis of polypeptide antigens and of polypeptidyl proteins; detection of antibodies by techniques such as antigen-binding capacity and viroimmunoassay; detection of antibody-producing cells; characterization of antibodies by isoelectrofocusing; isolation of antibodies on water-insoluble immunoabsorbents; fragmentation of immunoglobulins; fractionation of antigen-sensitive cells; induction in vitro of antibody formation and cell-mediated immunity.

Teaching Staff:

Prof. Baruj Benacerraf, Harvard University Medical School, Boston, Mass., U.S.A.

Prof. Michael Feldman, Department of Cell Biology, The Weizmann Institute of Science, Rehovot, Israel.

Prof. David Givol, Department of Chemical Immunology, The Weizmann Institute of Science, Rehovot, Israel.

Prof. Israel Schechter, Department of Chemical Immunology, The Weizmann Institute of Science, Rehovot, Israel.

Prof. Michael Sela, Department of Chemical Immunology, The Weizmann Institute of Science, Rehovot, Israel.

Staff of the Departments of Chemical Immunology and Cell Biology, The Weizmann Institute of Science, Rehovot, Israel.

Seminars and discussions will complement the practical work and a number of leading specialists will deliver lectures on selected topics.

The number of participants is limited to 16. As a rule, only graduate students and postdoctoral research workers in the fields of chemistry, biology and medicine will be accepted. The language of the course will be English. Travel and living expenses of the selected participants will be covered within the budget available.

Applications should be sent before 15th April, 1975, to:

Professor Michael Sela,  
Department of Chemical Immunology,  
The Weizmann Institute of Science,  
Rehovot, Israel.



Participants will be notified before 15th July, 1975.

Applications should include a typewritten letter, in English, specifying the applicant's qualifications, and a curriculum vitae. Please indicate (1) name, address and academic affiliations; (2) age and nationality; (3) proficiency in the knowledge of the English language; (4) previous scientific training; (5) list of publications; (6) two references or enclose letters of recommendation; (7) whether funds can be secured for travel from local sources; (8) any information that may be useful to the teaching staff in evaluating the application.

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#### POSITIONS AVAILABLE

Kingston, Canada. Queen's University Dept. of Microbiology and Immunology.

Vacancy for a post-doctoral fellow in cellular immunology (2 years). Major emphasis on analysis of the presence of a metabolic inhibitor in the serum of some human patients with cancer and in many persons on oral contraceptives. The immunosuppressive role of this and similar factors is being studied. Salary approximately \$9,000 p.a. Enquiries, curriculum vitae, names of 2 references to Dr. David Eidinger, Department of Microbiology and Immunology, Queen's University, Kingston, Ontario, Canada.

University of Edinburgh, Department of Zoology, Immunology Unit.

Vacancy for post-doctoral worker to participate in experimental programme on the influence of ageing on various aspects of the immune system. Salary on University Lecturer scale. Write or phone Dr. H.S. Micklem, Department of Zoology, West Mains Road, Edinburgh, EH9 3JT (031-667-1081 Ext. 3224).

University of Edinburgh - Clinical Research Fellow

A clinical graduate preferably with MRCP, UK., is required for a research fellowship in relation to an M.R.C. programme grant on Auto-immunity in Diseases under the direction of Dr. W.J. Irvine. The post, which is for two years in the first instance, is on clinical lecturer scale and would carry honorary registrar status initially with the possibility of honorary senior registrar status. The successful applicant would be a member of a team working on clinical immunology and would be principally concerned with the clinical aspects, although he would also have opportunities for laboratory work. The post also offers opportunities for maintaining contact with general medicine and clinical experience in endocrinology. Applications should be sent to: Dr. W.J. Irvine, Clinical Immunology and Endocrine Laboratories, Department of Therapeutics, Royal Infirmary of Edinburgh, Edinburgh, EH3 9YW.



Kennedy Institute, London, Post-doctoral Research Fellow required to work in the Division of Experimental Pathology. The vacancy is for three years, and will involve some work being carried out in the Department of Experimental Pathology, University of Birmingham. The project is M.R.C. supported, and will be concerned with studies of the kinetics of lymphoid cells in the mouse. Background and experience in immunology, lymphoid physiology and/or autoradiographic techniques will be an advantage. Applications with curriculum vitae and names of two referees to The General Secretary, Kennedy Institute of Rheumatology, Bute Gardens, London W6 7DW.

Ancona, Italy Experimental Gerontology Centre I.N.R.C.A. Vacancy for a young graduate in medicine or biology in the above institute with opportunities for individual research projects, mainly on tumour immunology and the immunology of ageing. The centre is concerned with clinical and animal - model research. Salary range Lbs. 1500 to Lbs. 1800. Applications to Dr. N. Fabris, Exp. Ger. Centre, I.N.R.C.A., Via Birarelli, 8, 60100 Ancona, Italy.

University of Manchester, Medical School. Research associate fellow for two years to work on immunological changes in connective tissue disease and immune deficiency. The work will be concerned with variations in lymphocyte function and the effect of treatment, including immunotherapy on this, or with the part played by immunoglobulins in inflammatory joint disease. Excellent facilities in a newly established and equipped laboratory. Salary on usual University scale according to age and experience. Enquiries and applications including names of two referees to: Dr. L. Holt, Department of Rheumatology, Stopford Building, Oxford Road, Manchester.

University of Manchester. A Research Fellow and a graduate research assistant required to work on the immunology of bladder cancer. The Fellow should have previous experience of cellular immunology and tissue culture techniques and may have either medical or scientific qualifications. Post graduate experience is not essential for the research assistant post, and there is a possibility that the successful candidate may register for a post-graduate degree. Both appointments are for 3 years. Salary in each case will be according to age, experience and qualifications. Applications to: Dr. Geoffrey Taylor, Immunology Laboratory, University of Manchester, Stopford Building, Manchester M13 9PT which should include a full curriculum vitae with names and addresses of two referees.

The Upjohn Company. Upjohn's Department of Hypersensitivity Diseases Research has an opening for an immunologist interested in investigating the cellular events involved in the immune response. Ultimately, our aim is to utilize the controls of the process, (once they are understood) to develop new therapeutic agents for the treatment of diseases having an immunologic component in their etiology. This is an excellent opportunity to develop individual research interests and to collaborate with an active, multidisciplinary research team.

Candidates should have completed a doctoral program in the area of immunology and may possess some post-doctoral research experience in



the areas relevant to the project. Experience with in vivo and/or in vitro systems for studying cellular interactions and controls of the immune response, or the nature and role of humoral factors which may play a role in these processes, would be particularly desirable.

The Upjohn Company's research laboratories are located in Kalamazoo, a moderate size, progressive community located in Southwest Michigan approximately midway between Chicago and Detroit. The community offers an excellent research climate, good schools and easy access to Michigan's numerous recreational attractions.

Write to, or contact:

Dr. Michael K. Bach  
Department of Hypersensitivity  
Diseases Research  
The Upjohn Company  
Kalamazoo, Michigan 49001.

Navy Medical Research Institute - Civilian Postdoctoral Research Associateship Program. The purpose of this announcement is to encourage applications from qualified candidates in immunochemistry, immunobiology, and immunopathology for our civilian Postdoctoral Research Associateship Program. The research undertaken by the individuals supported under this program will be carried out at the Naval Medical Research Institute in Bethesda. Appointments will be made in March, 1975, for Research Associateships starting from July to September, 1975. This program is not a substitute for a military service obligation.

The Clinical and Experimental Immunology Department of the Naval Medical Research Institute has a broad program of research in immunology including basic and applied laboratory research and clinical immunology. The program is directed toward the immunologic aspects of transplantation and infectious disease. Our transplantation interests include the study of histocompatibility antigens, tolerance, graft-versus-host reactions, enhancement, immunosuppression, bone marrow transplantation, immunogenetics, mechanisms in delayed hypersensitivity, and in vivo antigen processing. The problems of actively and passively acquired immunity in both infectious disease and parasitic disease are under study. The roles of soluble immune complexes, immunoglobulin components and immediate and delayed hypersensitivity mechanisms in the immunopathology of disease are also being studied.

We would appreciate your bringing this opportunity to the attention of possible candidates.

Write or contact one of the following:

AFTAB A. AHMED, Ph.D.  
Head, Cellular Immunology  
Division.

KENNETH W. SELL, M.D. Ph.D.  
CAPT. MC, USN  
Chairman, Clinical and Experimental  
Immunology Department.



RICHARD CAHILL, M.D.  
Head, Tissue Bank Division.

IRWIN SCHER, M.D.  
Clinical Immunology Division,

WILTON E. VANNIER, M.D., Ph.D.  
Acting Head, Immunoparasitology  
Division.

RICHARD WISTAR, M.D., Ph.D.  
Head,  
Clinical Immunology Division.

LEO YUAN, Ph.D.  
Cellular Immunology Division.

September, 1974.

NAVAL MEDICAL RESEARCH INSTITUTE, NATIONAL NAVAL MEDICAL CENTER,  
BETHESDA, MARYLAND - 20014.

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