INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

MINUTES OF THE 16TH BUREAU MEETING

held in the premises of F. Hoffmann-La Roche & Co. Ltd., Basle on

Monday - 23rd March 1964
Tuesday - 24th March 1964
Wednesday - 25th March 1964

---

PRESENT:

Lord Todd, FRS, President
Prof. W. A. Noyes Jr., Past-President
Prof. W. Klemm, Vice-President
Prof. J. C. Bailar Jr., Treasurer
Dr. Rudolf Morf, Secretary General
Prof. J. H. de Boer
Prof. V. Deulofeu
Dr. C. O. Gabrielson
Prof. D. Ginsburg
Dr. T. R. Govindachari
Prof. J. Lecomte
Prof. H. Malissa
Prof. L. Marion
Prof. D. Marotta
Prof. S. Mizushima
Dr. A. L. G. Rees
Prof. G. M. Schwab
Prof. W. M. Sperry
Dr. H. W. Thompson
Prof. R. Truhaut
Prof. P. E. Verkade
Prof. O. Wichterle

Specially invited representatives of the Divisions:

Prof. J. Bénard
Dr. J. H. Bushill
Dr. P. N. Degens
Prof. G. Emschwiller
Prof. H. Erdtman
Prof. M. M. Rapport

Further invited:

Prof. B. C. L. Weedon

Absent: Prof. V. N. Kondratiev - who was unable to attend

TOTAL PRESENT: 29

# INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

## INDEX TO MINUTES OF THE 16TH BUREAU MEETING

INDEX (Cont.)

# AGENDA

1. Finalization of the Agenda.

2. Minutes of the Bureau Meeting held in London in July 1963.

3. Financial Questions -

   (a) Treasurer's Report.
   (b) Budget 1964/65.
   (c) Day to Day business.
   (d) Report of the Finance Committee.

4. Applications from Adhering Organizations -

   Change in Category - Denmark, Germany;
   New Membership - Ceylon, Cuba, Greece, Mexico, New Zealand.

5. Committee on relations between IUPAC and the Chemical Industry - Statement by Lord Todd.

6. Relation and Co-operation with the United States Specialized Agencies and other Bodies. Also Report of the Liaison Committee.

7. Sponsorship - Resolution in principle.
   - Day to day business.

8. Publications - how can distribution be stimulated?
   - Terms of reference of the Editorial Board.

9. Chemical Literature.

10. Sections and Commissions meet on days and at places other than those of the regular Conference. A policy decision is required.

11. Geochemistry.

12. Reports of the Division Presidents.

13. Tentative Nomenclature Rules.

14. Activation of IUPAC - Prof. Klemm.

15. Statutes and By-Laws.

16. Place, date and programme of the XXIII International Conference.

17. Place and date of the XX International Congress (who will be delegated).

18. Councillors-at-Large for 1965 Conference - Term to be corrected.

19. Agreement on new Titular Members.

20. International Bureau on Weights and Measures.

21. Use of Micrometers - Prof. Lord and Prof. Schwab.

22. Teaching of Chemistry - Appointment of Committee.

23. Programme for Future Activity.

24. Next Bureau Meeting.

25. Any other business.

Introduction

The Bureau members were welcomed to Basle and in particular to the premises of F. Hoffmann-La Roche & Co. Ltd., by Mr. E. Junod, a General Manager of the host company. Lord Todd, in his reply, thanked Mr. Junod for his personal welcome, for the hospitality of his Company and for the continuing financial support of IUPAC by the four chemical companies in Basle.

The President then extended a welcome to all the new Bureau Members, to the specially invited representatives from the Divisions and to IUPAC's Scientific Editor, Prof. B. C. L. Weedon.

He finished his introductory speech by drawing the attention of the meeting to the recent election of Dr. H. W. Thompson to the Presidency of the International Council of Scientific Unions, and offered his own and IUPAC's congratulations.

Minute 1

FINALIZATION OF THE AGENDA

When he introduced this item, the President reminded the Bureau Members that later in the agenda there was an item entitled "Statutes and By-Laws". He pointed out that because several amendments had been proposed and because of the large number of people present at the Meeting, a full discussion would take up far too much time. It was therefore

Resolved: (a) That a working group - consisting of Dr. D. C. Martin of the Royal Society as convenor, and Professors W. Klemm, J. Lecomte, L. Marion and O. Reutov as members - be established to study the Statutes and By-Laws and to report to the Executive Committee by December 1964 or, at the latest, by Easter 1965.

(b) That the Committee should have the authority to meet as frequently as was thought necessary to achieve a good result by the deadline.

After this discussion, it was

Resolved: That the Agenda with the twenty-five points, as established and circulated by the Secretary General prior to the meeting, be approved and accepted.

Minute 2

MINUTES OF THE 15TH BUREAU MEETING

Resolved: That the Minutes of the 15th Bureau Meeting, held in London, be approved and accepted.

Minute 3

FINANCIAL QUESTIONS, INCLUDING REPORT AND STATEMENT BY THE HONORARY TREASURER

The report of the Honorary Treasurer was distributed to the Bureau Members on the first day of the Meeting; copies of the Budget were circulated on February 13th 1964. The Honorary Treasurer's Report, in full, is appended to these Minutes as Appendix A. The Report was explained to the Meeting as follows:-

A - Introduction
The Honorary Treasurer indicated that at the date of the meeting there were only three Adhering Organizations which had not paid their contributions for 1963.

B - Finance Committee and its recommendations
The Honorary Treasurer pointed out that the Finance Committee were of the opinion (see Minute 17(i) of the 22nd Council Meeting held in London in July 1963) that the majority of the Union's funds should be used to buy Common Stock which gives a good return with security. The meeting accepted this recommendation and reaffirmed that the present restrictions on investments be removed so as to enable IUPAC to enjoy the greatest benefit from its capital.

Regarding the securities and cash currently held in Baring Brothers & Co. London, in view of the tax regulations in the United Kingdom, it was

Resolved: (a) that securities held in the name of IUPAC in the United Kingdom be encashed and the capital transferred to the Union Bank of Switzerland, Zürich, for reinvestment.

(b) that IUPAC's cash balances which are in the United Kingdom also be transferred to the Union Bank of Switzerland, Zürich.

The Meeting was reminded of the decisions taken at the last Council Meeting in London, that "the Union's reserve funds be gradually increased over a period of 5 - 10 years, (a) by crediting to the reserve account the interest earned on the reserves and (b) by transferring $ 10,000 per year to the reserve fund", and was told that this principle had been followed in compiling the Budgets for 1964 and 1965.

The question of whether or not to sell the gold brick was then discussed and it was

Resolved: That the Finance Committee be given the authority for the sale of the gold brick if and when they think it should be sold.

C - The Budget - Changes in the Draft Budget published in Information Bulletin 20.

The attention of the meeting was drawn to the following points:-

(i) Income

(a) The UNESCO contribution towards the investigation into Teaching of Chemistry has been fixed at $ 2500.- net. The estimated income for 1964 is thus increased to $ 182,409.-.

(b) The total income might be still further increased if Denmark and Germany pay the increased dues relating to their new levels of adherence (see Minute 4a).

(ii) Expenditure

(a) The sum set aside for the sponsorship of the International Symposium on Organic Photochemistry should be increased from $ 1000 to $ 2000. Furthermore, this item of expense should be transferred from the Division of Physical Chemistry to the Division of Organic Chemistry.

(b) The expenditure of the Division of Physical Chemistry in the year 1964 should be reduced by a further $ 4500 because there was to be no second meeting of the Commission on Symbols, Terminology and Units. The total budgeted expenditure for this Division for 1964 should thus be $ 6,400.

(c) The total budgeted expenditure for the Division of Organic Chemistry should be increased by $ 2000 (point (a) above), to $ 26505.

(d) The sum of $ 2000 allocated to a Symposium to be sponsored by the Nomenclature Commission of the Division of Biological Chemistry should be disregarded. This sum has not been included in the total for the Division.

(e) Under the heading General Expenses, there will be an increased expenditure because of the provision of a Pension Fund for Mr. Savage (see Minute 246 of the 53rd Executive Committee Meeting in Basle).

As a result of the proposal by Prof. Sperry, which was seconded by Prof. Truhaut, it was unanimously

Resolved: (a) that the Report of the Honorary Treasurer be approved and adopted.

(b) that the Honorary Treasurer be thanked for his Report and his work.

(c) that the Union Bank of Switzerland be thanked for their untiring efforts on behalf of IUPAC.

Secretary General to act.

Minute 4

APPLICATIONS FROM ADHERING ORGANIZATIONS

Regarding transfer to a higher category of adherence it was

Resolved: (a) that the thanks of the Union be expressed to the Adhering Organizations of Denmark and Germany for their requests for transfer to higher categories (to A.1 in the case of Denmark and A.3 in the case of Germany).

(b) that these requests be accepted by the Bureau and be presented to the Council at its next meeting in 1965.

Applications for membership of the Union had been received from:

| | |
|---|---|
| Cuba | - Commission Nacional Academia Ciencias |
| Greece | - The Union des Chimistes Hellenes |
| Mexico | - The Sociedad Quimica de Mexico |
| New Zealand | - The Royal Society of New Zealand |

After discussion, it was

Resolved: that the Bureau recommends to the Council in 1965, that Cuba, Greece, Mexico and New Zealand be elected to membership of IUPAC.

A tentative approach had been made by the Ceylon Association for the Advancement of Science. The Bureau was interested to note the request for information about IUPAC and

Resolved: that the Secretary General should make enquiries about the standing of chemistry in Ceylon and about its potential Adhering Organization.

Secretary General to act.

Minute 5

COMMITTEE ON THE RELATIONS BETWEEN IUPAC AND THE CHEMICAL INDUSTRY

The President reported to the Meeting on the progress made so far by this ad hoc Committee - which is composed of Dr. R. Connor as Chairman, and Prof. O. Bayer, Sir Ronald Holroyd, Prof. P. Piganiol and Dr. A. Wettstein as members, all of whom were elected on a personal basis and not as being representative of particular countries or industries - and drew attention to four points which had been raised:

(a) Industry is greatly interested in the teaching of chemistry due to its increasing need for scientists and technologists.

(b) It was felt that it would be of great benefit to both IUPAC and the chemical industry if a Congress could be held which was devoted to industrial topics, and which was so slanted as to be of interest to the general public. It was wondered if the Comité National de la Chimie of France would be agreeable to, and if time allowed, the organization of such a Congress as an additional item to the 1965 Conference in Paris.

(c) An institute similar in character to the Industrial Research Institute in America might be generated by IUPAC - the members of which would be Research Directors or men of similar status - in order to strengthen the liaison between IUPAC and Industry.

(d) Industry is interested in the problems of documentation and the exchange and retrieval of information.

Minute 6

RELATION AND CO-OPERATION WITH THE UNITED NATIONS SPECIALIZED AGENCIES AND OTHER BODIES

This topic was discussed at great length. The meeting agreed that it was out of the question for IUPAC to refuse to answer queries from the World Health Organization (WHO), the Food and Agriculture Organization (FAO), etc.; on the contrary, IUPAC should be in a position to attract and welcome these queries. Various mechanisms were proposed (see Appendices B & C)but it was agreed that there was little point in trying to define a rigid procedure in view of the fact that the magnitude of the work involved was unknown.

After further discussion, it was

Resolved: that the mechanism proposed by the ad hoc Liaison Committee in their Report to the Bureau (see Appendix B) i.e. that queries should initially be sent via the General Secretariat to the Division Presidents, should be followed at first.

This is a very flexible procedure which can easily be developed or modified if or when found to be necessary. It has the further advantage that, because of the high degree of co-operation that will be demanded, it will lead to the formation of strong inter-Divisional links. The Division Presidents have agreed to co-operate.

In accordance with the decision of the World Health Organization in Geneva, it was

Resolved: that IUPAC should maintain an official relationship with the World Health Organization.

Secretary General to act.

Minute 7

SPONSORSHIP

A - Resolution in Principle.

Sponsorship is of benefit both to the organizers of meetings and to IUPAC. The former discover that it is easier to obtain qualified lecturers and financial backing, and it is very good publicity for IUPAC to be associated with a successful meeting. The conditions under which the Union would be prepared to grant sponsorship were the subject of much debate. A definitive statement on sponsorship has yet to be agreed upon, although there is agreement that the following points must be included:-

(i) All decisions relating to the sponsorship of a meeting by IUPAC shall be made by the Bureau.

(ii) The only meetings which will qualify for sponsorship are those

(a) for which a provisional application has been made at least two years before the scheduled date of the meeting,

(b) which have been endorsed by a Division (or, possibly, Divisions) and recommended by it (them) to the Bureau, and

(c) whose organizers have contacted the Editorial Board of IUPAC and have settled all questions about publications.

(iii) When Joint-Sponsorship with some other organization(s) is requested, the decision of the Bureau shall be based on the merits of the particular case.

B - Day-to-day Business

(i) Symposium on the Physics and Chemistry of Solid Surfaces - Providence, USA, June 21-26 1964.

Resolved: that IUPAC join with IUPAP in joint-sponsorship of this Symposium; financial support shall not be given, nor - on the advice of the Editorial Board - shall the lectures be published by IUPAC.

(ii) International Symposium on Organic Photochemistry - Strasbourg, July 16-24 1964. Following the advice of the Executive Committee, the Bureau

Resolved: that the Symposium receive the sponsorship of IUPAC including financial support of $ 2000.-.

(iii) Symposium on Properties of Plasma and Utilisation of Plasma - Moscow 1965.

Resolved: that a letter be sent to the organisers - the Subcommission on Gaseous States of the Commission on High Temperatures and Refractories -, together with a copy of the draft programme of the XXth Congress, pointing out that the subject matter of the proposed Symposium has not been included in the programme.

Secretary General to act.

(iv) 8th European Molecular Spectroscopy Meeting - Copenhagen, August 1965.

Resolved: (a) that the Meeting should receive the sponsorship of IUPAC including financial support of $ 2000.-.

(b) that Prof. Lecomte and Dr. H. W. Thompson should approach the organisers in Copenhagen to see whether the date of the Meeting can be changed, in order that it might co-ordinate better with the Conference and Congress of the Union.

Prof. Lecomte and Dr. Thompson to act.

(v) International Symposium on Microchemical Techniques - Pennsylvania, August 22-27 1965.

Following the receipt of a telephone message from the organizers which settled the question of publication, it was

Resolved: that IUPAC would sponsor this Symposium but in name only.

(vi) Colloquium on High Temperatures - Paris 1965.

Resolved: that, the agreement of the Academy of Sciences, USSR, to the holding of this Colloquium having been obtained, the Colloquium should receive the sponsorship of IUPAC without financial support.

(vii) Symposium on Organic Silicon Chemistry - Prague, September 1965.

The meeting was given preliminary notice of this Symposium by the President of the Division of Organic Chemistry, prior to his consulting the Division Committee in Kyoto. It is hoped to hold the Symposium at such a time as to immediately precede or follow a Symposium on Macromolecular Chemistry (30 August - 4 September 1965).

(A caveat is added by the Secretary General when writing these Minutes that the organizers should take note of the fact that the XXIV Conference and XXI Congress of the Union will probably be held in Prague in 1967).

(viii) International Symposium on the Chemistry of Natural Products - Stockholm 1966.

Provisional notice of this Symposium was given to the Bureau, prior to a recommendation from the Division of Organic Chemistry.

(ix) Xth International Congress of Co-ordination Chemistry - Japan 1967.

The meeting agreed that the question of sponsorship should be referred to the Division of Inorganic Chemistry for its endorsement, but it

Resolved: that sponsorship, if it is eventually agreed to, shall not include financial support, because of the large number of meetings in Japan which IUPAC has sponsored recently.

The meeting was assured that financial support would not be requested but the Bureau was very anxious to avoid a fait accompli.

(x) Proposal to hold a Symposium in South Africa.

The President of the Division of Biological Chemistry reported that his Committee, as the result of the split vote, had shown disapproval of the proposal. It was

Resolved: (a) that the Report of the Division of Biological Chemistry be accepted.

(b) that, according to the recommendation contained in the Report, the Division of Biological Chemistry should not be asked to organize a Symposium in South Africa in the near future.

Minute 8

PUBLICATIONS

The Chairman of the Editorial Advisory Board minuted the very full discussion as follows:

"Dr. Thompson reported to the Bureau on the progress and activity of the journal 'Pure and Applied Chemistry'. He informed the meeting that the first part of volume 8 had just been issued. It had been decided to have two regular volumes in each year, with supplementary volumes from time to time. Detailed figures were given to the meeting regarding distribution of the journal based on statistics from the publishers. In addition the sales of separately bound numbers of sections of the journal had been good. In view of the somewhat new type of journal, the sales were probably satisfactory, but further efforts were being made to increase sales, which seemed to be steadily improving. The area in which bigger sales might have been expected was the USA, but great difficulty had been found there in getting the usual publicity, reviews in scientific journals etc. It was greatly to be hoped that American members might use their influence to improve the sales in the USA.

By asking the organizers of Symposia to advertise the sale of IUPAC publications, it had been possible to obtain very successful results, as for example with the publication of the London Congress lectures, and the Symposium on Fungi and Yeasts, which were published only four or five months after the meetings.

The question was raised as to why the entire proceedings of Symposia were not published. Dr. Thompson explained that there had been a view that publication of whole Symposia was becoming undesirable, that it would be impossible to arrange a suitable refereeing system, and that there was clear evidence of multiple publication by authors of the same work. He also explained the reasons why the system of publishing supplementary volumes was necessary.

He informed the Bureau of the considerable amount of work done by Prof. Weedon for IUPAC in recent years, and the Bureau recorded its great appreciation of this.

Prof. Weedon, in thanking the Bureau, stated that among the forthcoming publications, there would be the Lund Symposium on Thermodynamics (April 1964), Vienna Symposium on Isotopes (May 1964) and California meeting on High Temperature Technology (June 1964). He stressed the importance of all organizers taking adequate steps to ensure that authors and contributors submitted their manuscripts by the previously agreed dates.

The question of reprints was discussed and Prof. Weedon informed the meeting that should the organizer place a bulk order, and distribute the reprints free to members, it would be the cheapest rate at which reprints could be sold. Prof. Weedon felt that organizers should give greater publicity to publications in their pamphlets and circulars. The notes to contributors and authors are being revised and will soon be finalized.

The Bureau thanked Dr. Thompson and Prof. Weedon for their reports.

It was further pointed out that some authors were placing orders for a large number of reprints, which might be affecting general sales. It was agreed that this matter should be investigated, and that the cost of reprints above a reasonable minimum should be discussed with the publishers.

The Bureau agreed that the Editorial Board should meet at the time of the Conference, and that any change in this arrangement would be unwise."

The terms of reference of the Editorial Board were distributed by the Chairman of the Board, and read as follows:-

> "To give advice on, and arrange when it is required, the publication of material submitted to it by the Divisions, Commissions, or organizers of Symposia held under IUPAC sponsorship, either in the journal 'Pure and Applied Chemistry', or as supplements to this journal".

Minute 9

CHEMICAL LITERATURE

The President informed the meeting that his Presidential Address at the London Congress (see Information Bulletin 19) had aroused much interest. This interest has led to some cautious action which, it was felt, the Bureau should know about and comment upon.

There are two main problems - although they might be seen better as two facets of one problem. The first problem is the existence of three large abstracting systems - Chemisches Zentralblatt in Germany, Chemical Abstracts in the USA and the Referativny Journal in the USSR. Because these are large commercial enterprises, there would seem to be a limit to the degree of co-operation which might be effected: it would be of enormous benefit to chemistry to have only one abstracts journal, produced, perhaps, as the result of pooling of information and resources by the three journals.

The second problem is that of information exchange and distribution. The volume of chemical literature has become so great that storage and retrieval of information must utilise coding and electronic techniques. It would again seem to be essential, however, that only one system is used, which must be acceptable internationally.

It was suggested, and agreed, that the Union should try to establish an "international umbrella" under which the three abstracting agencies might agree at least to adopt policies which would not make it impossible for them to co-operate at a later stage. The Bureau agreed to an informal approach, and to await results.

Minute 10

SECTIONS AND COMMISSIONS MEET ON DAYS AND AT PLACES OTHER THAN THOSE OF THE REGULAR CONFERENCE. A POLICY DECISION IS REQUIRED

Resolved: that in a Conference year Divisions, Sections and Commissions - other than Joint Commissions - should meet at the time and place of the Conference. If this resolution cannot be followed, Division Committees should present to the Bureau very good reasons for the meeting to be held separately from the Conference, when the Bureau will decide whether the proposal is justifiable.

Minute 11

GEOCHEMISTRY

The Vice-President had prepared a full report on this topic (see Appendix D) but the Bureau agreed that it could not decide upon a course of action until it knew what answers had been received to the circular letter which had been despatched by Prof. Ingerson (see Appendix E), and which arrived in Basle only a few days before the Bureau Meeting. It was

Resolved: that the Secretary General should write to the Chairman, Secretary and Members of the Commission on Geochemistry, pointing out that the Commission should meet at the Conference of the Union in Paris in 1965 (50% of their expenses to be paid by IUPAC). It will then be asked to propose its future policy in sufficient time for the Council to be able to vote on the matter.

Secretary General to act.

Minute 12

REPORTS OF THE DIVISION PRESIDENTS

The six Division Presidents reported on the activities of their Divisions since the last Bureau Meeting. Among the many points made, it is recorded that:-

(a) The Inorganic Chemistry Division required a decision from the Bureau as to whether IUPAC would wish to play any part in the Alfred Werner Centenary Celebrations in 1966. However, the Bureau required a definite proposal to be made by the Inorganic Chemistry Division. It was suggested that the Co-ordination Chemists might be very pleased to collaborate with IUPAC in organizing the Centenary Meeting.

(b) The President of the Biological Chemistry Division reported to the Bureau that contact with the International Union of Biochemistry (IUB) had been improved.

(c) The President of the Analytical Chemistry Division announced that his Division was most anxious that contact might be established between its Nomenclature Commission and those of the other Divisions. This wish was commended by the Bureau.

(d) The President and Past-President of the Organic Chemistry Division applied to the Bureau for the formation of a Commission on Chemical Taxonomy, but it was pointed out that a proposal had to stem from a decision by the whole Division Committee, and had to be submitted to the Council.

(e) The value of the meeting of the six Division Presidents with the Secretary General prior to the Bureau Meeting was reaffirmed.

(f) A Memorandum from Prof. Truhaut is appended in full (Appendix F).

Minute 13

TENTATIVE NOMENCLATURE RULES

It was stated that the Revised Tentative Rules submitted by Prof. Klyne of the Division of Biological Chemistry on "Abbreviations and Symbols for Chemical Names of Special Interest in Biological Chemistry" (published in Information Bulletin 20) had been well received by the Biological community and journals.

Resolved: (a) that the tentative rules be adopted by the Bureau.

(b) that Prof. Klyne be thanked both for his sterling work within the framework of the Nomenclature Commission and on the successful creation of the new IUPAC - IUB Joint Commission on Nomenclature.

Secretary General to act.

Minute 14

ACTIVATION OF IUPAC

A memorandum from Prof. Klemm had been distributed in English and French to all Bureau Members on 13th February 1964.

The Bureau was in full agreement with the idea that the Division Committees should be on the alert to establish contact with any new developments within their field of interest and to stimulate these by offering assistance, if required, in the planning of Symposia.

Minute 15

PLACE, DATE AND PROGRAMME OF THE XXIII INTERNATIONAL CONFERENCE

When this item was actually discussed by the Bureau, it was not known for certain on which dates the Conference would be held. Accordingly, a flexible arrangement was made with regard to the dates, but this plan was caused to harden by the arrival, during the final meeting of the Executive Committee, of a telegram from Moscow (see Minute 16),

Resolved: (a) that thanks be expressed to the Comité national francais de chimie for its offer to organize the Conference.

(b) that the Conference be held between July 2nd and 9th 1965, because there should be an interval of at least 48 hours between the end of the Conference in Paris and the beginning of the Congress in Moscow.

The Bureau was able to discuss the programme of the Conference, but only the following decision was made:-

Resolved: that in order to ease the load on the Division Presidents and in order to promote the general smooth-running of the Conference, the Division Presidents and the Secretary General should meet ca two months before the Conference to approve or modify the detailed arrangements.

The meeting then considered whether or not a system of simultaneous translation would be needed at the Conference. Estimates were presented, which showed the very high cost of this service; hiring of equipment was the main item of expense. It was proposed by Dr. Thompson, seconded by Prof. Sperry, and, with some abstentions,

Resolved: that for the Paris Conference no system of simultaneous translation shall be installed.

Minute 16

PLACE AND DATE OF THE XX INTERNATIONAL CONGRESS

A draft programme for the Congress was distributed to the Bureau members. The date originally proposed for the Congress, i.e. July 5-11 was thought to be rather too close to the end of the University year especially for those who had to attend the Conference which normally precedes the Congress. Therefore a telegram was despatched to Moscow to enquire whether or not the date of the Congress might be adjusted to 12th-18th July 1965. A reply, in the affirmative, was received during the final meeting of the Executive Committee, when it was

Resolved: (a) that thanks be expressed to the Organizers - Academy of Sciences, USSR.

(b) that the XXth International Congress be held in Moscow from 12th to 18th July 1965.

In view of the necessity of having a strong IUPAC representation at the Congress, it was

Resolved: that the official IUPAC delegates be the President and the Members of the Executive Committee and the six Division Presidents.

It was pointed out that there was some ambiguity in the resolution - should the old (pre Paris Conference) or new (post Paris Conference) Executive Committee and Division Presidents be sent to Moscow? - but it was decided to discuss this point in more detail at a later meeting.

Minute 17

"COUNCILLORS AT LARGE"

The historical reasons for the introduction of "Councillors at Large" were given. The Bureau was informed that for the London Conference, the travel expenses of the "Councillors at Large" were ca $ 5,000, at the Paris Conference they would be ca $ 6,000, and at a Conference in 1967 would be at least $10,000. In order not to set a precedent which could involve IUPAC in increasingly large expenses, the Bureau

Resolved: (a) that no "Councillors at Large" be invited to the 1965 Conference in Paris, and

(b) that the subject must be reconsidered at the first Bureau Meeting to be held after the Paris Conference.

Minute 18

NEW TITULAR MEMBERS

Resolved: (a) that the list of new Titular Members be approved.

(b) that it should be recorded in the Minutes as an instruction to the Statutes Committee that the Bureau is fully in agreement with the procedure for the election of new Titular Members as defined in the Draft Statutes of July 1963.

(c) that in accordance with Statute XI.B.1, and for "exceptional reasons", Prof. O. Högl and Prof. J. Reith should be allowed to continue in office as Titular Members of the Food Section of the Applied Chemistry Division until July 1964.

Minute 19

INTERNATIONAL BUREAU ON WEIGHTS AND MEASURES

Resolved: (a) that the proposed use of the prefixes for $10^{-15}$ and $10^{-18}$, 'femto' and 'atto' should be referred to the Commission of Symbols, Terminology and Units of the Physical Chemistry Division.

(b) that it would accept and approve the definition of the mol as presented. (the mol is the amount of substance containing a number of molecules equal to that of atoms in 0.012 Kg. exactly, of pure carbon nuclide $^{12}C$).

Minute 20

USE OF 'MICROMETERS'

Resolved: (a) that the Secretary General be asked to bring the question of the use of the term and unit 'micrometer' (μm) to the attention of

(i) The Triple Commission on Spectroscopy of the International Unions of Astronomy, Pure and Applied Physics and Pure and Applied Chemistry.

(ii) The Commission of Symbols Terminology and Units of the Division of Physical Chemistry of IUPAC.

(iii) IUPAP.

(iv) ISO.

(b) that the Secretary General be asked to address the Royal Society pleading to postpone the compulsory use of the term and unit micrometer (μm) in its publications until an international recommendation is achieved by the above bodies (i) - (iv).

Secretary General to act.

Minute 21

TEACHING OF CHEMISTRY

The President gave the historical background to the current interest in this topic, saying that stimulation had come partly from UNESCO, partly from within the Union and partly from industry.

He had thought it necessary to ask the Adhering Organizations to nominate local experts in chemistry education so that a large number of teaching methods and opinions might be obtained and compared. This is best done by correspondence because a meeting convened to be attended by representatives from all the Adhering Organizations would be completely unmanageable.

Resolved: that a Committee be formed with

Prof. R. S. Nyholm (UK) as Chairman
Dr. P. Sykes (UK) - Secretary
Prof. J. Bénard (France) )
Prof. J. Campbell (USA) )
Prof. W. A. Noyes Jr. (USA) ) as Members
Prof. M. Oki (Japan) )
Prof. O. Reutov (USSR) )
Prof. G. Schwab (Germany) )

and should have power to co-opt two or three more members who should have experience of the particular problems found in Africa, Asia and Latin America.

The Committee was given full freedom because it was thought essential that the whole of Chemistry Teaching, from primary school level upwards, should be investigated. It was also hoped that the Committee would seek to inform itself about the progress made by any national groups on this topic. It was left to the Committee to decide when and where it should meet; it should not be bound by the wishes of UNESCO.

The Bureau felt that there should be no formal link between the new Committee and the Comité Interunions de l'Enseignement des Sciences, (CIES), but in accepting the advice of the Executive Committee, it

Resolved: that CIES be paid $ 200 in respect of the current year, but that retrospective payment could not be considered when nothing is known about the activities of CIES.

Honorary Treasurer to act.

Minute 22

PROGRAMME FOR FUTURE ACTIVITY

The Bureau was informed that invitations had been received from the Adhering Organizations of Czechoslovakia and the United States of America to hold the 1967 Conference in one or the other country. It was stressed that although a definitive decision could be made only by the Council in 1965, the Bureau ought to decide which it would recommend so that the organizers might have the longest possible notice. By a majority of 1 it was

Resolved: that the Bureau should recommend to the Council in Paris that the 1967 Conference and Congress be held in Prague.

Minute 23

NEXT BUREAU MEETING

The Bureau thanked the Israel Academy of Sciences and Humanities for its invitation to hold a Bureau Meeting in October 1964 in Israel. However as the Bureau is not scheduled to meet before the XXIII Conference in Paris, the invitation could not be accepted.

Secretary General to act.

Minute 24

ANY OTHER BUSINESS

The draft of a new pamphlet about the activities of the Union was circulated to all Bureau Members on 9th March 1964. In view of the great potential of this pamphlet for advertising IUPAC, Bureau Members were urged to read the document carefully at home and send their comments to the General Secretariat.

Minute 25

VOTE OF THANKS

Lord Todd closed the meeting by again expressing IUPAC's gratitude for the hospitality of the Comité Suisse de la Chimie, of the four chemical companies in, and the city of,Basle and, in particular of F. Hoffmann-La Roche & Co. Ltd.

Todd.

Lord Todd
President.

Morf

Dr. Rudolf Morf
Secretary General.

APPENDIX (A)

REPORT OF THE TREASURER

March, 1964.

1. INTRODUCTION

As the activities of the Union expand, its financial commitments become larger and somewhat more difficult to keep; it is therefore increasingly necessary that constant efforts be made to increase the income of the Union. This should not discourage us, for it is certainly true that if the Union renders valuable services to chemists and the chemical industry, support for the activities will be forthcoming. Even in response to worthwhile service, however, financial contributions will not come automatically; effort will always have to be expended to interest influential people and organizations.

At its meeting in London last year, the Finance Committee recommended that a new category of membership be established, with annual dues of $25,000, and that a committee be set up in each member country to seek financial support for Union activities. Both of these recommendations were designed to increase the income of the Union. The Council accepted them, but little has yet been done to implement either of them. Some enquiries have been directed to the Adhering Bodies in the United States, Great Britain, Germany, and the USSR as to whether these countries are willing to enroll in Category A4, but the responses have not been encouraging. There is some hope that the United States may be able to enter this category; the matter has not yet been fully discussed. If the United States does take this forward step, it may set an example which other countries will follow, at least, insofar as they find it possible. In the meantime, Germany and Denmark have informed us that they wish to advance to higher categories of membership, for which we are most thankful. It is to be hoped that others will follow their example. It should be emphasized that the stated dues for each category of membership are minima, and that contributions above these minima from adhering organizations are welcome, and will be put to good use. Rather than specifying that the annual dues for membership in category A1, for example, are $2600 per year, it might be wise to indicate that they are in the range of $2600-$5000 per year.

Some of the smaller member countries are having difficulty in meeting their IUPAC commitments, but none have fallen seriously behind in their payments. We are grateful to them for their continued efforts, and for their interest in the work of the Union. A few of the larger countries have not yet paid their contributions for 1963, due, no doubt, to administrative delays. It is hoped that they will rectify this situation as soon as possible.

2. FINANCE COMMITTEE AND ITS RECOMMENDATION

The Finance Committee, which was established as a standing committee in London last summer, has shown a real interest in its work and should prove to be of great help in advising the officers of the Union in financial matters. Several of the members of the committee have visited the Union Bank of Switzerland to confer with Mr. Hanselmann, and there has been a good deal of correspondence between the members of the committee. Some of the suggestions which it has made should be mentioned here, and are presented for action by the Bureau.

a) Restrictions on Investments. The policy of investing Union funds only in securities of the chemical industry and in fixed income securities puts unnecessary and undesirable restrictions on the Union, and limits the value of the securities. A major portion of these funds should be invested in good stocks in a variety of industries throughout the world, and authority is requested to make reinvestments as advised by the Finance Committee and approved by the Executive Committee.

b) The Gold Brick. The Union Bank of Switzerland is holding, as part of the reserves of the Union, a gold brick, which has a value of approximately $14,000. The Finance Committee is of the opinion that this brick should be sold and the money invested, so that it will bring in an income, and also, will increase in value with inflationary pressures. The Treasurer concurs in this recommendation.

c) Funds in Baring Brothers Bank. Currently, the Union has securities worth nearly $60,000 in Baring Brothers Bank of London. In addition, some $3000 is on deposit in a checking account in that bank. According to British tax regulations, the Union must pay taxes on the income from these monies, and we have been unable to effect any change in this ruling. It is recommended, therefore, that these accounts be transferred to a bank in another country, where the Union is tax-free. No specific recommendation

is made at this time concerning the disposition of the securities which are being held by Baring Brothers, but it is requested that authority be granted to relocate these as soon as the Finance Committee makes a recommendation on the matter and the Executive Committee approves it.

d) Additions to Reserves. The Finance Committee has recommended that the interest from investments be put into reserves, as well as $10,000 annually from current income. At its meeting in London, the Council accepted this recommendation and the budget which is presented here makes provision for its implementation. There is some question, perhaps, as to how big a reserve IUPAC needs, and, therefore, how long the present policy should be continued. This is a matter which should be discussed by the Executive Committee and the Bureau.

3. GROUP TRAVEL

Before presenting the budget, I should like to mention some other topics of financial import.

Our good Secretary-General, Dr. Morf, has gone to a great deal of trouble to arrange a plan for group travel from several cities in Europe to the Symposium on Natural Products in Kyoto. Travel on the group plan saves some $300 per passenger. This amounts to a considerable saving to the Union, for all of the members of the Organic Division have been authorized to attend the meeting in Kyoto on Union expense. In addition, many other chemists who are going to Kyoto at their own or their employers' expense will effect savings, and this should be reflected in the number who can attend. It is to be hoped that the group travel plan can be continued for future meetings, and, although we hesitate to burden Dr. Morf with additional duties, we trust that he will consent to continue the plan.

4. SPONSORSHIP AND PUBLICATION

For an occasional meeting, IUPAC sponsorship can mean rather substantial financial support, but, if the Union is to continue to sponsor as many meetings as it has in the past, the contribution to each will be small, and in most cases, it cannot exceed $2000. None-the-less, IUPAC must continue to insist on adherence to its rules concerning publication rights to papers presented at meetings which it sponsors. This may lead to conflicting interests in cases of joint sponsorship, but it is hoped that the Editorial Committee can establish a long term policy that will make possible a resolution of the problems that arise.

5. SIMULTANEOUS TRANSLATIONS

There have been numerous requests for simultaneous translations at meetings sponsored by the Union. In response to these, Dr. Morf has inquired into the cost of such service. In Switzerland, for transmission in three languages to one hundred fifty auditors, the cost for a meeting lasting one week is estimated to be $2970, plus the transportation costs for seven people (one operator and six translators) from Geneva to the meeting and return. This is about $20 per auditor. For larger meetings, the cost per auditor would be somewhat less, but still more than we can at present afford.

6. INFORMATION BULLETIN

Two items which appear in the budget merit special mention. These are the item of $4000 for the Information Bulletin and the items totalling $6097 for "Councillors-at-Large." The Information Bulletin is well worth its cost to the Union, for it explains briefly and clearly what the Union is doing, how it is doing it, and what its programs and its problems are. It also carries news items, commission and committee reports, minutes of official meetings, and noteworthy addresses; e.g., those presented in London by Sir Howard Flory, Professor W. A. Noyes, Jr., and Lord Todd. Without the Information Bulletin, there would be no permanent repository for these records.

7. COUNCILLORS-AT-LARGE

The plan of paying the expenses of "Councillors-at-Large" to meetings of the Council has many advantages, but it must be recognized that it is a costly plan. The amount set aside in the tentative budget for 1965 for its implementation is about $6200. Whether the Union can long afford this expenditure is a question which should be carefully considered by the Executive Committee and the Bureau.

# BUDGET 1964/1965

## Estimated Income for 1964 (based on figures of 1963)

| | $ |
|---|---|
| Argentina | 450 |
| Australia | 2600 |
| Austria | 450 |
| Belgium | 2600 |
| Brazil | 800 |
| Bulgaria | 450 |
| Canada | 2600 |
| China (Taiwan) | 800 |
| Colombia | 450 |
| Czechoslovakia | 800 |
| Denmark | 1600 |
| Finland | 800 |
| France | 2600 |
| Germany | 5000 |
| Hungary | 450 |
| India | 1600 |
| Ireland | 100 |
| Israel | 800 |
| Italy | 2600 |
| Japan | 2600 |
| Korea (South) | 450 |
| Luxembourg | 100 |
| Holland | 2600 |
| Norway | 800 |
| Poland | 800 |
| Portugal | 450 |
| Rumania | 450 |
| Spain | 800 |
| Sweden | 2600 |
| Switzerland | 2600 |
| South Africa | 800 |
| Turkey | 100 |
| United Arab Republic | 450 |
| United Kingdom | 10000 |
| USA | 10000 |
| USSR | 2600 |
| Vietnam (South) | 450 |
| Yugoslavia | 450 |
| Total | 66650 |

| | $ |
|---|---|
| Income from Adhering Bodies | 66650 |
| Interest and Dividends | 6000 |
| ICSU Contribution | 14500 |
| UNESCO Contract | 2500 |
| Royalties | 6818 |

| Donations: | $ |
|---|---|
| UK | 10941 |
| USA | 20000 |
| UBS | 5000 |
| Chemical Companies in Basle | 50000 |

182409

| | | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|---|
| | | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| I. | PHYSICAL CHEMISTRY | $ | $ | $ | $ | $ | $ |
| | Division Committee ..... | - | - | 100 | 2055 | 630 | 100 |
| | "Bulletin of Thermodynamics and Thermochemistry" ..... | - | - | 1000 | - | - | 1000 |
| | Block grants | | | | | | |
| | Symposium on Reactivity of Solids in Munich 1964 ..... | 2000 | - | - | - | - | - |
| | Symposium on Organic Photochemistry in Strasbourg 1964 | - | - | - | - | - | - |
| I.1 | Symbols, Terminology, Units | - | - | - | 1434 | 450 | - |
| | Meeting in Copenhagen ..... | 2100 | 400 | - | - | - | - |
| I.2 | Thermodynamics, Thermo-Chemistry ..... | - | - | - | 1532 | 450 | - |
| | Representation to IUPAP ... | 300 | - | - | - | - | - |
| I.3 | Electrochemistry ..... | - | - | - | 1654 | 630 | - |
| I.4 | Macromolecules ..... | - | - | - | 2215 | 450 | - |
| I.5 | Data and Standards ..... | - | - | - | 2089 | 450 | - |
| | Representation (Hamburg) .. | 500 | - | - | - | - | - |
| I.6 | Molecular Structure and Spectroscopy ..... | - | - | - | 2600 | 540 | - |
| I.7 | Colloid and Surface Chemistry | - | - | - | 2500 | 630 | - |
| | | 4900 | 400 | 1100 | 16079 | 4230 | 1100 |
| | | TOTAL: | 6400 | | TOTAL: | 21409 | |

| | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|
| | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| II. INORGANIC CHEMISTRY | $ | $ | $ | $ | $ | $ |
| Division Committee ..... | - | - | 150 | 1625 | 630 | 150 |
| Block grants | | | | | | |
| Symposium on Coordination Chemistry in Vienna 1964 .... | 2000 | - | - | - | - | - |
| Symposium on Catalysis in Amsterdam 1964 ..... | 2000 | - | - | - | - | - |
| II.1 Atomic Weights ..... | - | - | - | 1097 | 540 | - |
| II.2 Nomenclature ..... | - | - | - | 1613 | 450 | - |
| Meeting in Basel ..... | 290 | 90 | - | - | - | - |
| Meeting in France ..... | 2540 | 900 | - | - | - | - |
| II.3 High Temperature and Refractories | - | - | - | 1414 | 810 | - |
| II.4 Geochemistry ..... | - | - | - | 4054* | 630* | - |
| | 6830 | 990 | 150 | 9803 | 3060 | 150 |
| | | | | - 2027 | - 315 | |
| | | | | 7776 | 2745 | |
| | TOTAL: 7970 | | | TOTAL: 10671 | | |

* Reference is made to the London resolution which is not quite clear; our view is that a joint Commission be formed and that only 50% of the expenses be paid by IUPAC. This has been taken care of in the total.

| | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|
| | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| III. ORGANIC CHEMISTRY | $ | $ | $ | $ | $ | $ |
| Division Committee ..... | - | - | - | 2090 | 450 | - |
| III. 1. Nomenclature ..... | - | - | - | 839 | 540 | - |
| Meeting in Basel 1964 .. | 2425 | 300 | - | - | - | - |
| Meeting in Caen 1964 ... | 2080 | 700 | - | - | - | - |
| Block grants | | | | | | |
| Symposium on the Chemistry of Natural Products in Kyoto 1964 ..... | 5000 | - | - | - | - | - |
| Symposium on Organic Photochemistry in Strasbourg, 1964..... | 2000 | - | - | - | - | - |
| 10 members of the Division Committee and of the Executive Committee to Kyoto 1964..... | 12000 | 2000 | - | - | - | - |
| Symposium on Organic Phosphorus Chemistry in Heidelberg 1964 ..... | 1000* | - | - | - | - | - |
| | 23505 | 3000 | - | 2929 | 990 | - |
| | TOTAL: | 26505 | | TOTAL: | 3919 | |

* Subject to approval by the Bureau

| | | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|---|
| | | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| IV. | BIOLOGICAL CHEMISTRY | $ | $ | $ | $ | $ | $ |
| | Division Committee ..... | - | - | 460 | 1188 | 450 | 460 |
| IV.1 | Nomenclature ..... | - | - | - | 1260 | 1440 | - |
| | Meeting in Basel ..... | 200 | - | - | - | - | - |
| | Meeting in New York (IUB Congress) ..... | 2750 | - | - | - | - | - |
| IV.2 | Proteins ..... | | | Commission | dissolved | | |
| IV.3 | Clinical Chemistry ..... | - | - | - | 2209 | 810 | - |
| | | 2950 | - | 460 | 6657 | 2700 | 460 |
| | | TOTAL: | 3410 | | TOTAL: | 9817 | |

| | | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|---|
| | | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| V. | ANALYTICAL CHEMISTRY | $ | $ | $ | $ | $ | $ |
| | Division Committee ..... | - | - | 1500 | 3036 | 630 | 500 |
| V.1 | Analytical Reactions ..... | - | - | - | 2610 | 540 | - |
| V.2 | Microchemical Techniques ... | - | - | - | 1697 | 720 | - |
| V.3 | Nomenclature ..... | - | - | - | 1234 | 360 | - |
| V.4 | Spectrochemical and other Optical Procedures ..... | - | - | - | 1809 | 630 | - |
| V.5 | Electroanalytical Chemistry | - | - | - | 1051 | 540 | - |
| V.6 | Equilibrium Data ..... | - | - | - | 3114 | 720 | - |
| | Working Committees | | | | | | |
| | "Teaching Analytical Chemistry" (limited to 3 persons), Paris | 700 | | | | | |
| | "The use of radioactivity in analytical chemistry and the analyses of nuclear materials" (limited to 3 persons), Vienna | 700 | | | | | |
| | | 1400 | - | 1500 | 14551 | 4140 | 500 |
| | | TOTAL: | 2900 | | TOTAL: | 19191 | |

| | | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|---|
| | | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| VI. | APPLIED CHEMISTRY | $ | $ | $ | $ | $ | $ |
| | Division Committee ..... | - | - | 1200 | 1589 | 450 | 1500 |
| | ad hoc Committee for Chemical Engineering Meeting in Paris ..... | 1200 | 300 | - | - | - | - |
| VI.1 | Food Section ..... | - | - | - | 901 | 630 | - |
| | Meeting in New York ..... | 5184 | 800 | - | - | - | - |
| | ad hoc Committee for Food Standards FAO/WHO Meeting in Paris ..... | 703 | 60 | - | - | - | - |
| | Survey of Food Additives. | - | - | 2100 | - | - | - |
| VI.2 | Fermentation Section..... | - | - | - | 1837 | 720 | - |
| | Meeting in London ..... | 1000 | 300 | - | - | - | - |
| | Representation (International Association of Microbiological Societies) | 212 | 60 | - | - | - | - |
| VI.3 | Oils and Fats Section.... | - | - | 600 | 571 | 540 | 600 |
| VI.4 | Water, Sewage and Industrial Wastes Section ..... | - | - | - | 871 | 540 | - |
| | Meeting in .....?..... | 871 | 540 | - | - | - | - |
| VI.5 | Toxicology and Industrial Hygiene Section | - | - | - | 3337 | 540 | - |
| VI.6 | Pesticides Section ..... | - | - | - | 2181 | 540 | - |
| | Meeting in Rome (if matters can be finalised by corres.) | 2410 | 420 | - | - | - | - |
| VI.7 | Plastics & High Polymers Sec. | - | - | - | 1619 | 630 | - |
| VI.8 | Organic Coatings Section .. | - | - | - | 1283 | 720 | - |
| | Compilation of reports .... | - | - | 300 | - | - | - |
| VI.9 | Pulp, Paper & Board Section | - | - | - | 1241 | 630 | |
| | | 11580 | 2480 | 4200 | 15430 | 5940 | 2100 |
| | | TOTAL: | 18260 | | TOTAL: | 23470 | |

| | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|
| | Travel | Subsistence | Administration | Travel | Subsistence | Administration |
| GENERAL EXPENSES | $ | $ | $ | $ | $ | $ |
| President | 2800 | 500 | - | 2800 | 500 | - |
| Secretary General | 3800 | 800 | - | 3800 | 800 | - |
| Treasurer | 2800 | 500 | - | 2800 | 500 | - |
| General Secretariat (including salaries, travel expenses of assistants, insurances, postage, etc.) | - | - | 30500 | - | - | 30500 |
| Translations | - | - | 2000 | - | - | 2000 |
| Premises and archives | - | - | 2000 | - | - | 2000 |
| ad hoc Committee on future activities | - | - | 1500 | - | - | 1500 |
| Finance Committee | - | - | 500 | - | - | 500 |
| Congress in Moscow (attended by the Executive Committee and the 6 Division Presidents) | - | - | - | 3700 | 1300 | - |
| Bureau Meetings (Basel/Paris)** | 8360 | 1320 | - | 8360 | 3520 | - |
| Executive Committee meetings (Austin/Canberra) | 6300 | 700 | - | 7000 | 700 | - |
| Division Presidents meeting (Paris) | - | - | - | 1368 | 280 | - |
| Editorial Board meetings (London/Paris) | 4787 | 680 | - | 4918 | 680 | |
| Scientific Editor | - | - | 2500 | - | - | 2500 |
| Comptes Rendus XXII | - | - | 5000 | - | - | - |
| Information Bulletins | - | - | 4000 | - | - | 4000 |
| New Statutes (printing) | - | - | 1500 | - | - | - |
| Taxes GB | - | - | 3000 | - | - | - |
| 2% ICSU contribution | - | - | 2000 | - | - | 2000 |
| "Councillors-at-Large" | - | - | - | 5144 | 1053 | - |
| ad hoc Committee on Teaching of Chemistry (to be reimbursed possibly by UNESCO) | - | - | 3000 | - | - | 3000 |
| | 28847 | 4500 | 57500 | 39890 | 9333 | 48000 |
| | TOTAL: | 90847 | | TOTAL: | 97223 | |

**Expenditure will increase if an additional representative of each Division will attend.

| | Proposed Budget 1964 | | | Tentative Budget 1965 | | |
|---|---|---|---|---|---|---|
| | Travel | Subsistence | Adminis-tration | Travel | Subsistence | Adminis-tration |
| RECAPITULATION | $ | $ | $ | $ | $ | $ |
| PHYSICAL CHEMISTRY DIVISION | 4900 | 400 | 1100 | 16079 | 4230 | 1100 |
| INORGANIC CHEMISTRY DIVISION | 6830 | 990 | 150 | 7776 | 2745 | 150 |
| ORGANIC CHEMISTRY DIVISION | 23505 | 3000 | - | 2929 | 990 | - |
| BIOLOGICAL CHEMISTRY DIVISION | 2950 | - | 460 | 6657 | 2700 | 460 |
| ANALYTICAL CHEMISTRY DIVISION | 1400 | - | 1500 | 14551 | 4140 | 500 |
| APPLIED CHEMISTRY DIVISION | 11580 | 2480 | 4200 | 15430 | 5940 | 2100 |
| General Expenses | 28847 | 4500 | 57500 | 39890 | 9333 | 48000 |
| Transferred to reserves | | | 10000 | | | 10000 |
| interest and dividends | | | 6000 | | | 6000 |
| To Union Bank of Switzerland) | offsetting | | 5000 | | | 5000 |
| To the Basel Chemical ) Companies ) | charge in the expense column | | 50000 | | | 50000 |
| | 80012 | 11370 | 137910 | 103312 | 30078 | 123310 |
| Grand Totals ..... | | 224292 | | | 256700 | |

Contingencies for Conference in Paris in 1965: 7000

APPENDIX (B)

REPORT TO THE BUREAU OF THE LIAISON COMMITTEE

During the past few years, an increasing number of questions of chemical nature have been submitted to IUPAC by international bodies like the International Organization for Standardization (ISO), the World Health Organization (WHO), the Food and Agriculture Organization (FAO), the International Atomic Energy Agency (IAEA) and others. The questions of to what extent and by what mechanism such enquiries should be handled within IUPAC, are important. As a first experiment and for information, an observer delegation - Secretary General and the Presidents of the Divisions of Physical, Analytical and Applied Chemistry - was present during the ISO Meeting in Paris, from 7th to 11th October, 1963.

During a joint session of this Committee, the ISO Committee on chemistry (ISO TC 47) and the Presidents and Secretary General, the following results emerged which are submitted to the Bureau.

Dr. MORF, Dr. BUSHILL, Prof. MALISSA, Prof. SCHWAB and Prof. TRUHAUT were present at the ISO TC 47 Meeting in Paris 7-11 October 1963.

1. After having heard the exposé of the IUPAC representatives on the IUPAC organization, ISO TC 47 decided (ISO document 329):

(a) that IUPAC be invited to keep the ISO technical committees with which it is in liaison informed of the progress of its work related to their own field; and for the purpose should circulate the relevant documents to addresses selected by the secretariats of those ISO committees.

And accordingly:

(b) that the ISO member bodies holding the secretariat of technical committees in liaison with IUPAC be invited to provide the Secretary General of IUPAC with the names and addresses to which the various documents in question should be sent;

(c) that IUPAC be invited to reconstitute its Committee on Reagents and to request the latter to proceed with all possible speed with the preparation of standard specifications for the most common analytical reagents, with a view to these specifications being then transmitted to ISO/TC 47 for the purpose of their translation into ISO recommendations;

(d) that IUPAC be invited to send, or to delegate, experts to meetings of TC 47 Working Groups where such action will contribute usefully to avoid, through this liaison, the risk of wasteful duplication in the work of ISO and of IUPAC, and/or to the technical expertise available at the meetings in question.

2. The groups of ISO which come into account in this respect are: TC 12 (Symbols), TC 34 (Agriculture and Alimentaries), TC 37 (Terminology), TC 47 (Chemistry), TC 48 (Laboratory glass ware), TC 61 (Plastics), TC 69 (Statistical treatment of observations), TC 81 (Pesticides), TC 91 (Surface active substances). It has been pointed out that contacts should go on the side of IUPAC through the Secretary General, on the side of ISO however through the single addresses of national secretaries being in charge of the different groups. These addresses should be sent to the Secretary General of IUPAC by the Secretary of ISO.

3. The Liaison Committee makes the following proposal for the collaboration with other international bodies like FAO, WHO, etc.: when questions from international organizations are addressed to the Secretary General, four different cases are discerned:

(a) it is clear which commission of IUPAC is competent. In this case the question will be conducted through the Division President to the respective commission. The answer goes through the Division President to the Secretary General and from there to the international organization;

(b) it is not clear which commission is competent. In this case the Secretary General asks the six Division Presidents and conducts the question according to their answer;

(c) in the present structure of IUPAC no commission is competent. In this case the Division Presidents are asked, as before; however the answer should then be given by a competent person or laboratory designated by Division Presidents or contained in a list of competent people and laboratories, which must exist in the office of the Secretary General. The answer again goes through one of the Division Presidents;

(d) the question of competence is so important that the Bureau must decide whether and by whom the question should be answered or not;

(d1) IUPAC proposes to ISO, etc., a competent person or laboratory. Eventually ISO, etc., have to pay for experimental work on this question;

(d2) the Bureau decides because of the importance of the question for IUPAC itself, that IUPAC itself would be prepared to pay for experimental work.

In all cases the questions directed to a competent commission, person or laboratory should contain the question of a dead-line for the answer and should eventually indicate such.

4. In order to deal with cases (c) and (d) the Secretary General must possess a list of competent persons or laboratories for all questions which might come up. This list should be prepared as soon as possible by a circular going to all the commissions in which all the single questions and fields of interest (compare sub 2) are enumerated.

5. All communications and answers to questions going from IUPAC to ISO which are supposed to be translated into ISO recommendations, should contain a note indicating the contribution of IUPAC

(a) in order to increase the confidence in this recommendation,

(b) in order to emphasize the competence of IUPAC. The same applies to information given to other international organizations.

6. The divisions of analytical chemistry and of applied chemistry will be asked to reconstitute their joined commission on standardization of the most common analytical reagents.

The President of the Division of Physical Chemistry:

Prof. Dr. G. M. SCHWAB

# APPENDIX (C)

## RELATION AND CO-OPERATION WITH THE UNITED NATIONS SPECIALIZED AGENCIES AND OTHER BODIES

Although the article written by Prof. Schwab on behalf of the Liaison Committee enumerates many possible ways in which IUPAC can co-operate with various other international organizations, it seems necessary that an attempt be made to give a historical review of the whole problem in all its many aspects.

At the beginning of the century when international co-operation in science really began, in the field of chemistry there were few international bodies apart from IUPAC whose main activity consisted in establishing tables of atomic weights and in compiling critical tables etc.

Within the League of Nations, some institutions were established which still exist like the World Meteorological Organization (WMO) and the International Labour Organization (ILO). During the inter-war period IUPAC enjoyed the closest relations with the League of Nations and I would like to only give one example - the standardization of Vitamins.

After the Second World War, following the creation of the United Nations, the so-called UN Specialized Agencies like the World Health Organization (WHO), UNESCO (United Nations Education Scientific and Cultural Organization), IAEA, FAO were established. Also, the International Organization for Standardization (ISO) started its activity only about 5 years ago. At that time the International Union of Pure and Applied Chemistry took little official note of the situation and perhaps did not safeguard the interests of Chemists sufficiently. It must also be mentioned that until very recently all these agencies and organizations paid little attention to IUPAC; it was not even possible in many cases for IUPAC to send observers to the meetings of such organizations.

Recently, the attitude of many of these agencies and organizations has changed completely. They are aware that although they have a large administrative organization, they would never be able to hire competent scientists who would be able to cover the whole field of modern science and technology. Like many national Governments, these United Nations specialized agencies and, in particular, UNESCO try to overcome this difficulty through contacts with or by appointing scientific advisory bodies. But even these have proved insufficient with the result that most of these advisory bodies are themselves asking for expert advice in the

various disciplines of science and technology. In the field of chemistry there have been many difficulties, and indeed regulations have been proposed and methods of analysis introduced, which are not of a sufficiently high standard.

The whole question has become urgent since FAO and WHO are seeking to make regulations with regard to Food Additives and, in particular, to compile an internationally valid Codex Alimentarius. There is not only the question of unnecessary duplication of effort but there is a strong need for recognised International Agreement - for such a purpose neither the UN Agencies nor ISO seems sufficiently independent.

With regard to the activity of ISO of which Chemistry is only a very small and sometimes minor part, it must be borne in mind that the working committees of ISO are located in one particular country only, and the Secretariat which works out the methods of analysis or which prescribes data for purity, control etc. does not have sufficient access to the experts all over the world. In most cases, ISO tries to base its recommendation on one national, or nationally accepted member. It is quite clear that all the other Nations have later on the opportunity to comment and ask for modification of ISO recommendations. But this procedure is so cumbersome that so far ISO has not achieved any reasonable result in the field of Chemistry. This must be recognised quite apart from the fact that the selection of topics by ISO TC 47 - Chemistry is very arbitrary.

In the following, an attempt is made to enumerate the requirements and to find out where IUPAC has already a mechanism to deal with such requirements.

(1) Nomenclature Rules - Nomenclature Rules have always been the undisputed province of IUPAC. Many questions arising from uncertainties on Nomenclature can be dealt with by the Commission on Nomenclature in the three or four appropriate Divisions (Inorganic, Organic, Biological and Analytical). However, all these nomenclature commissions have their programme which is sometimes based on systematic aspects whereas the requests from outside bodies of the IUPAC concern all parts and branches of chemistry and chemical technology. It is therefore necessary that IUPAC, in order to comply with the necessary demands on Nomenclature, creates a new mechanism which is in a position to answer such questions without delay. A proposal is made by the Secretary General that in any such mechanism "Chemical Abstracts" should play a major part.

(2) Symbols and Terminology - This has also been an undisputed province of IUPAC as well as of the International Union of Pure and Applied Physics (IUPAP). A closer relation between the two Unions has been established only recently but here also the sequence of work done by the Commissions does not run parallel to the requirements. In this area, too, there is need for mechanism to be created in order to deal with day to day problems.

(3) Analytical Methods - This problem is extremely complicated and there are already too many bodies which deal with Analytical Methods on a national, regional or even on an international basis. Although the whole problem is very complicated, the questions arising are quite simple.

(a) Does IUPAC wish to be consulted with regard to Analytical Methods?
(b) If the reply is in the affirmative, would it cover the entire field or only a part thereof?
(c) If only a part, how can a clear demarcation be made?
(d) Does IUPAC deal with applied chemical analysis or does it limit itself to pure analytical chemistry only.

It must be remembered that any mechanism created by IUPAC must be ready to operate and give a quick answer.

There are many other problems but I have limited the examples to these three cases. For these three specific cases, the possible answers can be divided into four different categories:-

(i) If there is already an internationally recognised answer, the task is reduced to fact finding.
(ii) If there is more than one possible answer, there is need of critical screening.
(iii) The above can be dealt with by an already existing commission.
(iv) There is need for a new mechanism to be set up.

Dr. R. MORF

---

APPENDIX (D)

FREE TRANSLATION OF AN ARTICLE BY PROF. W. KLEMM

GEOCHEMISTRY

I. The international representation of Geochemistry has been discussed for several years. There is no doubt that Geochemistry is an important branch of science; it is related to Geology, Chemistry and Geophysics.

Some years ago there was created in IUPAC a Commission on Geochemistry, the creation of which preceded that of the International Union of Geology. This Commission has always been strongly encouraged by IUPAC, and of all IUPAC's Commissions it has probably received the most cooperation. The main activity of the Commission on Geochemistry has been the organization of symposia; it has not occupied itself with the other tasks undertaken by Commissions, viz the preparation of international agreements on nomenclature, standards, etc. The association of Geochemists has operated since its inception, more as what is called in the new Statutes a 'Section' than a 'Commission'.

Geochemists were never completely satisfied with this position and there have been frequent discussions, especially since the formation of the International Union of Geology. In Brussels the problem was thoroughly discussed at a Bureau Meeting, at which the following four points were made:-

1. The Bureau was not in favour of an International Union of Geochemistry for this would mean a further splitting into small Unions. The general opinion was that Geochemistry was not such a great and independent branch of science that a new Union was necessary. An alternative, the formation of an independent Commission within ICSU, was also not recommended because it would very soon acquire Union status. Besides this, experience had shown that with such an independent Commission difficulties, especially of a financial nature, arise very easily.

2. The Bureau went on to say that if the Commission remained within IUPAC then closer liaison must be sought with the related Unions such as IUGG and IUGS.

3. If the Commission would prefer to attach itself to one of the 'geological Unions' (e.g. IUGS), IUPAC would be prepared to pay the costs of maintaining two representatives on the Commission.

4. Also, in the case that Geochemists wish to elect another Union as "Mother-Union", IUPAC would be prepared to maintain a Commission on Geochemistry within IUPAC, provided that the work of such a Commission is clearly defined.

The pertinent Minutes of the Bureau Meeting held in Brussels read as follows:-

Minute 17

Co-operation with the International Union of Geological Sciences

Prof. W. Klemm had been asked to explore, in consultation with the President of the Inorganic Chemistry Section (II) and in particular with Prof. Correns, the possibilities of closer co-operation in the field of Geochemistry with the International Union of Geological Sciences and to report to the Bureau. In accordance with the President of the Inorganic Chemistry Section, Prof. Klemm proposed and the Bureau

Resolved:

(i) that closer co-operation must be arranged between IUPAC, IUGG and the International Union of Geological Sciences (IUGS)

(ii) that the delegates of IUPAC to the Executive Board of ICSU oppose the formation of a new Union.

(iii) that the delegates of IUPAC to the Executive Board of ICSU also oppose the formation of an independent commission on Geochemistry.

(iv) that Geochemistry being an integral part of Inorganic, IUPAC reconfirms its right to continue the Geochemistry Commission.

(v) that the Commission on Geochemistry as composed and listed in the Comptes Rendus XXI be convened in London in 1963 and report on their plans. For this meeting authorised representatives of IUGG and IUGS be invited to attend.)

II. In London in 1963 the Commission on Geochemistry discussed the situation and prepared the following resolutions:-

"Whereas, Geochemistry impinges on most areas of natural science, and

Whereas, it would be very difficult to secure adequate support and co-operation from all disciplines concerned if Geochemistry were confined to, or represented principally by, a single existing Union, and

Whereas, Geochemistry is recognised as a major branch of science, with many thousands of active workers all over the world,

Now, therefore, be it resolved

1. that the Commission on Geochemistry formally expresses its preferences for the position of Geochemistry in the international scientific community in the following order:

a. An international Union of Geochemistry
b. A strong inter-union commission (or association) of Geochemistry, with ties to the unions of Chemistry, Geological Sciences, Geodesy and Geophysics, Biological Sciences, and other such International groups as may be interested.

c. An association (cf. Division in IUPAC) in the International Union of Geological Sciences, with ties similar to those in b. above (i.e. specific representation of the respective unions by members of commissions and other groups of the association). In this case a Commission on Geochemistry, of reduced size, should remain in IUPAC.

2. That copies of this resolution be sent to appropriate officers and other individuals in IUPAC, IUGS, IUGG, and ICSU".

These resolutions make it very clear that Geochemists are seeking independent representation.

III. During the ICSU meeting in Vienna in November 1963 a discussion took place between: Prof. Harrison, President of the Union of Geological Sciences; Dr. Garland, Secretary of the Union of Geodesy and Geophysics; and Prof. Klemm and Dr. Morf (IUPAC). It was agreed that all three Unions have interests in Geochemistry and that it would be a good solution if Geochemistry has one of the three as "Mother-Union".

If the "Mother-Union" were IUPAC, then IUPAC would create a Section on Geochemistry. The Section Committee would be composed of four members from IUPAC, two from IUGS and two from IUGG. The costs for each representative would be borne by his respective Union. Similarly the costs of Symposia etc. would be divided between the Unions in the ratio 2:1:1. The position would be analogous with one of the other Unions as "Mother-Union".

IV. However the situation is still unclear and it is essential for a satisfactory solution to be found. To this end it is necessary that:

a) there should be discussions with Dr. H. W. Thompson, the President of ICSU to find out which of the wishes of the Geochemists has most chance of realisation.

b) official discussions should be held with the Unions of Geological Sciences and Geodesy and Geophysics in order to determine with which Union the Geochemists would prefer to associate, and in order to define financial policy.

To these negotiations must, of course, be invited the President of the Division of Inorganic Chemistry and a representative of the Commission on Geochemistry. It is naturally desirable that the President, Vice-President or Secretary should attend, but all three live so far away (Moscow, Texas, South Africa) that their travelling expenses are prohibitive. The Commission should therefore empower a European representative - at best, Dr. Smales (England) - to represent their interests.

At this stage, however, it is important that the Bureau should say whether or not it is in agreement with the proposals made in Vienna.

APPENDIX (E)

COPY OF A LETTER FROM EARL INGERSON DATED FEBRUARY 26, 1964.

The University of Texas, Department of Geology, Austin.

Dear Dr. Morf,

Professor Correns was here last week, and we discussed the international position of Geochemistry at considerable length.

I have now written a memorandum on this subject. It is directed primarily to members of the ad hoc Inter-Union Committee on Geochemistry, but copies are being sent to a good many other persons. Yours is enclosed.

There is no objection to sending copies of part of my July 30 letter to members of the Bureau, but some of it is a little out of date now because of the non-action of IUGG and IUGS at their summer and fall meetings, respectively. It might be more appropriate, therefore, to send copies of the memorandum to the members of the Bureau. It contains a copy of the resolution on the subject at hand, which was passed by the IUPAC Commission at the July, 1963, meeting in London.

Since time is short, I am sending extra copies of the memorandum under separate cover, via second class air mail, in case you should wish to distribute them.

Very sincerely yours,

(Signed) EARL INGERSON.

APPENDIX (E)

MEMORANDUM TO: Interested individuals and organizations.

FROM: Earl Ingerson, Secretary, ad hoc Inter-Union Committee on Geochemistry.

SUBJECT: The position of Geochemistry in international scientific organizations.

Geochemistry has undergone an extremely rapid development during the last 10 years and has assumed an increasingly important rôle in scientific societies at all levels. During this period the numbers of geochemical sessions and symposia at meetings have multiplied many fold, and it has long been apparent that ad hoc committees and other sporadic methods of arranging programs are unsatisfactory both to the geochemists and to the organizations concerned.

There have been various attempts to solve the problem of the proper position and appropriate activities of Geochemistry in international scientific circles. In 1953 the International Union of Pure and Applied Chemistry organized a Commission on Geochemistry under the chairmanship of the late Professor Paul Niggli. This Commission has continued to be moderately active; it has held half a dozen meetings and sponsored four symposia, proceedings for some of which have been published in Geochimica et Cosmochimica Acta.

The major contributions of Geochemistry, however, are to the earth sciences rather than to chemistry. There is a general agreement, therefore, that the primary "home" of Geochemistry should be with the earth sciences. IUPAC agrees to this but would like to maintain an interest in Geochemistry and has suggested that the Union should be represented by one or two associate members in any broader geochemical organization that might be set up.

In 1955 the Geochemical Society was organized as an international society. It remains such in that membership is worldwide, and there are regional vice-presidents representing most areas of the globe. Recent changes in the By-Laws, however, have precluded persons who reside outside North America from serving as officers or councillors of the Society. This rule and the fact that the Society is a membership organization make it unlikely that it can serve as the broad sponsoring group for International Geochemistry.

IUGG and IUGS both held meetings in 1963 at which Geochemistry came up for discussion. In the "Proposals for a new structure of the IUGG" (Paris, May 14,1963), which were discussed at the Berkeley meeting in August "Geochemistry" is one of 10 miscellaneous subjects grouped together in Section B of Division 2. It is obvious that all of Geochemistry cannot fit there. These proposals were not adopted, so Geochemistry continues to be represented in IUGG by an ad hoc Committee on the Problems of Geochemistry.

When the International Union of Geological Sciences was organized there were numerous suggestions that it would provide the appropriate home for Geochemistry. The Commission understood that this question would come up at the Rome meeting of IUGS in October 1963. Apparently there was no formal discussion of the problem, however, and the President and Secretary have indicated that "the new union does plan to have a section, or an affiliated association, to deal with geochemistry". There is no indication that such a section will be one of Geochemistry, or that its organization will take place in the near future. In the meantime, it would be expected "that such inter-union association would continue".

This willingness of IUPAC to relinquish the initiative, and the failure of the other unions to seize it lend even more force to the resolution passed by the Commission on Geochemistry at its meeting in London in July 1963, which reads as follows:

"1. That the Commission on Geochemistry formally express its preferences for the position of Geochemistry in the international scientific community in the following order:-

a. An international union of Geochemistry.

b. A strong inter-union commission (or association) of Geochemistry, with ties to the unions of Chemistry, Geological Sciences, Geodesy and Geophysics, Biological Sciences, and other such international groups as may be interested.

c. An association (cf. Division of IUPAC) in the International Union of Geological Sciences, with ties similar to those in b, above (i.e. specific representation of the respective unions by members of commissions and other groups of the association). In this case a Commission on Geochemistry, of reduced size, should remain in IUPAC."

APPENDIX (E)

The Bureau of the International Council of Scientific Unions, at its meeting of June, 1962, "decided not to admit an Independent Union for Geochemistry" and was not enthusiastic about an inter-union commission. Since there is no apparent enthusiasm in any of the existing unions for the establishment of an intra-union unit of adequate magnitude and vigor, perhaps an entirely different approach is required.

Indeed, such an approach has been suggested independently by a number of geochemists and appears to offer a satisfactory solution until and unless it is possible to have a Geochemical Union. The idea is simply to have an independent International Geochemical Association. This plan has been employed with a high degree of success by the mineralogists, who recommend it to us for consideration.

The I.M.A. comprises the national mineralogical societies, each of which makes a nominal contribution each year, in proportion to its current membership. These contributions are used for operating expenses such as postage and stationery; costs of publishing proceedings, holding symposia, etc., are met by grants from government agencies, donations from interested companies, etc. The fact that many of the smaller countries have no mineralogical societies by no means indicates that their mineralogists are unwelcome at the meetings. Most of them are members of one or more of the societies of other nations.

I have talked this proposal over with Prof. C. W. Correns, ex-president of the IUPAC Commission and currently a member of the ad hoc Inter-Union Committee, who was one of the individuals to suggest it originally. I have also discussed it with other members of both of these groups. Among this limited number, agreement is general that this is now the best possibility in view.

I suggest that we get an expression of opinion from the members of the ad hoc Committee, and of the IUPAC Commission, to whom copies of this memorandum are being sent, as to whether this approach should be pursued. If not, perhaps suggested alternatives will crystallize another one. To that end I am adding a sheet on which opinions can be expressed. It would be appreciated if members of both groups could send their remarks to me promptly. Thank you.

EARL INGERSON
University of Texas.

 APPENDIX (E)

COMMENTS ON THE POSITION OF GEOCHEMISTRY IN INTERNATIONAL SCIENTIFIC ORGANIZATIONS.

I believe that, under the circumstances, organization of an independent International Geochemical Association offers the most satisfactory method of broadening the scope and usefulness of Geochemistry on the international scene, and that further discussions should be held promptly to determine how general this opinion is and, if agreement is widespread, to seek the best method of bringing about the organization of such an Association.

I do not think that this type of organization would be feasible, and I suggest the following alternative(s):

Additional remarks:

APPENDIX (F)

Free Translation of a Report made by Professor R. Truhaut, President of the Division of Applied Chemistry, to the Bureau at its meeting in Basle during March 1964.

---

## LIAISON BETWEEN IUPAC AND INDUSTRY OR CERTAIN INTERNATIONAL ORGANIZATIONS

Two types of liaison are of great interest to IUPAC:

### 1. Liaison with Industry

In my opinion, IUPAC should be the information centre which industry would consult about, for example, questions of nomenclature, constants, standards of purity, methods of qualitative and quantitative analysis, etc. This is, moreover, the extant situation because every time problems arise in these fields of activity, IUPAC is mentioned as the organization most competent to reply to the query. In this work all the Divisions of IUPAC have a rôle to play. It is still necessary to create a mechanism which permits a sufficiently rapid answer to be given to the questions posed.

On the other hand, industry can provide IUPAC with a most precious tool of cooperation by furnishing the Union with competent experts. This is of particular importance in the field of Applied Chemistry. The experts of the chemical industry are aware of the practical problems to be solved and could consequently guide the activity of IUPAC towards these problems and contribute in an active manner towards their solution. That is the reason why it is necessary to inject a sufficiently large number of experts from industry into the Sections, Commissions and working groups of the Division of Applied Chemistry, alongside their colleagues from the Universities or government organizations. It would even be desirable, in view of the limitation imposed by the rules of IUPAC upon the number of Titular Members, to appeal for the services of Associate Members belonging to industry and to invite Observers having the same origin.

It is in this direction that the policy of the Division of Applied Chemistry is now aimed, numerous examples of the fecundity of which could be provided. In the long term this policy would have the advantage of interesting industry in the work of IUPAC, which interest might be translated into considerable financial help.

### 2. Liaison with certain International Organizations.

As in the case of IUPAC's liaison with industry, IUPAC is in fact considered as the source of information on nomenclature rules and on chemical constants. Such organizations as the World Health Organization (WHO), Food and Agriculture Organization (FAO) and even the International Organization for

Standardization (ISO) constantly need to consult IUPAC on these subjects and submit to the Union for verification documents which they propose to publish. The same is true, to a more limited extent, of such international organizations as the European Economic Community, the Council of Europe and a whole number of similar groups.

Regarding specifically the Division of Applied Chemistry, it should have - in my opinion - the primary position internationally in the establishment of standards of purity and of identification tests as well as of methods of quantitative analysis, which are being asked from organizations such as WHO, FAO and the International Labour Organization (ILO).

This idea may be illustrated by an example, chosen from among many others, of worldwide importance: that of the quantitative determination of pesticide residues in foodstuffs. This problem is of the greatest interest to FAO and WHO, who despite their powerful resources, have not at their disposal groups of experts competent to study and resolve the problems. Each time that they are discussed before a Committee of experts who have been gathered together under the aegis of these organizations, the name of IUPAC is mentioned. However, at the present moment IUPAC is in fact unable to reply to questions asked in this domain. As it is a rôle which should revert to IUPAC, it would be advisable for IUPAC to accept the responsibility and make the appropriate arrangements. The same is true in the cases of numerous food additives, and contaminants in foodstuffs, drinks, and the ambient air in a place of work. In these areas, however, certain Sections of the Division of Applied Chemistry have entered upon studies which have led to practical results and the perfecting of standard methods of analysis, among others for the control of products of industrial origin and of foodstuffs (including drinking water), as well as for the surveillance of man's surroundings in the conditions of modern life. Organizations such as WHO, FAO, and ILO need the active collaboration of IUPAC. It is necessary to provide for a mechanism which will allow IUPAC to receive the questions posed by these organizations and to channel them as rapidly as possible to the experts having the necessary competence to give the correct answers or to indicate that research is necessary in order to be able to reply. In this way IUPAC could assume its rôle as the Information Centre in the field of chemistry while receiving very useful suggestions for the orientation of its activities which, in order to be well conducted, will require cooperation between the various Divisions.

It is important to stress here that in order to achieve these objectives, the liaison with industry mentioned as point 1 will be invaluable.

Among the more specialised international organizations wishing to benefit from the advice of IUPAC is, for example, the International Union against Cancer. Regarding the establishment of controlling measures against the many carcinogens present in man's surroundings, that which the International Union against Cancer would expect of IUPAC is the study and recommending of methods of detection and measurement of known or potential carcinogens. Such analytical control is an obvious prerequisite for the prevention of cancer, if, for example, it is a question of verifying the absence of carcinogenic substances in food or in the atmosphere at a place of work, or of ensuring that the concentration in the air of towns of certain pollutants having a carcinogenic action should not exceed a certain value.

The Food Section has recently recognised this problem and has chosen as subjects of study:

a) the detection and measurement of very small quantities of polycyclic hydrocarbons in food.

b) the measurement of mycotoxins in the food of men and cattle (e.g. carcinogenic aflatoxins).

To sum up, in an epoch of a tremendous evolution in science, the techniques of which require an increasingly narrow specialization, the large organization represented by the International Union of Pure and Applied Chemistry must, in our opinion, play the primary rôle in the field of chemistry, at one and the same time in the study of problems and in the diffusion of information to the many organizations interested by these problems. In the field of applied chemistry, such a rôle cannot be contemplated unless there be a close liaison with industry.