

BULLETIN OF THE INTERNATIONAL MATHEMATICAL UNION

REPORT OF THE EXECUTIVE COMMITTEE TO THE NATIONAL ADHERING ORGANIZATIONS

Covering the period from June 1, 1958 to December 31, 1960

A — ORGANIZATIONAL

At the end of 1960, the following countries were members of the International Mathematical Union (group indicated in parenthesis):

Argentina (I), Australia (I), Austria (II), Belgium (III), Brazil (I), Bulgaria (I), Canada (III), China-Taiwan (I), Cuba (I), Czechoslovakia (III), Denmark (II), Eire (I), Finland (I), France (IV), Germany (IV), Great Britain (V), Greece (I), Hungary (III), Iceland (I), India (III), Israel (II), Italy (IV), Japan (IV), Malaya-Singapore (I), Mexico (I), Netherlands (III), Norway (I), Pakistan (II), Poland (IV), Portugal (I), Rumania (II), Spain (II), Sweden (II), Switzerland (III), U.S.A. (V), U.S.S.R. (V), Yugoslavia (II).

Having regard to the groups of adherence (roman figure = number of votes) and the number of unit contributions as shown in the table

Groups	I	II	III	IV	V
Units	1	2	3	5	8

the present memberships correspond to 86 votes and to 100 units (i. e., to an annual income of \$ 6520).

B — ACTIVITIES OF THE COMMISSIONS

1. Commission for the World Directory of Mathematicians

The task of the Commission was to prepare the publication of a World Directory of Mathematicians. Early in 1958 this preparation was finished. A special bureau for the World Directory, established at the Tata Institute of Fundamental Research, was charged with the work of publication according to the plans originally set up by the commission; Professor K. Chandrasekharan was appointed liaison officer between the EC of IMU and the bureau. The Directory appeared in summer 1958. By decision of the General Assembly of IMU the Commission was dissolved at the end of 1958. It was decided that the cooperation with the Tata Institute should continue in order to establish a permanent service in view of future editions. The bureau for the World Directory was thus established at the Tata Institute as a permanent institution; the second edition of the World Directory will appear in summer 1961.

2. Commission on the Exchange of Mathematicians

The Commission consists of: Professor S. MacLane (Chairman), Chicago.
Professor E. Bompiani, Rome
Professor T. M. Cherry, Melbourne
Professor R. D. James, Vancouver
Professor E. Marczewski, Wroclaw
Professor S. L. Sobolev, Moscow
Professor K. Yosida, Tokyo.

In agreement with the decisions of the last General Assembly, the Commission investigated the possibilities of the activities proposed by the Committee for Promotion and Development (Sub-Committee of the EC). Among all these plans only one could be so far realised, namely the *IMU-lecturership programme*. Under this programme, the Commission for the Exchange and the Executive Committee of IMU jointly appoint IMU lecturers from one country for a visit to another country; during that visit substantial series of lectures have to be given at various institutions of the host country. The financial contribution of IMU must be matched by at least an equal contribution from the inviting institutions. Applications for IMU-lecturerships are made by the National Committee for Mathematics of the host country. During the reporting period the following IMU-lecturerships have been granted:

- (a) to Poland for inviting Professor A. Tarski, Berkeley, California in 1959,
- (b) to Great Britain for inviting Professor H. S. M. Coxeter, Toronto, Canada in 1959 (to Scotland),
- (c) to Hungary for inviting Professor G. Szegő, Stanford, California in 1960,
- (d) to Japan for inviting Professor H. Grauert, Göttingen, Germany in 1961,
- (e) to Great Britain for inviting Professor J. Deny, France, L. Garding, Sweden, C. E. Rickart, U.S.A. in 1961 (London Mathematical Society),
- (f) to Poland for inviting Professor E. S. Andersen, Denmark in 1961.

Further IMU-lecturerships are either already granted or envisaged for 1962 and later. Those lecturerships which took already place so far appeared to be very useful and successful; detailed reports have been received from the inviting institutions.

3. International Commission of Mathematical Instruction (ICMI)

Until the end of 1958 the composition of ICMI was as follows:

Executive Committee:

President	Prof. H. Behnke, Münster
Vice-Presidents	Prof. Djuro Kurepa, Zagreb Prof. Marshall H. Stone, Chicago
Secretary	Julien Desforge, Bourg-la-Reine
Members	Prof. Ram Behari, Delhi Prof. E. A. Maxwell, Cambridge Dr. K. Piene, Oslo

Members at large: Prof. Yasno Akizuki, Kyoto
 Prof. Ram Behari, Delhi
 Prof. H. Behnke, Münster
 Prof. Piero Buzano, Torino
 Prof. J. C. H. Gerretsen, Groningen
 Prof. Jeffery, Ontario
 Prof. Djuro Kurepa, Zagreb
 Prof. E. A. Maxwell, Cambridge
 Prof. Marshall H. Stone, Chicago

Beginning with 1959 the composition of ICMI was as follows:

Executive Committee:

President	Prof. Marshall H. Stone, Chicago
Vice-Presidents	Prof. H. Behnke, Münster Prof. Djuro Kurepa, Zagreb G. Walusinski, St. Cloud
Secretary	Prof. Yasno Akizuki, Kyoto
Members	Prof. A. D. Alexandrov, Leningrad Prof. O. Frostman, Djursholm
Members at large:	Prof. Yasno Akizuki, Kyoto Prof. A. D. Alexandrov, Leningrad Prof. H. Behnke, Münster Prof. Piero Buzano, Torino Prof. G. Choquet, Paris Prof. Howard Fehr, New York Prof. H. Freudenthal, Utrecht Prof. Djuro Kurepa, Zagreb Prof. E. A. Maxwell, Cambridge Prof. M. H. Stone, Chicago

During the period covered by this report *new terms of reference* for ICMI have been prepared by the EC of IMU and the EC of ICMI; they were submitted to the member countries of IMU for vote by correspondence on November 15, 1960, and unanimously accepted. These new terms of reference are as follows:

(a) The Commission shall consist of ten members-at-large elected by the General Assembly of IMU on nomination of the President of IMU and of one national delegate from each member nation, as specified below.

(b) The officers of the Commission shall consist of a President, a Secretary, and two Vice-Presidents. The President shall be elected by the General Assembly on the nomination of the President of IMU from the membership-at-large of the Commission.

(c) The Executive Committee of the Commission shall consist of the officers of the Commission together with three additional members elected by the membership of the Commission.

(d) In all other respects the Commission shall make its own decisions as to its internal organization and rules of procedure.

(e) Any National Adhering Organization wishing to support or encourage the work of the Commission may create, or recognize, in agreement with its National Committee, a National Sub-Commission for ICMI to maintain liaison with the Commission in all matters pertinent to its affairs. The National Adhering Organization in question shall designate one member of the said Sub-Commission, if created, to serve as a delegated member of ICMI as mentioned in (a).

(f) The Commission shall be charged with the conduct of the activities of IMU, bearing on mathematical or scientific education and shall take the initiative in inaugurating appropriate programs designed to further the sound development of mathematical education at all levels, and to secure public appreciation of its importance. In the pursuit of this objective, the Commission shall cooperate, to the extent it considers desirable, with effective regional groups which may be formed spontaneously within or outside its own structure.

(g) The Commission may, with the approval of the Executive Committee of IMU, coopt, as members of ICMI, suitably chosen representatives of non-IMU countries, on an individual basis.

(h) The budget of the Commission shall be submitted to the Executive Committee of IMU and the General Assembly, for approval, at such times as may be determined by agreement between the Commission and the Executive Committee of IMU.

(i) The Commission shall file an annual report of its activities with the Executive Committee of IMU, and shall file a quadrennial report at each regular meeting of the General Assembly.

ICMI meetings and conferences during the reporting period:

(a) *Participation of ICMI in the International Congress of Mathematicians. Edinburgh, 1958:* See Section C (5) of this Report.

(b) *Executive Committee Meeting of ICMI, Paris, May 26/27, 1959.*

(c) *Executive Committee Meeting of ICMI, Paris, December 7/8, 1959,*

These two meetings dealt with the following items: discussion of new terms of reference of ICMI as requested by the General Assembly of IMU, preparation of ICMI's participation in the International Congress of Mathematicians 1962, activities' programme for 1960 and 1961, in particular preparation of seminars and regional meetings (Inter-American conference on mathematical education 1961).

(d) *ICMI-Seminar Aarhus, Denmark, May 30—June 2, 1960, on the topic "Modern Teaching of Geometry in Secondary Schools".* There were 30 participants from 10 countries. The lectures and discussions are being published in extenso in the Proceedings of the Seminar.

(e) *ICMI-Meeting, Belgrade, Yugoslavia, September 19—24, 1960, on the occasion of the "International Symposium on the Coordination of the Instruction of Mathematics and Physics".*

4. Commission for the Documentation of Mathematical Literature

The Commission consists of

Professor J. F. Koksma (Chairman), Amsterdam

Professor B. A. Amira, Jerusalem

Professor W. Fenchel, Copenhagen

Professor G. Sansone, Florence.

This Commission is studying the possibilities of IMU's participation in the establishment of a decimal classification for mathematics as envisaged by the international bodies of documentation.

C — COLLOQUIA, INTERNATIONAL CONGRESS

During the period covered by this report IMU sponsored together with local organisations the following Colloquia in various mathematical fields:

(1) International Colloquium on the Algebraic and Topological Foundations of Geometry. Utrecht (Netherlands), August 3 to 8, 1959

The Colloquium was held at the Mathematical Institute of Utrecht University. It was sponsored by the Government of the Netherlands and by the International Mathematical Union. Chairman of the Organizing Committee was H. Freudenthal, the delegates of IMU in this committee were H. Hopf and J. F. Koksma.

The Colloquium was attended by 59 members from 10 countries: Belgium, Canada, England, Germany, Israel, Italy, Japan, Netherlands, Switzerland, U.S.A. There were 25 invited lectures and many hours of discussions.

List of lectures:

- R. Baer*, Hjelmslevsches Geometrie
- W. Benz*, Bericht: Zur geometrischen Algebra der Möbiusebenen
- H. Busemann*, The theory of parallels with application to closed geodesics
- P. Dembowski*, Endliche Inzidenzstrukturen
- G. Ewald*, Schwach projektive Räume über dreifachem Ternärkörper
- H. Freudenthal*, 1. Symplectic and metasymplectic geometries; 2. Report on Rozenfeld's theory of elliptic planes
- A. M. Gleason*, Groups of homeomorphisms
- H. Guggenheimer*, Order, topology, metric
- I. Halperin*, Complemented modular lattices
- K. H. Hofmann*, Bericht über topologische Inzidenzstrukturen (topologische Ternärkörper und Doppelloops)
- D. R. Hughes*, A review of some results on collineation groups
- N. Jacobson*, Exceptional algebras and exceptional groups
- H. Karzel*, Anordnungsfragen in ternären Ringen und allgemeinen projektiven Ebenen
- W. Klingenberg*, Lineare Algebra und Projektive Geometrie mit Homomorphismus
- D. Kijne*, Constructions géométriques
- R. Lingenberg*, Zur Kennzeichnung orthogonaler Gruppen
- L. Lombardo-Radice*, Anneaux ternaires et corps généralisés liés aux géométries non Désarguéennes
- T. Nagano*, Differential geometry and analytic group theory methods in foundations of geometry
- H. Salzmann*, Topologische projektive Ebenen
- M. F. Smiley*, Von Staudt projectivities
- E. Sperner*, Nichtassoziative Vektorbereiche und verallgemeinerte affine Räume
- T. A. Springer*, The projective octave plane
- J. Tits*, Groupes algébriques semi-simples et géométries associées
- F. D. Veldkamp*, An axiomatic treatment of polar geometry
- A. Wagner*, Perspectivities and the little projective group.

(2) International Symposium on Foundations of Mathematics: Infinitistic Methods. Warsaw (Poland), September 2 to 8, 1959

The Symposium was sponsored by the Polish Academy of Sciences and by the International Mathematical Union. Chairman of the Organizing Committee was A. Mostowski. The delegates of IMU in this Committee were S. MacLane and A. Heyting.

The Symposium was attended by 44 members representing the following 13 countries: France, Germany, Great Britain, Hungary, Israel, Netherlands, Poland, Rumania, Sweden, Switzerland, Czechoslovakia, U.S.A., U.S.S.R.

List of participants:

France: Mrs. P. Février, Paris; R. Fraissé, Alger; D. Lacombe, Paris.

Germany: P. Lorenzen, Hamburg; G. Asser, Berlin.

Great Britain: G. Kreisel, Reading.

Hungary: L. Kalmár, Szeged; Miss R. Péter, Budapest; J. Surányi, Budapest.

Israel: A. Robinson, Jerusalem.

Netherlands: E. Beth, Amsterdam; A. Heyting, Amsterdam.

Poland: A. Ehrenfeucht, Warsaw; Miss D. Gierulanka, Cracow; A. Grzegorzczak, Warsaw; S. Jaskowski, Toruń; Mrs. M. Kokoszynska, Wrocław; K. Kuratowski, Warsaw; J. Loś, Toruń; A. Mostowski, Warsaw; Mrs. H. Rasiowa, Warsaw; W. Sierpiński, Warsaw; J. Slomiński, Toruń; J. Slupecki, Wrocław; A. Suliński, Warsaw.

Rumania: G. Moisil, Bucarest.

Sweden: S. Kanger, Uppsala.

Switzerland: P. Bernays, Zürich; E. Specker, Zürich.

Czechoslovakia: L. Rieger, Prague.

U. S. A.: J. W. Addison, Ann Arbor, Michigan; W. Boone, Urbana, Illinois; L. Henkin, Berkeley, California; S. C. Kleene, Madison, Wisconsin; S. MacLane, Chicago, Illinois; R. Montague, Los Angeles, California; D. Scott, Chicago, Illinois; C. Spector, Columbus, Ohio; A. Tarski, Berkeley, California; R. L. Vaught, Berkeley, California.

U. S. S. R.: J. T. Medvedev, Moscow; P. S. Novikov, Moscow; Miss A. J. Sragowic, Moscow.

Organization of the meetings and the Scientific Programme.

Lectures were divided as far as possible in groups according to their subjects. Short discussions took place after each lecture and longer discussions were held after each group of related subjects.

There were altogether 28 lectures lasting from 30 to 45 minutes. The full list of lectures follows (each title is given in the language in which the lecture was delivered; lectures in Russian were translated into English; lecture 22 by Essenin-Volpin was read by Mr. A. Ehrenfeucht).

P. Bernays, Die hohen Unendlichkeiten und die Axiomatik der Mengenlehre

J. Loś, Quelques propriétés des nombres inaccessibles

S. MacLane, Transfinite constructions of abelian categories

P. S. Novikov, Neprotivorečivost nekotoryh logičeskikh isčislenij

(Consistency of some logical calculi)

A. Tarski, On predicative set theories

R. L. Vaught, Natural models of set theories

R. Montague, Semantical closure and non-finite axiomatizability

R. Péter, Über die Verallgemeinerungen der Rekursionsbegriffe für abstrakte Mengen als Definitionsbereiche

- G. Kreisel, An infinitistic conception of potential totalities
 C. Spector, Inductively defined sets of natural numbers
 G. H. Müller, Über Formen der unendlichen Induktion
 L. Henkin, Some remarks on infinitely long formulas
 A. Mostowski, A system of analysis based on infinitary rules of proof
 P. Lorenzen, Ein dialogisches Konstruktibilitätskriterium
 J. T. Medvedev, Isčislene zadač (calculus of problems)
 G. Moisil, Les applications des logiques à plusieurs valeurs dans l'automatique
 P. S. Novikov, Ob probleme Burnsajda (on the Burnside problem)
 J. W. Addison, On Novikov-Kondo theorem
 R. Fraïssé, A characterization of isomorphism types of recursive relations
 D. Lacombe, On statements of classical analysis which are expressible and provable in intuitionistic arithmetic
 A. Heyting, Infinitistic methods from a finitist point of view
 A. S. Esenin-Volpin, Superintuitionistic programme for foundations of mathematics
 L. Kalmár, A practical infinitistic computer
 L. Rieger, Sur le problème des nombres naturels
 A. Robinson, Model theory and non-standard models of arithmetic
 E. Specker, Modelle der Arithmetik
 D. Scott, On constructing models for arithmetic
 R. L. Vaught, Models of complete theories

Scientific Results.

Not all lectures were concerned with the chief topic of the Symposium. The majority of them however discussed infinitistic methods and most of the remaining ones contained either a discussion of the infinitistic mathematics or tried in this or other form to span a bridge between finitistic and infinitistic notions. On the whole the Symposium gave a picture of what can be done in foundation of mathematics by means of infinitistic methods, what are the most outstanding open problems and where lie chief divergences between the finitist and infinitist points of view.

Proceedings of the Symposium will be published in 1960 jointly by the "Państwowe Wydawnictwo Naukowe" (Warsaw) and Pergamon Press (London).

(3) International Colloquium on Differential Geometry and Topology. Zurich (Switzerland), June 20 to 25, 1960

The Colloquium was organised by the Swiss Mathematical Society and sponsored by this Society, by the International Mathematical Union, and by the Swiss National Science Foundation. Chairman of the Organizing Committee was H. Hopf, the delegates of IMU in this Committee were H. Kneser and H. Whitney.

The Colloquium was attended by 105 members from 12 countries: Belgium, France, Germany, Great Britain, Italy, Japan, Netherlands, Poland, Switzerland, U.S.A., U.S.S.R., Yugoslavia.

There were 10 one-hour lectures and 53 talks in two simultaneous seminars, all by invitation. The one-hour lectures will be published in the periodical "L'Enseignement mathématique"; the research papers on which the seminar talks were based, in the periodical "Commentarii Mathematici Helvetici".

List of one-hour lectures and of seminar-talks (marked by A and B), in the order in which they were delivered:

- R. *Bott*, Vector fields on spheres and allied problems
- A) L. *Auslander*, Solvmanifolds and locally affine spaces
 E. *Peschl*, Modifizierte Lorenz-Raumformen
 J. *Wolf*, Riemannian homogeneous manifolds of constant curvature
- B) J. C. *Moore*, Infinite dimensional Lie groups
 H. *Fischer*, Lie-Gruppen mit Parametern aus reellen Banachräumen
 B. *Kostant*, On the integral cohomology ring of G/T
- A) R. *Olivier*, Geschlossene Geodätische und Homotopiegruppen Riemannscher Mannigfaltigkeiten
 J. J. *Stoker*, Two theorems in differential geometry in the large without differentiability
 K. *Voss*, Kongruenzsätze für geschlossene Flächen im Euklidischen Raum
- B) J. F. *Adams*, Progress with cohomology operations
 P. *Dedecker*, Récents développements dans la cohomologie non abélienne
 R. S. *Palais*, Fibre bundle properties of certain restriction maps
- A. *Lichnérowicz*, Transformations des variétés à connexion linéaire en des variétés riemanniennes
- R. *Thom*, Stabilité topologique des applications différentiables
- A) M. A. *Kervaire*, A manifold which does admit any differentiable structure
 C. J. C. *Wall*, Some second order theorems on the topology of differential manifolds
 D. *Bernard*, Le tenseur de structure d'une G-structure
- B) D. *Puppe*, Stabile Homotopietheorie
 J. *Jaworowski*, Some application of the Vietoris mapping theorem
 J. *Weier*, Über die Seifert-Invarianten
- A) H. E. *Rauch*, The second variation applied to the global study of geodesics on symmetric and nearly symmetric manifolds
 M. *Berger*, Variétés Riemanniennes suffisamment pincées
- B) C. R. *Curjel*, Über den Hopfschen Homomorphismus
 I. *James*, Sphere-bundles over spheres
 A. *Dold*, Zur Invarianz des Tangentialbündels der Sphäre
 F. *Hirzebruch*, Charakteristische Klassen und ihre Anwendungen
 P. *J. Hilton*, The work of J. H. C. Whitehead
- B. *Eckmann*, Homotopie und Homologie
- A) H. *Freudenthal*, Allgemeines zu den Raumproblemen
 J. *Stallings*, On the Poincaré hypothesis
 Bericht über die Arbeiten von I. *Bernstein* (Homotopy mod. C of spaces of category 2), T. *Ganea*, (Fibrations and cocategory) und V. *Poenu* (Sur les décompositions de l'hypercube en produit topologique)
 W. *Browder*, Homology of H-spaces
- B) J. C. *Moore*, Applications of Hopf Algebra to homotopy theory
 J. W. *Gray*, Extensions of sheaves of algebras
 P. *Huber*, Semisimpliziale Konstruktionen und die Gruppen $\pi_n(X, Y)$
- P. *Alexandroff*, Metrik und Abzählbarkeitsaxiome
 J. *Milnor*, A survey of cobordism theory
- A) A. D. *Alexandrov* und A. *Pogorelov*, On the infinitesimal bending of the general convex surfaces
 S. *Smale*, Topological method in differential equations
- A) N. H. *Kuiper*, Surfaces immersed in euclidean 3-space with minimal total absolute curvature
 R. *Ossermann*, Minimal surfaces in the large

- B) *S. S. Cairns*, Remarks on the smoothing problem
J. Eells, Alexander-Pontrjagin duality in function spaces
J. Leray, Théorie des points fixes: indice total et nombre de Lefschetz
- H. Busemann*, Convexity in Grassmann manifolds
- N. E. Steenrod*, The algebra of cohomology operations
- A) *K. Yano*, Vector fields on Riemannian and Hermitian spaces
R. Hermann, Geodesics in symmetric bounded domains
H. Frölicher, Allgemeine differenzierbare Strukturen
- B) *P. J. Hilton*, Operators and cooperators
M. W. Hirsch, An exact sequence in differential topology
- A) *M. F. Atiyah*, Analytic cycles on complex manifolds
Ch. Blatter, Über Extremallängen auf geschlossenen Flächen
A. Garsia, An imbedding of closed Riemann surfaces in Euclidean space
- B) *B. I. Goldberg*, Problems on conformal maps of Riemann and Kaehler manifolds
W. Klingenberg, Metrische Eigenschaften kompakter Kählerscher Mannigfaltigkeiten
K. Leichtweiss, Riemannsche Geometrie in Grassmann-Mannigfaltigkeiten
- S. S. Chern*, Mappings of complex analytic manifolds
G. de Rham, Quelques notions de base de la théorie des variétés différentiables
- H. Hopf*, Einige neuere Ergebnisse in Differentialgeometrie und Topologie

(4) International Colloquium on Linear Spaces. Jerusalem (Israel), July 5 to 12, 1960

The Colloquium was organised by The Hebrew University, Jerusalem. It was sponsored by The Hebrew University and the International Mathematical Union. Chairman of the Organizing Committee was A. Dvoretzky, the delegates of IMU in this Committee were M. Morse and L. Schwartz.

There were 32 invited participants from 12 countries: Brazil, Canada, England, France, Israel, Italy, Japan, Netherlands, Poland, Uruguay, U.S.A., West Germany.

Further auditors were present, all on invitation. The scientific programme consisted of 32 lectures. These will be printed in the Proceedings of the Colloquium.

List of participants and title of lecture:

- Sh. Agmon*, Existence and characterization of self-adjoint and semi-bounded elliptic boundary value problems
- I. Amemiya*, On ordered topological linear spaces
- R. Arens*, The analytic-functional calculus in commutative Banach algebras
- N. Aronszajn*, Quadratic forms on vector spaces
- L. Bers*, Completeness theorems for Poincaré series in one variable
- F. F. Bonsall*, Semi-algebras of continuous functions
- J. A. Dieudonné*, Quasi-Hermitian operators
- A. Dvoretzky*, A theorem on convex bodies and its applications
- L. Ehrenpreis*, The fundamental principle and some of its applications
- G. Fichera*, Linear spaces and differential forms
- R. E. Fullerton*, Geometrical characterizations of certain function spaces
- E. Gagliardo*, A unified structure for various families of functional spaces. Compactness and closure theorems
- I. Halperin*, Function spaces
- H. Helson*, Function theory on compact groups

- E. Hille*, Linear differential equations in Banach algebras
J. P. Kahane, Fonctions pseudo-périodiques dans R^d
V. Klee, Relative extreme points and characterizations of weak compactness
G. Köthe, Problems of linear algebra in topological vector spaces
P. D. Lax, Translation invariant spaces
W. A. J. Luxemburg, On closed and dense linear subspaces of locally convex topological vector spaces
G. W. Mackey, Induced representations and normal subgroups
J. L. Massera, Function spaces with translations and their application to linear differential equations
J. Mikusiński, Operational calculus and theory of distributions
L. Nachbin, Extending and lifting continuous linear transformations
L. Nirenberg, Inequalities in boundary value problems for elliptic differential equations
W. Orlicz, On spaces of φ integrable functions
R. S. Phillips, The extension of dual subspaces invariant under an algebra
G. Stampacchia, Solutions continues de problèmes aux limites elliptiques à données discontinues
M. H. Stone, Some classical applications of Hilbert space to analysis
A. E. Taylor, Spectral theory and Mittag-Leffler type expansions of the resolvent
J. Wermer, Subalgebras of $C(X)$
A. C. Zaanen, Banach function spaces

(5) International Congress of Mathematicians 1958

The Congress was cosponsored by IMU and received an important financial contribution from the ICSU/UNESCO grant; furthermore in 1959, again from the ICSU/UNESCO grant to IMU, a financial contribution towards the publication costs of the proceedings of the Congress (see Financial Report 1958/59).

The International Congress of Mathematicians 1958 was held in Edinburgh from August 14 to 21. It was attended by 1658 mathematicians and 757 associate members, from all over the world. 308 universities and scientific organisations had appointed official delegates.

The scientific programme of the Congress consisted of invited lectures, lasting either for an hour or for half an hour, and of offered communications, lasting for fifteen minutes each. The numbers of those delivered were as follows: 19 one-hour lectures, 37 half-hour lectures and 604 fifteen minute communications. The half-hour lectures and fifteen-minute communications were allocated to sections according to subject; there were originally eight sections, but they were later subdivided, the final list being:

- | | |
|----------------------------|--------------------------------|
| I. Logic and Foundations | V B. Differential Geometry |
| II A. Algebra | VI. Probability and Statistics |
| II B. Theory of Numbers | VII A. Applied Mathematics |
| III A. Classical Analysis | VII B. Mathematical Physics |
| III B. Functional Analysis | VII C. Numerical Analysis |
| IV. Topology | VIII. History and Education |

In Section VIII a number of special sessions were arranged by the International Commission on Mathematical Instruction. These were devoted to reports and discussions on three prepared topics, namely:

- (i) Mathematical instruction up to the age of fifteen years
- (ii) The scientific bases of mathematics in secondary education
- (iii) Comparative study of methods of initiation into geometry.

D — EXECUTIVE COMMITTEE OF IMU AND RELATIONS WITH ICSU AND UNESCO

1. Tenth Meeting of the Executive Committee Edinburgh, August 9, 1958

The Meeting was attended by all members of the Executive Committee and by Professor Bompiani, former Secretary, as invited participant. It dealt essentially with matters related to the preparation of the General Assembly, August 11 to 13.

(1) *Preparation of the General Assembly: discussion of the agenda.* At the beginning of the Assembly the President will appoint working committees. The EC agrees with the proposed composition of these committees (see Record of the General Assembly). Some smaller changes of the printed proposed changes of the statutes of IMU are adopted. They will be mimeographed and distributed to the General Assembly. In connection with the revision of statutes of ICMI the EC is not yet in a position to present a final version to the General Assembly.

(2) *Preparation of the General Assembly: practical arrangements.* The seating order of delegates will be alphabetical according to the countries. The EC agrees on the following voting procedure: the whole new Executive Committee shall be elected by written ballot (not only the officers). For all other elections and votes the General Assembly will be asked whether a formal vote is required or not. Since formal vote according to the voting group of the different countries is rather complicated, this procedure might save time.

(3) *Application for membership.* An application for admission to IMU in group I has been received from the Chinese Mathematical Society, Taipei, Taiwan, together with a proposed list of members of the National Commission for Mathematics. Before this application can be presented to the member countries of IMU for vote, the society applying for membership should agree with the following statement: The Society would represent the mathematicians living in Taiwan, under the name "Republic of China". In case of an application of the Chinese Mathematical Society having its seat in Peking, for admission to IMU as adhering organisation of the "People's Republic of China", the Executive Committee would be in favour thereof. The "Republic of China", Taiwan and the "People's Republic of China" would thus be considered as two different countries in the sense of the term country as explained in article 5 of our statutes.

2. Eleventh Meeting of the Executive Committee Lausanne, December 10/11, 1958

The Meeting was attended by President Hopf, Professors Denjoy, Eckmann, Hodge, Koksmá, MacLane. Professor Chandrasekharan was unable to attend and sent comments with regard to the various items of the agenda. A selection from the list of resolutions and the topics discussed at that meeting is given below.

(1) *World Directory of Mathematicians.* Plans for the future work of the bureau of the World Directory of Mathematicians established at the Tata Institute of Fundamental Research, Bombay, are presented to the EC by Professor Chandrasekharan, liaison officer of the EC with this bureau.

and approved by the EC. The bureau will prepare a card index which will be ready at any moment to be used as a basis for a second edition. The card index will be kept up to date by the bureau according to all notices and changes of addresses received. Suggestions for the addition of new names will be taken care of according to the same criterion as before. The income from the sale of the first edition will be kept in India on a separate account for the Union.

It has been suggested by the Italian National Committee that, when the date of publication of the second edition is fixed, all national committees should be informed thereof, and the deadline set up for corrections and additions.

(2) *International Congress 1962*. The Committee authorised by the final plenary session of the Congress in Edinburgh to determine the location of the International Congress 1962, has accepted an invitation from the Swedish National Committee for Mathematics and the Swedish Mathematical Society in the following terms:

"To Mathematicians of all Countries,

The Swedish National Committee for Mathematics and the Swedish Mathematical Society have the honour of inviting you to the next International Congress of Mathematicians, to be held in Stockholm during the Summer of 1962.

We will do our best to make the Congress scientifically successful and enjoyable, hoping that it will stimulate the interaction between mathematicians in different fields and countries.

Ake Pleijel,
Chairman of the
Swedish National Committee
for Mathematics

Göran Berg,
Chairman of the
Swedish Mathematical
Society."

The EC resolves that IMU will give the Swedish National Committee for Mathematics and the Swedish Mathematical Society all the help they may need in organising the Congress. In particular the following steps will be taken:

- a) The Secretary of IMU will inform all member countries of IMU of the invitation and of the acceptance thereof by the Committee. He will ask them to give the invitation as much publicity as possible.
- b) IMU will later on establish a body with a task to help the organisers of the Congress prepare the scientific program and all practical questions.

For the time being, two liaison officers are appointed: Professors Hopf and Morse. They shall submit further proposition to the EC.

- c) All efforts will be made to contribute financially to the same extent to the 1962 Congress as to former Congresses. A decision on the grant of IMU to the 1962 Congress can only be taken by the next Executive Committee; the grant will depend on ICSU-UNESCO contributions in future years.

(3) *International Commission for Mathematical Instruction*. A draft for the new terms of reference for ICMI has been prepared by the President and is adopted by the EC with minor changes. This draft is to be submitted for approval to Professor Stone, President of ICMI.

(4) *Relations with ICSU*. The Secretary gives a report on the meetings of the Executive Board and the General Assembly of ICSU, Washington 1958. The EC of IMU decides:

- a) The Resolution of Political Non-Discrimination will be communicated to all members of IMU.
- b) The next Executive Committee of IMU is asked to investigate in which way the income of IMU could be increased, in particular by raising money from private sources or academies.
- c) It is resolved that IMU should participate in the activity of the ICSU Committee for Space Research (COSPAR).

(5) *Organisation of International Symposia.* Professor MacLane has prepared a draft of directives for organising international mathematical symposia. Such directives are urgently needed by all organising committees of such symposia, in particular by those sponsored by IMU. The draft is unanimously adopted.

(6) *Application of Taiwan for admission to IMU.* Taiwan has agreed with the conditions formulated by the EC of IMU (see 10th Meeting of the EC) in connection with the application for membership to IMU. The application has been submitted to all members of IMU for vote. The vote is not yet finished (deadline December 15).

(7) *IMU Lecturers Program.* A grant of \$ 400.— is allocated to the Edinburgh Mathematical Society and the National Committee for Mathematics of Great Britain for inviting Professor Coxeter, Canada, as IMU lecturer in 1959.

(8) The Executive Committee expresses its gratitude and admiration to the retiring President, Professor H. Hopf, for everything he has accomplished during his term.

3. Twelfth Meeting of the Executive Committee Copenhagen, May 25 to 27, 1959

The Meeting was attended by all members with the exception of Professor Alexandroff, Moscow. Professor J. Nielsen, Copenhagen, attended the first session as a guest by invitation of the President. A selection of the topics discussed and the resolutions adopted is given below.

(1) *International Commission for Mathematical Instruction.* The EC having received a report on ICMI from Professor Hopf, delegate of the President to ICMI, resolves to await recommendations of the new Executive Committee of ICMI regarding the draft of terms of reference prepared by the old Executive Committee of IMU, together with the program of activities for ICMI.

(2) *World Directory of Mathematicians.* Following a report given by Professor Chandrasekharan on the general situation of the World Directory and on the work done by the World Directory Bureau in Bombay, it is resolved:

- a) The Executive Committee decides in principle to bring out a second edition of the World Directory well in advance of the next International Congress of Mathematicians, Stockholm 1962, and invite the bureau to cooperate in that project.
- b) The Executive Committee resolves to allocate up to \$ 200.— for the collection of further data for the existing World Directory by the bureau. The President expresses the thanks of the Union to Professor Chandrasekharan for all he has done for the World Directory, in particular for the most efficient and successful handling of the 1st edition and for having set up a permanent bureau in Bombay.

It is hoped that it will be possible to obtain a list of Soviet mathematicians, to be included in the new World Directory.

(3) *Scientific Publications*. Professor Koksma, Chairman of the Temporary Committee to investigate the possibilities for future activities of the Commission on Scientific Publications, presents a detailed report on the findings of his Committee. The following resolution is adopted:

The Executive Committee having before it a preliminary report on the proposed Commission on Scientific Publications presented by Professor Koksma, resolves to recommend to the members of the Union the following items as the principal terms of reference of the Commission:

- a) Preparation of a list of mathematical symbols and a study of the technique of casting and printing them.
- b) Study of the question of editing and publishing monographs and journals in cooperation with commercial publishers under the auspices of IMU. As soon as it is possible to make propositions for the composition of the new Commission, these two items will be submitted to the members of the Union for vote and election by postal ballot.

(4) *Symposia 1960*. The following international symposia will be sponsored in 1960 by IMU:

Israel: "Linear Spaces — Geometrical Aspects and Applications to Analysis"

Chairman of the Organizing Committee: A. Dvoretzky.

Delegates of the Executive Committee to the Organizing Committee: M. Morse and L. Schwartz.

Switzerland: "Differential Geometry and Topology"

Chairman of the Organizing Committee: H. Hopf.

Delegates of the EC to the Organizing Committee: H. Kneser and H. Whitney.

(5) *ICSU-Committee on Space Research (COSPAR)*. Professor Koksma has attended a Meeting of COSPAR as an observer on behalf of the Executive Committee. In case of a formal application from IMU, COSPAR will be in favour of the admission of IMU to COSPAR. The EC reconfirms the decision taken at the EC-Meeting, Lausanne, and decides to elect Professor B. Rosser as delegate of IMU to COSPAR. The secretary is asked to make a formal application for membership of IMU in COSPAR.

4. 13th Executive Committee Meeting Paris, April 26/27, 1960

The Meeting was attended by all members. A selection from the topics discussed and the resolutions adopted is given below:

(1) *Budget 1962*. All EC members are asked to assist the secretary in his efforts for getting a substantial contribution from ICSU/UNESCO for the International Congress 1962. The EC resolves that IMU make a provisional allocation of \$ 12,000.— for the International Congress 1962, subject to the availability of funds; with the assurance, however, that out of this amount a sum of not less than \$ 7,000.— will be sanctioned, if necessary from IMU's own funds.

(2) *World Directory of Mathematicians*. The EC resolves to bring out the second edition of the World Directory around August 1961 and requests the cooperation of the bureau and of the Tata Institute of Fundamental Research towards that end. The EC further resolves to print and publish the directory in Bombay as before and makes a provisional

allocation of \$ 1,000.— towards the cost of the publication (i. e. in addition to the \$ 200.— allocated for its preparation at the last Meeting which are still unused). The bureau will send out questionnaires before the end of 1960 and will need all information before March 1961.

(3) *International Commission for Mathematical Instruction.*

a) *Activities' program.* For 1960, the following activities of ICMI are planned:

ICMI-Seminar at Aarhus, Denmark, in May;
ICMI-Seminar in Belgrade, Yugoslavia, in September.

For 1961:

A Regional Pan-American Conference under the direction of ICMI, sponsored by IMU and several American foundations is planned. A substantial contribution from UNESCO (directly, not through ICSU) is expected. Professor Kovda, director of the Department of Natural Sciences of UNESCO, will submit a corresponding provision to the General Assembly of UNESCO.

b) *Terms of reference.*

A list of comments regarding the proposed new terms of reference for ICMI has been received from President Stone. A new version of the terms of reference is established, taking account of suggestions made by the EC of ICMI. The EC of IMU resolves that these terms of reference be sent to Professor Stone for approval and then to all members of IMU for vote by correspondence.

(4) *IMU-lecturers program.* The EC resolves to continue the IMU-lecturership program and to allocate \$ 1,000.— from out of its 1961 budget for that purpose. This Election Committee consists of Professors Hopf, Eckmann, and MacLane (Chairman of the Exchange Commission); Professor Süß who died in 1959 has to be replaced, and in his place President Nevanlinna is nominated by the EC. A grant of \$ 400.— is made to Hungary for inviting Professor Szegő as an IMU-lecturer in 1960.

A grant of \$ 700.— is made to the British National Committee for Mathematics (for the London Mathematical Society) for inviting two or three IMU lecturers in connexion with the Conference on Functional Analysis to be held in April 1961.

(5) *Symposia 1961.* In 1961, the following international symposium will be sponsored:

International Symposium on General Topology and its Relations to Modern Analysis and Algebra, September 1—8, 1961.

Chairman of the Organizing Committee: Professor J. Novak. As delegates of the EC to the Organizing Committee Professors M. Morse and P. Alexandroff are appointed.

5. Tenth Meeting of the Executive Board of ICSU and Eighth General Assembly of ICSU

September 29—October 6, 1958, Washington, D. C.

Delegates of IMU to these two meetings were Professor R. Nevanlinna, President elect of IMU and Professor B. Eckmann, Secretary of IMU. From the great number of topics discussed and resolutions adopted at these meetings only two are mentioned here:

(1) *Resolution on Political Non-Discrimination.* In keeping with the purely scientific character of the ICSU, the General Assembly has approved the following statement:

1. To ensure the uniform observance of its policy of political non-discrimination, the ICSU affirms the right of the scientists of any country or territory to adhere to or to associate with international scientific activity without regard to race, religion or political philosophy.
2. Such adherence or association has no implications with respect to recognition of the government of the country or territory concerned.
3. Subject only to payment of subscriptions and submission of required reports, the ICSU is prepared to recognize the academy, research council, national committee, or other bona fide scientific group representing scientific activity of any country or territory acting under a government, de facto or de jure, that controls it.
4. Meetings or assemblies of ICSU or of its dependent organisms such as its special committees and its joint commissions should be held in countries which permit participation of the representatives of every national member of ICSU or of the dependent organisms of ICSU concerned, and allow free and prompt dissemination of information related to such meetings.
5. ICSU and its dependent organisms will take all necessary steps to effect these principles.

(2) *COSPAR*. The General Assembly creates a Joint Commission for Space Research (*COSPAR*) in the following terms:

"It is resolved that recognizing the need for an International Committee on Space Research and considering that ICSU should continue its work of co-ordination in this field, there be established an ICSU Committee on Space Research to function until the end of the year 1959 as follows: The primary purpose of the Committee is to provide the world scientific community with the means whereby it may exploit the possibilities of satellites and space-probes of all kinds for scientific purposes, and exchange the resulting data on a co-operative basis. It shall further report to ICSU those measures needed in future to achieve the participation in international programmes of space research of all countries of the world with those which are already actively engaged in research programmes involving the use of instrumented earth satellites and space-probes.

The Committee shall hold as a primary objective the maximum development of space-research programmes by the international community of scientists working through the ICSU and its adhering national academies and unions. Recognizing, however, the need for international regulation and control of certain aspects of satellite and space-probe programmes, the Committee shall keep itself fully informed on United Nations or other international activities in this field, in order to assure that maximum advantage is accorded international space-science research through such regulations, and to make regulations relative to matters of planning and regulation that may effect the optimum programme of scientific research.

The composition of the Committee is as follows:

1. A representative from each of the countries that are actually launching earth satellites, as also of those having major projects in rocketry.
2. Three representatives, designated on an agreed system of rotation, from among countries actively participating in tracking and other aspects of space research.
3. One representative each from the following Unions: IAU, IUGG, IUPAC, URSI, IUPAP, IUBS, IUTAM, IUPS and IUB."

IMU is not represented in this body. (Later on IMU had made an application for membership in COSPAR and has been admitted under the terms of the final charter of COSPAR; see Eleventh Meeting of Executive Board).

6. Eleventh Meeting of Executive Board of ICSU September 30—October 3, 1959, The Hague, Netherlands

Delegates of IMU were Professor B. Eckmann, Secretary of IMU and Professor J.F. Koksma, replacing the president. From the agenda of that Meeting the following items are mentioned here:

(1) Discussion of the charter and by-laws for COSPAR as proposed by its Executive Committee. According to the terms of the proposed charter all Scientific Unions federated in ICSU can participate in the activities of COSPAR if they, so desire.

(The final version of the charter of COSPAR has been accepted later on in 1959 by postal ballot.)

7. Twelfth Meeting of the Executive Board of ICSU October 19—23, Lisbon, Portugal

Delegate of IMU to that Meeting was the President, Professor R. Nevanlinna. Among the many items discussed the following are mentioned here:

- (1) *Financial questions and ICSU Review,*
- (2) *Plans and preparations for the International Biological Year.*

8. Financial Contribution from ICSU-UNESCO

During the reporting period the following contributions to IMU were made by ICSU from the UNESCO grant:

1958	\$ 10,500.—
1959	\$ 11,000.—
1960	\$ 7,000.—

E — FINANCIAL STATEMENTS OF IMU FOR THE CALENDAR YEARS 1958, 1959 AND 1960

These three financial statements of IMU have been audited by the auditor of IMU and adopted by the Executive Committee of IMU. They were printed separately and sent to all member countries.

F — GENERAL ASSEMBLY

Third General Assembly of IMU. August 11—13, 1958
St. Salvator's College, St. Andrews, Scotland

I. Record of the Meeting

Agenda of the Meeting

1. Opening of the Assembly
2. President's Report on the activities of the Union

3. Preparation of elections
4. Commissions of the Union: Reports and plans for future activities
 - a) Commission for the World Directory of Mathematicians
 - b) Commission on Scientific Publications
 - c) Commission on the Exchange of Mathematicians and Committee on Promotion and Development
 - d) International Commission for Mathematical Instruction
5. Symposia
6. Financial Report and Budget for 1959—1962
7. Revision of Statutes of the Union
8. Revision of the Statutes of ICMI
9. Relations with ICSU and UNESCO
10. IMU and future International Congresses of Mathematicians (including discussion on renovation of the style of International Congresses suggested by the USA National Committee)
11. Propositions for change of group of adherence
12. Elections:
 - a) Executive Committee
 - b) Chairmen of the Commissions
13. Resolutions approving Reports
14. Next Meeting of General Assembly
15. Varia

Participants:

a) *Executive Committee*

President:	H. Hopf
1st Vice President:	A. Denjoy
2nd Vice President:	W. V. D. Hodge
Secretary:	B. Eckmann
Members:	K. Chandrasekharan
	J. F. Koksma
	S. MacLane
	Mrs. T. Tischhauser,
	Secretary of the IMU Office.

President Hopf acted as Chairman of the Meeting.

b) *Delegates*

Australia: H. S. Green.

Austria: F. Hohenberg.

Belgium: L. Godeaux, F. Simonart.

Bulgaria: N. Obreschkoff.

Canada: R. L. Jeffery, R. D. James.

Czechoslovakia: M. Katetov, St. Schwarz.

Denmark: W. Fenchel, B. Jessen.

Eire: J. L. Synge.

Finland: O. Lehto.

France: M. Brelot, A. Denjoy, J. Leray, P. Dubreil.

Germany: H. Behnke, G. Köthe, H. Kneser, K. Schröder.

Great Britain: A. C. Offord, E. T. Copson, E. A. Maxwell, I. N. Sneddon, D. C. Martin.

Greece: C. Papaioannou.

Hungary: G. Hajós, J. Surányi, P. Turán.

Iceland: L. Asgeirsson.

India: K. Chandrasekharan.

Israel: B. A. Amira, A. Dvoretzky.

Italy: A. Terracini, C. Miranda, E. Bompiani, G. Sansone.

Japan: K. Shoda, K. Yosida.

Netherlands: F. Loonstra, A. Heyting.

Poland: K. Kuratowski, E. Marczewski, A. Mostowski, T. Wazewski.

Portugal: J. Sebastiao e Silva.

Rumania: G. Vranceanu, M. Haimovici.

Spain: P. Abellanas.

Sweden: A. Pleijel.

Switzerland: J. J. Burckhardt, G. Vincent.

U. S. A.: M. Morse, R. Brauer, S. MacLane, D. Montgomery, S. S. Wilks.

U. S. S. R.: I. M. Vinogradov, P. S. Alexandroff, N. N. Bogoliubov, S. L. Sobolev, N. S. Ossipov, Secretary.

Yugoslavia: D. Blanuša, D. Kurepa.

1. OPENING OF THE ASSEMBLY.

Professor Copson welcomes the Assembly in the name of the host institutions.

The list of delegates as announced by the National Adhering Organizations is circulated and signed by all delegates present at the Meeting.

Nomination of Working Committees:

Drafting Committee: Professors Kokksma, MacLane, Brelot

Budget Committee: Professors Montgomery, Köthe, Eckmann.

The proceedings of the Assembly are conducted in English with translations into French (or Russian) if required.

2. PRESIDENT'S REPORT ON THE ACTIVITIES OF THE UNION.

Since the last General Assembly 1954, seven new countries have been admitted to the Union, namely: Ireland, Poland, USSR, Bulgaria, Czechoslovakia, Hungary and Rumania. The President expresses his hope that this important growth of the Union will facilitate and strengthen the achievement of the scientific tasks of the Union.

The most important and gratifying activity of the Union has been the sponsoring of international symposia. The following symposia were held since the last General Assembly:

Symposia held in connection with the International Congress of Mathematicians, Amsterdam, 1954:

Colloquium for young topologists on Algebraic Topology, Oxford (England), June 28—July 1, 1955;

Colloquium on the Algebraic Theory of Numbers, Tokyo (Japan), September 8—13, 1955;

International Colloquium on Zeta Functions, Bombay (India), February 14—21, 1956;

Conference on Mathematical Instruction in South Asia, Bombay (India), February 22—28, 1956;

International Colloquium on the Theory of Functions, Helsinki (Finland), August 12—18, 1957;

International Colloquium on Finite Groups, Tübingen (Germany), August 18—24, 1957.

Definite plans have been established for future symposia. The fact that a symposium is co-sponsored by IMU is very important for the task of the local Organizing Committee and for obtaining support from the Governments of the respective countries.

The cooperation of IMU with the Organizing Committees of International Congresses of Mathematicians has been so far restricted to financial support. It is expected that in the future this cooperation will also be extended to the scientific preparation.

In the field of exchange of mathematicians the activity of IMU has been less successful. New plans are being prepared by the Executive Committee of IMU and one of these, the IMU Lecturership Program, seems quite promising. The member countries are urged to make suggestions and criticisms.

The problems of mathematical instruction are of great importance to the Union. The International Commission for Mathematical Instruction is fulfilling a difficult task in this field. — A further task, that could be accomplished since the last General Assembly, is the publication of a World Directory of Mathematicians. Thanks to the cooperation of the Tata Institute of Fundamental Research in Bombay all the great difficulties could be overcome during the last year.

It more and more becomes clear that the Union is the one place where mathematics all over the world can be united. There have been gratifying activities in the Union during the last four years, but many a wish has not yet been fulfilled. In order to accomplish its task, the Union and its Executive Committee need the response and the active cooperation of all member countries and their adhering organizations.

3. PREPARATION OF ELECTIONS.

The Assembly appoints a Nomination Committee as proposed by the President: Bompiani, Jessen, Turán, Yosida and President Hopf. The task of this Committee is to present to the Assembly nominations for the election of the new Executive Committee (Officers of the Union and Members of the EC) for the next four years' term. Proposals may be made to the Nomination Committee, until Tuesday, August 12, noon, by any member of the General Assembly. The present Executive Committee has prepared a list of nominees which is given to the Nominating Committee and distributed to all delegates for information.

4. COMMISSIONS OF THE UNION.

a) *World Directory of Mathematicians.* Professor Hodge, Chairman ad interim of the Commission, reports on the work done during the four last years. After a long period of preparations, the task of the Commission could be accomplished in 1958 thanks to the cooperation of the Tata Institute of Fundamental Research and in particular of Professor Chandrasekharan. The first edition of the World Directory has been completed and brought out by the Bureau established for that purpose at the Tata Institute. The Directory will be for sale at the Edinburgh Congress.

The work of the Commission being finished, the Assembly resolves to discharge the Commission, to express its thanks to the Commission, to the Tata Institute and to Professor Chandrasekharan, and requests the Executive Committee of the Union to take the necessary steps for the future cooperation with the Bureau established at the Tata Institute, in view of later editions of the Directory (Resolution No. 1).

b) *Commission for Scientific Publications.* The Report of Professor Boas, Chairman of the Commission, is discussed. Among the various projects envisaged by the Commission, none has so far led to a concrete result, although some of them have had some influence on publications

brought out by publishing firms. It appears from the discussion that the various tasks should be separated, in particular that the problems of documentation be given to a new Commission established for that purpose (Resolution No. 2). As for the other problems of publication, the Assembly resolves that the Commission be maintained and that new terms of reference be discussed by the Executive Committee and submitted to the members of the Union by correspondence; the new composition of this Commission should be determined at a later date by postal ballot (Resolution No. 14).

c) *Commission on the Exchange of Mathematicians.* The report of Professor Davenport, Chairman of the Commission, is discussed. New activities of this Commission have been proposed and investigated by a Sub-Committee of the EC (Committee on Promotion and Development). Among these plans the International Mathematical Union Lecturership Program seems to be most interesting and meet general approval. The Assembly resolves that the activity of the Commission should continue according to the plans established by this Committee in close cooperation with all National Adhering Organizations (Resolutions No. 3 and 4).

d) *International Commission for Mathematical Instruction.* Professor Behnke, President of ICMI, gives an oral report on the work done by the Commission during the last four years (see also printed previous reports). The Assembly approves of this report and of the work done. In particular it welcomes the activity in ICMI of the group of countries in Europe and hopes that this activity will continue. It further recommends to ICMI that during the next four years it should try to induce or assist similar regional groups in other parts of the world (Resolution No. 8).

5. SYMPOSIA.

Reports of the international symposia or colloquia sponsored by IMU together with local organizations have been submitted to all National Adhering Organizations. These reports contain full details on the organization and on the scientific program of these international specialized meetings. Possibilities of other international meetings (regional congresses, research institutes etc.) are discussed by the Assembly. Such possibilities should be further investigated by the EC, however it is resolved that the organization and sponsoring of international symposia should continue in the same way as it has been done so far with great success (Resolution No. 5).

6. FINANCIAL REPORT AND BUDGET FOR 1959—1962.

Yearly financial statements for the past four years have been printed in the IMN and sent to all National Adhering Organizations. These statements were audited by the auditor of IMU, Professor P. Nolfi, Zurich, and adopted by the EC of IMU, with discharge to the Secretary.

According to the policy of the Union, in the first years of its existence, the income from membership dues was not used for scientific purposes, in order to establish a reserve fund of at least \$ 7,000.— to be used for later scientific activities of the Union. Contribution to the organization of symposia, commission meetings and, up to 1957, also meetings of the Executive Committee were paid from the ICSU-UNESCO grant to IMU; even from this grant certain amounts had to be saved for planned activities in the coming years. The Assembly expresses its thanks to Professor Bompiani and Professor Eckmann for taking good care of the finances of the Union. In the future funds will be available for scientific activities in addition to those granted by ICSU-UNESCO (Resolution No. 7).

Budget 1959—1962 for the administration of IMU: The General Assembly is asked to authorize the following expenses per calendar year with transfers permitted between the different items and from one year to the following ones:

		Proposed for 1959—1962 per year	Authorized for 1955—1958 per year
I	Secretarial Help: Ia IMU Office	\$ 1,800.—	\$ 1,800.—
	Ib President	300.—	
	Ic ICMI	300.—	
II	Office Expenses (incl. postage)	600.—	600.—
III	Travel Expenses (EC and others)	1,800.—	750.—
IV	President's and Secretary's Expenses	200.—	250.—
V	ICSU Contribution	120.—	50.—
VI	I. M. News	—.	300.—
VII	Accountant	100.—	150.—
VIII	Preparation for General Assembly	—.	350.—
IX	Contingencies	850.—	500.—
		<hr/>	
		\$ 6,070.—	

Annual income from membership dues at present \$ 6,259.20.

Contributions towards the scientific activities of IMU can be taken from "Contingencies" or from any amount unspent under the other items.

Upon recommendation of the Finance Committee, the Assembly unanimously accepts this budget (Resolution No. 6).

7. REVISION OF THE STATUTES OF THE UNION.

A certain number of changes of the present Statutes of IMU are presented by the EC to the General Assembly for approval. The proposed changes have been distributed in printed form together with the full text of the old Statutes, where the proposed new version can be compared with the old version of each article of the Statutes and of the By-Laws. The Assembly discusses all articles and makes some changes in the proposed new version (Resolutions No. 9 and 10).

The President emphasizes the importance of the change of article 12, where the number of members of the EC (in addition to the four Officers) is increased from three to five; this seems necessary in view of the growth of the Union. Furthermore, there is a new provision that the retiring President shall stay in the EC for another four years as a member without vote in order to ascertain the continuity.

The proposed new Statutes, with the amendments contained in Resolutions No. 9 and 10, are submitted to vote and unanimously accepted.

8. REVISION OF THE STATUTES OF ICMI.

According to the experience made during the last four years, it appeared necessary to make certain changes in the Constitution and the Terms of Reference of ICMI. These changes are in part proposed but do not yet seem ready for vote. There is a general agreement on the fact that in the future ICMI shall consist of ten members-at-large, elected by the General Assembly of IMU, on nomination by the President of IMU, and of one representative of each of the National Sub-Commissions (Resolution No. 11), furthermore, that ICMI should not be restricted to IMU members and that the activity of ICMI might develop in regional groups similar to the one

already existing in Europe. The EC of IMU is asked to prepare new Terms of Reference, together with the Executive Committee of ICMI, and to present them to the member countries of IMU for vote by correspondence (Resolution No. 15).

9. RELATIONS WITH ICSU AND UNESCO.

Professor Koksma has been designated by ICSU as its official delegate to this Assembly. He explains to the Assembly the importance of ICSU and UNESCO as International Scientific Organizations, the first non-governmental, the second governmental. It belongs to the main tasks of ICSU to coordinate and facilitate the activities of the International Scientific Unions and to act as a coordinating body for its adhering organizations. A certain part of the scientific activities of UNESCO are carried through in cooperation with ICSU and with its Unions. The financial contribution of UNESCO to ICSU for this purpose is being distributed every year by ICSU to the Scientific Unions and to the Commissions of ICSU.

IMU is represented in the Executive Board of ICSU by two delegates. The Assembly unanimously designates as delegates of IMU to the Executive Board of ICSU for the coming four years' period: the President and the Secretary of the Union.

10. IMU AND FUTURE INTERNATIONAL CONGRESSES OF MATHEMATICIANS.

The organization of International Congresses of Mathematicians has, so far, always been completely independent of IMU and was entirely in the hands of the scientific organizations in the inviting country. According to the Statutes, it is one of the most important tasks of IMU to give support to the Congress organizers. Until now this has only been a financial assistance. It is possible that in the future the organization of the International Congresses will more and more depend on the assistance of IMU, not only financially, but also with respect to the scientific program.

It has been suggested by the U. S. National Committee that the General Assembly discuss the renovation of the style of the International Congresses. Although IMU has at present no direct influence on the Congress, it seems important, in view of the above remarks, to have the opinion of the General Assembly on the following two questions: a) are the International Congresses of Mathematicians useful?, b) since the size of the Congress has become bigger and bigger, is it necessary to change its general style and the arrangement of the scientific program? It appears from the discussion that the General Assembly considers the International Congresses as useful; the general opinion is that despite of certain difficulties the tradition should continue. General survey talks on the recent development in the various fields of mathematics should constitute an important part of the program, in addition to half-hour research lectures. It seems that also the short communications should be maintained in the program; their arrangements should be left to the future Congress organizers.

In view of these opinions expressed by the General Assembly, the President proposes that IMU offers to future Congress organizers not only financial assistance, but also participation in the preparation of the scientific program. It is up to the scientific bodies of the inviting countries of future Congresses whether they wish to have this cooperation or not. The cooperation between IMU and the International Congresses of Mathematicians will in any case be useful for the development of mathematics.

11. PROPOSITIONS FOR CHANGE OF GROUP OF ADHERENCE.

In response to applications received, the General Assembly decides to transfer the membership of Canada, the Netherlands and of Switzerland from Group II to Group III (Resolution No. 12).

12. ELECTIONS.

a) *Executive Committee.* The election is made by secret ballot (Professors Köthe, Sobolev and Wilks nominated for counting voting slips). The number of votes of each delegation corresponds to its group adherence. The proposition for the new EC, made by the Nominating Committee, is unanimously accepted. The composition of the Executive Committee for the period 1959—1962 is as follows:

President:	R. Nevanlinna
Vice-President:	P. Alexandroff
Vice-President:	M. Morse
Secretary:	B. Eckmann
Members:	K. Chandrasekharan
	C. Choquet
	H. Kneser
	J. F. Koksma
	C. Kuratowski
Retiring President:	H. Hopf (ex officio).

The following Resolution of thanks is proposed by Professor Morse and accepted by the General Assembly with applause:

"The General Assembly resolves to place on record its appreciation of the valuable services rendered to the Union by the outgoing members of the Executive Committee, President Hopf, First Vice-President Denjoy, Second Vice-President Hodge, and Professor MacLane. The Assembly notes with satisfaction the increase in the membership of the Union and in its activities and expresses its thanks to President Hopf for his particular contribution to the spirit and goodwill that prevails among the members of the Union."

Professor Sobolev makes the following communication:

"Je voudrais saluer le nouveau Comité Exécutif. Je voudrais aussi exprimer quelques suggestions pour l'avenir. La délégation soviétique et quelques autres, par exemple deux collègues italiens, voudraient exprimer le désir d'apporter quelques changements au mode de préparation des élections.

Il nous semble que le Comité ne doit pas proposer d'avance la liste des candidats sans avoir consulté préalablement assez largement au moins les Comités Nationaux adhérents à l'IMU. Il nous semble inutile d'indiquer tous les inconvénients qui découlent de cette pratique.

La présence d'une liste proposée, distribuée au début de la session a conduit naturellement à une position dans laquelle toutes les autres propositions pourraient faire l'impression indirecte d'une certaine méfiance aux collègues proposés par le Comité Exécutif. Telle procédure endommage la liberté de la discussion.

Quoique tous les officiels élus maintenant sont sans doute complètement dignes de la confiance qui leur a été donnée par l'Assemblée, on ne peut pas être sûr que le choix ne pourrait être meilleur en résultat de discussions et de consultations plus larges.

Dans les cas où le Comité National est composé de savants bien connus — et je pense que c'est toujours le cas — il serait sans doute plus profitable d'avoir, au moins, des consultations sur chaque candidat avec le Comité National respectif s'il ne paraît convenable de faire des consultations encore plus générales. La pratique suivant laquelle le Comité Exécutif propose ses successeurs n'ayant pas parlé qu'à des personnes d'occasion qui peuvent ne pas représenter l'opinion publique, n'est probablement pas la meilleure."

In his answer, the President agrees with Professor Sobolev that the EC's method of proposing candidates for the new EC was not quite satisfying, but that he is convinced that it was the best possible; he expresses his hope that the selection made was a good one.

b) Commissions.

The Commission on the *Exchange of Mathematicians* is elected as follows:

President:	S. MacLane (USA)
Members:	E. Bompiani (Italy)
	T. M. Cherry (Australia)
	R. D. James (Canada)
	E. Marczewski (Poland)
	S. L. Sobolev (USSR)
	K. Yosida (Japan).

The Commission on *Documentation of Mathematical Literature* is elected as follows:

Chairman:	J. F. Koksma (Netherlands)
Members:	B. A. Amira (Israel)
	W. Fenchel (Denmark)
	G. Sansone (Italy).

International Commission for Mathematical Instruction.

The General Assembly elects the following ten members-at-large of ICMI:

Y. Akizuki (Japan)	H. Fehr (USA)
A. D. Alexandrov (USSR)	H. Freudenthal (Netherlands)
H. Behnke (Germany)	D. Kurepa (Yugoslavia)
P. Buzano (Italy)	E. A. Maxwell (Great Britain)
G. Choquet (France)	M. H. Stone (USA).

Professor M. H. Stone, Chicago, is elected President of ICMI.

13. RESOLUTION APPROVING REPORTS.

All reports submitted by the Executive Committee to the General Assembly are approved (Resolution No. 13).

14. NEXT MEETING OF THE GENERAL ASSEMBLY.

The General Assembly authorizes the EC to call the fourth General Assembly of the IMU at approximately the time and place of the next International Congress of Mathematicians.

15. VARIOUS.

The President expresses to the Principal of St. Salvator's College, to Professor Copson and to Dr. Borwein, the thanks of IMU. The Assembly approves with applause of the following Resolution:

"The General Assembly of the International Mathematical Union held at St. Salvator's College, St. Andrews, Scotland, wishes to express its gratitude to all those on the faculty of St. Andrews who have prepared the way for our reunion. Special thanks are due to the Principal of the University, to Professor Copson and to Dr. Borwein who have aided us in every way possible. We are impressed by the natural beauty of St. Andrews and its castle by the sea. We shall long remember our visit and the hospitality of our colleagues."

— The General Assembly is closed. —

II. Record of Resolutions

1. *Agenda point 4a* (Commission for the World Directory of Mathematicians). Resolved that its thanks are expressed to the Commission for the World Directory and to the Tata Institute of Fundamental Research, Bombay, for their work in the preparation of the Directory, discharges the Commission for the World Directory with these thanks and requests the Executive Committee of the Union to take such future action as to the Directory as it may seem appropriate.

L'Assemblée Générale exprime tous ses remerciements à la Commission du Répertoire Universel et au Tata Institute of Fundamental Research, Bombay, pour la publication maintenant achevée du Répertoire. Il est décidé de dissoudre cette Commission et de prier le Comité Exécutif de l'Union de prendre toute disposition pour continuer les travaux éventuels concernant ce Répertoire.

2. *Agenda point 4b* (Commission on Scientific Publications). Resolved that a new "Commission for Documentation of Mathematical Literature" be established, its task being primarily to investigate the possibilities of IMU's supporting the revision of the Universal Decimal Classification System of Mathematics.

Il est décidé de créer une nouvelle Commission de documentation mathématique, dont la première tâche serait de rechercher les possibilités pour l'IMU d'aider à la revision du système universel de classification décimale des mathématiques.

3. *Agenda point 4c* (Commission on the Exchange of Mathematicians and Committee on Promotion and Development). Resolved that the Exchange Commission collect from each National Committee information concerning all exchanges, fellowships, part-time lectureships, visits by foreign mathematicians and the like, together with the nature of the supporting institution or agency, and distribute this information to the National Committees for subsequent wider distribution.

Il est décidé que la Commission des Echanges demande à tous les Comités Nationaux et rassemble toutes les informations concernant les échanges, les bourses, les conférences ou tours de professeurs étrangers... etc., ainsi que la nature et l'origine des subventions qui les permettent, et en informe tous les comités nationaux pour une diffusion ultérieure.

4. *Agenda point 4c* (Commission on the Exchange of Mathematicians and Committee on Promotion and Development). Resolved that the Exchange Commission be continued, its activity to include especially the items in the new programme suggested by the Committee on Promotion and Development.

Il est décidé que la Commission d'échange soit maintenue et que son activité s'exerce spécialement sur tous les points du programme proposé par le Comité appelé "on Promotion and Development".

5. *Agenda point 5* (Symposia). Resolved that the Union's policy of supporting symposia should be continued essentially as heretofore.

Il est décidé que les dispositions de l'Union concernant l'aide aux symposia soient maintenues pour l'essentiel.

6. *Agenda point 6* (Financial Report and Budget for 1959—1962). Resolved that the Budget for the subsequent four years be accepted as proposed.

Décidé d'accepter le budget proposé pour les quatre années à venir.

7. *Agenda point 6* (Financial Report and Budget for 1959—1962). Resolved that the General Assembly express its thanks to Professors Bompiani and Eckmann for taking such good care of the financial operations of IMU that the Union can now be concerned primarily with the spending of money on scientific programmes.

L'Assemblée Générale exprime ses remerciements aux Professeurs Bompiani et Eckmann pour leur excellente gestion financière de l'Union, qui peut maintenant s'occuper en premier lieu des dépenses relatives aux programmes scientifiques.

8. *Agenda point 4d* (International Commission for Mathematical Instruction). Resolved

1. That the General Assembly approve the report of ICMI on its work during the past four years;

2. That the General Assembly in particular welcomes the activity in ICMI of the group of countries in Europe, and hopes that this activity will continue;

3. That the General Assembly recommends to ICMI that during the next four years it should try to induce or assist similar regional groups in other parts of the world.

1. L'Assemblée Générale approuve le rapport de la CIEM sur ses travaux pendant les quatre dernières années;

2. En particulier, elle rend hommage à l'activité du groupe Européen de la CIEM et espère que cette activité continuera dans la période suivante;

3. Elle décide qu'il soit recommandé à la CIEM pour les quatre années à venir de favoriser si possible, la création de groupes régionaux similaires dans d'autres parties du monde.

9. *Agenda point 7* (Revision of Statutes). Resolved that the text of *Statute 13* proposed for vote be formulated as follows:

At the request of a majority of the total numbers of votes assigned to the members of the Union, the Executive Committee shall within six months call a special meeting of the General Assembly.

A la demande d'une majorité du nombre total des voix attribuées aux membres de l'Union, le Comité Exécutif doit dans les six mois convoquer l'Assemblée Générale en session extraordinaire.

Resolved that the text of *Statute 27* proposed for vote be formulated as follows:

The English, French and Russian texts of the Statutes shall be considered as equally authoritative.

Les textes anglais, français et russes des présents Statuts font également foi.

10. *Agenda point 7* (Revision of Statutes). Resolved that the Russian text of the Statutes and By-Laws be prepared by the Executive Committee.

Décidé que le texte en langue russe des Statuts et du Règlement soit préparé par le Comité Exécutif.

11. *Agenda point 8* (Composition of ICMI). Resolved that the terms of reference of ICMI be changed so that ICMI shall consist of

(1) Ten members-at-large elected by the General Assembly of IMU on nomination by the President of IMU and

(2) of one representative from each of the National Sub-Commissions.

Il est décidé de changer le Règlement de la CIEM de sorte que celle-ci soit formée

(1) de dix membres élus par l'Assemblée Générale de l'Union sur présentation de son Président et

(2) d'un représentant de chacune des sous-commissions nationales.

12. *Agenda point 11* (Propositions for change of group of adherence). Resolved: the General Assembly is in favour of the transfer of the membership of Canada, the Netherlands and of Switzerland from group II to group III.

L'Assemblée Générale est favorable à la demande de transfert des Pays Bas, Canada et de la Suisse du groupe II au groupe III.

13. *Agenda point 13* (Resolution approving Reports). Resolved to approve all reports submitted to this General Assembly, including the report of the President, the reports of the various Sub-Commissions and the printed reports submitted by the Executive Committee.

Décidé d'approuver tous les rapports soumis à cette Assemblée Générale, y compris celui du Président, ceux des différents Sous-Commissions et les rapports imprimés présentés par le Comité Exécutif.

14. *Agenda point 4b* (Commission on Scientific Publications). The General Assembly resolves that the Commission on Scientific Publications be maintained, that the terms of reference of that Commission be discussed by the Executive Committee and submitted to the members of the Union for vote by postal ballot and that the Chairman and members of this Commission be elected at a later date by postal ballot.

L'Assemblée Générale décide que soit maintenue la Commission pour les Publications Scientifiques, que le règlement de cette Commission soit établi par le Comité Exécutif et soumis aux membres de l'Union au moyen de vote par correspondance, et que son Président et les nouveaux membres soient élus à une date ultérieure par vote par correspondance.

15. *Agenda point 8* (Revision of the Statutes of ICMI). Resolved that the new terms of reference for ICMI be prepared by the Executive Committee of IMU in cooperation with the Executive Committee of ICMI and submitted to the members of the Union for approval.

Il est décidé qu'un nouveau règlement de la CIEM soit préparé par le Comité Exécutif de l'IMU en collaboration avec celui de la CIEM et soumis à l'approbation des membres de l'Union.

FINANCIAL REPORT

for the period January 1, 1960 to December 31, 1960

1. Income in 1960

The two income sources are: a) dues paid by member nations
b) UNESCO contribution.

a) in 1960 dues were paid at the

Chase Manhattan Bank: Austria, Ireland, Finland, Japan, USA
totaling \$ 1,108.80

Crédit Suisse: Canada (1959 and 1960), Czechoslovakia (1958, 1959, 1960), Mexico (1959), Netherlands (1958, 1959, 1960), India (1959 and 1960), Greece (1959 and 1960), Norway (1959), Rumania (1959), Italy (1958, 1959, 1960), Israel (second half 1958 and first half 1959), Spain, USSR, Poland, Yugoslavia, Bulgaria, Australia, Portugal, Great Britain, Switzerland, Sweden, Denmark, Argentina (1959 and 1960), Iceland, Norway, Malaya, Poland (1961),

totaling Swiss Francs 27,329.53 which at the rate of exchange of \$ 1.— = Swiss Francs 4.30 equal \$ 6,355.70

Société Générale: France

French Francs 1,612.11 = \$ 326.—

Total income from membership in 1960 \$ 7,790.50

At the end of December 1960, the dues of the following nations were still outstanding:

1958: Cuba, Pakistan

1959: Belgium, Cuba, Israel (1/2 of 1959 dues), Pakistan

1960: Belgium, Brazil, China-Taiwan, Cuba, Germany, Hungary, Israel, Mexico, Pakistan, Rumania

b) UNESCO contribution through ICSU for 1960 was as follows:

Allocation for 1960	\$ 7,000.—
Balance transferred from 1959	\$ 1,271.79
	\$ 8,271.79

so that a total of
could be used in 1960.

c) Interest on bank accounts:

Crédit Suisse (Fr. 925.15)	\$ 215.15	
Philippson, Deegroof et Cie.	\$ 5.60	\$ 220.75

The approximate total income received in 1960 is:

a) membership dues	\$ 7,790.50	
b) UNESCO contribution	\$ 7,000.—	
c) interest on bank accounts	\$ 220.75	\$ 15,011.25

2. Expenditures in 1960

The following expenses were met in 1960 under the different categories of the IMU budget:

Ia)	Secretarial help IMU Office	\$	1,794.36
Ib)	Secretarial help President	\$	300.—
Ic)	Secretarial help ICMI	\$	150.—
II)	Office Expenses (mail, paper etc.)	\$	375.87
III)	Travel Expenses (EC Meetings, visits, observers, ICMI, Consultative Committee Congress 62, etc.)	\$	1,750.85
IV)	President's and Secretary's Expenses	\$	126.24
V)	ICSU Contribution	\$	105.97
VI)	IMU News	\$	300.—
VII)	Accountant's Fee	\$	69.77
IX)	Contingencies (Coll. Israel, various)	\$	572.81
		\$	<u>5,545.87</u>

Actual Expenditures in 1960 compared with the amounts authorized by the Third General Assembly for that year:

Items	Authorized \$	Actual Expenditures \$	Balance \$
Ia) Secretarial help IMU Office	1,800.—	1,794.36	5.64
Ib) Secretarial help President	300.—	300.—	—.—
Ic) Secretarial help ICMI	300.—	150.—	150.—
II) Office Expenses	600.—	375.87	224.13
III) Travel Expenses	1,800.—	1,750.85	49.15
IV) President's and Secretary's Expenses	200.—	126.24	73.76
V) ICSU Contribution	120.—	105.97	14.03
VI) Publ. and Diss. of IMU News	300.—	300.—	—.—
VII) Accountant's Fee	100.—	69.77	30.23
IX) Contingencies	850.—	572.81	277.19
	<u>6,370.—</u>	<u>5,545.87</u>	<u>824.13</u>

Expenditures in 1960 against UNESCO contribution were as follows:

a) — Symposia and ICMI:		
ICMI Seminar Aarhus	1,330.—	
Coll. Israel	3,479.29	
Coll. Zurich	2,000.—	
ICMI Seminar Belgrade	<u>862.50</u>	7,671.79
d) — Publications:		
Enseign. Math. (ICMI Publ.)		200.—
g) — Commissions and Exchange:		
Lecturership Prof. Szegő		<u>400.—</u>
		<u>8,271.79</u>

Total income 1960		15,011.25
Total expenses 1960	IMU	5,545.87
	ICSU	8,271.79
		13,817.66
Active Balance in 1960 approximately:		1,193.59

3. Financial Statement for the period January 1 to December 31, 1960.

	Actual Currencies Carried			
	Dollars	Swiss Francs	French Francs	Belgian Francs
<i>Opening Statement:</i>				
Net Assets and Liabilities on December 31, 1959	3,275.35	69,143.05	4,127.79	63,517.—
— Assets	391.20	9,295.40	—.—	9,600.—
+ Liabilities	—.—	—.—	—.—	—.—
Bank balance and cash on hand on December 31, 1959	2,884.15	59,847.65	4,127.79	53,917.—
<i>Receipts:</i>				
a) Dues and Contributions:				
Dues 1958, 1959, 1960, 1961	1,108.80	27,329.53	1,612.11	
UNESCO Contribution		12,958.96		200,000.—
Interest on bank accounts		925.15		280.—
b) Transfers:				
from Brussels to New York	4,000.—			
from Zurich to New York	3,000.—			
Totals	8,108.80	41,213.64	1,612.11	200,280.—
<i>Expenditures:</i>				
UNESCO Expenditures a)	5,671.79	8,600.—		
" d)	200.—			
" g)	400.—			
Secretarial help IMU Office		7,680.—		
" President	300.—			
" ICMI	150.—			
Office and Mail Expenses		1,457.30		
Travel Expenses IMU	178.30	6,762.35		
President's and Secretary's Expenses		543.—		
ICSU Contribution	105.97			
Publ. and Diss. of IMU News	300.—			
Accountant's Fee		300.—		
Contingencies	549.56	100.—		
Bank Service Expenditures	3.90	34.54		
Transfer Brussels to New York				200,617.—
Transfer Zurich to New York		12,930.—		
	7,859.52	38,407.19		200,617.—

	Dollars	Swiss Francs	French Francs	Belgian Francs
<i>Closing Statement:</i>				
Bank balance and cash on hand on December 31, 1959	2,884.15	59,847.65	4,127.79	53,917.—
+ Receipts	8,103.80	41,213.65	1,612.11	200,280.—
	10,992.95	101,061.30	5,739.90	254,197.—
— Expenditures	7,859.52	38,407.19	—.—	200,617.—
	3,133.43	62,654.11	5,739.90	53,580.—
Bank balance and cash on hand on December 31, 1960	3,133.43	62,654.11	5,739.90	53,580.—
+ Assets	456.40	5,051.—	—.—	19,608.—
	3,589.83	67,705.11	5,739.90	73,188.—
— Liabilities	—.—	—.—	—.—	—.—
Net Assets and Liabilities on December 31, 1960	3,589.83	67,705.11	5,739.90	73,188.—

The undersigned Auditor of the International Mathematical Union has checked the preceding accounts and found them correct to the best of his information.

Prof. P. Nolfi, Director
Retirement System of the
City of Zurich

Prof. B. Eckmann
Secretary of the
Int'l. Mathematical Union

Zurich (Switzerland), May 1961.

End of the Bulletin of the International Mathematical Union.