

PART I
REPORTS AND RECOMMENDATIONS PRE-
SENTED TO THE GENERAL ASSEMBLY
BY THE EXECUTIVE COMMITTEE AND
THE COMMISSIONS OF THE UNION

EXECUTIVE COMMITTEE

PRESIDENT:

Prof. E. ESCLANGON, Directeur de l'Observatoire National, Paris, France.

VICE-PRESIDENTS:

Dr W. S. ADAMS, Director of the Mount Wilson Observatory, Pasadena, Cal.,
U.S.A.

Prof. T. BANACHIEWICZ, Directeur de l'Observatoire de Cracovie, Pologne.

Prof. Ö. BERGSTRAND, Director of the Upsala Observatory, Sweden.

Prof. E. BIANCHI, Direttore del R. Osservatorio Astronomico di Brera, Milano,
Italia.

Dr H. SPENCER JONES, Astronomer Royal of England, Director of the Royal
Observatory, Greenwich, London, S.E. 10, England.

GENERAL SECRETARY:

Prof. J. H. OORT, Sterrewacht, Leiden, Netherlands.

REPORT OF THE EXECUTIVE COMMITTEE, 1938

COUNTRIES ADHERING TO THE UNION

Since the last meeting of the Union China, Yugoslavia and South Africa have adhered to the Union, while no country has withdrawn.

The following is the list of countries adhering to the Union and of the adhering organizations:

Country	Year of Adherence	Adhering Organization
Argentine Republic	1927	Government.
Belgium	1920	Académie Royale de Belgique.
Canada	1920	National Research Council, Ottawa.
China	1935	National Committee of Astronomy, Nanking.
Czecho-Slovakia ...	1922	Koncil National de Recherches, Prague.
Denmark	1922	Kongelige Danske Videnskabernes Selskab, København.
Egypt	1925	Government.
France	1920	Académie des Sciences, Paris.
Great Britain ...	1920	Royal Society, London.
Greece	1920	Académie d'Athènes, Athènes.
Italy	1921	Consiglio Nazionale di Ricerche, Roma.
Japan	1920	National Research Council, Tokyo.
Mexico	1921	National University of Mexico
Netherlands ...	1922	Koninklijke Nederlandsche Akademie van Wetenschappen, Amsterdam.
Norway	1922	Det Norske Videnskaps-Akademi, Oslo.
Poland	1922	Polska Akademia Umiejętności, Cracovie.
Portugal	1924	Government.
Roumania... ..	1928	Comitetul National Astronomic.
South Africa ...	1938	Government.
Spain	1922	Academia de Ciencias Exactas, Madrid.
Sweden	1925	Kungl. Vetenskapsakademien, Stockholm.
Switzerland ...	1923	Schweizerische Naturforschende Gesellschaft, Zürich.
United States ...	1920	National Research Council, Washington.
U.S.S.R.	1935	Academy of Sciences of the U.S.S.R.
Vatican City State	1932	Pontifica Accademia delle Scienze i Nuovi Lincei, Roma.
Yugoslavia ...	1935	National Committee of Astronomy, Belgrade.

DECEASED MEMBERS

The Executive Committee regret to record the loss by death of the following members of the Union:

Prof. E. Andrea, Member of Commission 16. Died February 15, 1937.

Dr W. E. Bernheimer, Member of Commissions 12, 28. Died December 14, 1937.

Prof. W. W. Campbell, Past President of the Union, Member of Commission 30.

Died June 14, 1938.

Prof. J. Comas y Solá, Member of Commission 20. Died December 2, 1937.

Prof. A. di Legge, Italian National Committee. Died April 8, 1938.

Dr A. S. Donner, Member of Commission 23. Died April 15, 1938.

Rev. W. F. A. Ellison, British National Committee. Died December 31, 1936.

M. Giacobini, Member of Commissions 20, 26. Died March 6, 1938.

Dr G. E. Hale, Member of Commission 11. Died February 21, 1938.

Dr C. V. Jackson, Member of Commission 14. Died December 30, 1936.

Prof. G. Juvet, Swiss National Committee. Died April 2, 1936.

A. King, Member of Commission 22. Died April 15, 1936.

Dr S. K. Kostinsky, Member of Commission 24. Died August 22, 1936.

Prof. F. Küstner, Member of Commission 32. Died October 15, 1936.
 C. Lallemand, French National Committee. Died February 1, 1938.
 Dr W. J. S. Lockyer, Member of Commissions 24, 29. Died July 15, 1936.
 Prof. E. L. A. Merlin, Member of Commission 11. Died July 29, 1938.
 Prof. A. A. Nijland, Member of Commissions 19, 27, m. Died August 18, 1936.
 Dr F. G. Pease, Member of Commission 9. Died February 7, 1938.
 Prof. W. H. Pickering, Member of Commission 16. Died January 21, 1938.
 Dr P. Salet, Member of Commission 30. Died November 20, 1936.
 Prof. S. Shinjo, Member of Commission 5. Died August 1, 1938.
 Prof. P. Stroobant, President of Commission 5, Member of Commissions 3, 16, 20, 23, m. Died July 15, 1936.
 Prof. T. Terada, Japanese National Committee. Died December 31, 1935.

NEW MEMBERS

The following were co-opted by the various commissions under By-law iv, 15:

V. A. Ambartsumian (28), S. Arend (20), I. S. Astapovich (22), W. Baade (25, 28), P. Baize (26), J. M. Baldwin (23), F. Becker (32), S. J. Belyawsky (25), V. R. Berg (19), W. E. Bernheimer (12, 28), T. P. Bhaskaran (23), K. Boda (20), B. J. Bok (30), R. B. Bousfield (22), S. Chandrasekhar (35), L. J. Comrie (17), L. Courvoisier (8), R. T. Crawford (20), H. B. Curlewis (23), A. de la Baume Pluvinel (5), E. Delporte (23), G. F. Dodwell (19), A. S. Donner (23), A. S. Eddington (3), C. T. Elvey (22), R. Emden (35), Ph. Fauth (17), V. V. Fedynsky (22), V. G. Fesenkov (25), W. S. Finsen (24, 26), E. F. Freundlich (13), R. Furuuhjelm (23), S. Gaposchkin (27), Alois Gatterer (22), B. P. Gerasimovich (29), K. Graff (25, 27), W. M. H. Greaves (23), P. Guthnick (25, 27, 30), G. R. Harrison (14), W. Hassenstein (25), O. Heckmann (33), J. Hellerich (25), C. Hoffmeister (22, 27), W. B. Housman (22), P. J. Yashnov (5), A. H. Joy (27), K. Kayser (14), H. Kienle (36), H. Kobold (20), A. Kohlschütter (29, 32, 33), E. Kohlschütter (18), A. Kopff (4, 8, 15, 20), S. K. Kostinsky (24), F. Küstner (32), F. C. Leonard (22), A. O. Leuschner (4), H. Ludendorff (3, 27), R. A. McIntosh (22), R. McMath (11), E. L. Martin (20), A. D. Maxwell (20), V. V. Michkovitch (4), W. Moss (10), K. Müller (17), J. Nangle (23), P. V. Neugebauer (5), A. V. Nielsen (22), K. T. Ogorodnikov (33), E. Öpik (22), A. J. Orlov (19), N. N. Pavlov (18), J. A. Pearce (27), E. J. Perepelkin (12), J. Peters (4), A. J. Postoev (31), R. Prager (27), N. C. Preipich (31), E. Przybyllok (26), W. Rabe (26), K. Reinmuth (20, 28), G. Rougier (23), D. H. Sadler (4), A. Schaumasse (20), E. Schoenberg (33), R. Schorr (8, 20), R. Schumann (19), A. Schwassmann (32), G. Stracke (20), P. ten Bruggencate (12, 27), A. Unsöld (11, 12, 36), W. H. van den Bos (26), P. Vocca (19), H. Vogt (35), E. von der Pahlen (33), K. Walter (27), F. L. Whipple (36), R. Wildt (16), C. W. Wirtz (28), G. Witt (20), H. E. Wood (13, 20), H. Zanstra (28), M. L. Zimmer (18).

The following not being members of commissions became members on being elected to national committees of astronomy of adhering countries:

Prof. J. C. Duncan, Prof. V. Jardecky, Prof. Ž. Marković, Prof. M. Milankovitch, Dr H. Sadek Bey, Prof. S. Škreb, Général M. Terzić, Prof. A. van Hoof, Prof. V. Vrkljan, Dr J. Warzée.

The following were nominated as members by national committees of astronomy:

Belgium: A. Dermul, Dr F. E. Nisoli.

Czecho-Slovakia: Prof. K. Dusl, Dr J. Madar, Dr Jar. Procházka.

Denmark: K. A. Thernöe.

Great Britain: Dr F. W. Aston, Dr R. d'E. Atkinson, Dr A. Beer, Dr H. Brück, J. Calder Wood, G. L. Clark, Dr J. C. Dobbie, D. S. Evans, H. E. Green, C. C. L. Gregory, M. Krook, Major A. E. Levin, E. M. Lindsay, Dr R. A. Lyttleton, Prof. W. H. McCrea, T. L. Page, W. S. Tai, Dr A. D. Thackeray, Dr R. Waterfield, G. J. Whitrow, W. M. Wittchell.

Netherlands: L. Binnendijk, A. Blaauw, Miss A. Elink Schuurman, J. G. Ferwerda, J. Houtgast, Dr A. C. de Kock, Dr T. van Lohuizen, Dr W. Chr. Martin, L. Plaut, Dr J. J. Raimond, J. Uitterdijk.

Norway: Gunnar Randers, Gunnar Steensholt, Mgr. J. Wasiutynski.

Poland: Mgr. M. Bielicki, Miss Dr W. Iwanowska, Dr F. Koebecke, Dr S. Piotrowski.

Sweden: Dr H. Alfvén, Dr N. Ambolt, F. Berglund, Dr B. Edlén, Dr E. Holmberg, Prof. E. Hulthén, Prof. G. Ising, Dr A. Jenvall, Dr E. Johansson, Prof. H. Köhler, Prof. A. Lindh, Dr C. Lönnquist, Dr H. Nordström, Prof. C. W. Oseen, Miss F. Palmér, Dr H. Petersson, Prof. H. Pleijel, J. Ramberg, T. Setterberg, Prof. M. Siegbahn, Dr E. Stenquist, B. Svenonius, N. Tamm, G. Wernberg, Prof. S. Wicksell, Dr O. A. Åkesson.

U.S.A.: Prof. R. H. Baker, Mrs Bart Bok, Miss C. Boyds, Miss M. R. Calvert, Miss E. R. Cornwall, Miss D. N. Davis, Miss H. W. Dodson, C. W. Elmer, Miss A. Farnsworth, Dr C. Fisher, Dr P. Fox, L. Goldberg, Prof. Louis C. Green, Dr J. S. Hall, Miss E. Jones, Miss R. Jones, C. J. Liebmann, Mrs M. W. Makemson, N. Mayall, Dr D. Norman, J. Pawling, Dr B. W. Sitterly, Miss L. T. Slocum, Dr C. H. Smiley, Dr T. E. Sterne, J. Stokley, Miss H. Swope.

APPOINTMENTS MADE BY THE EXECUTIVE COMMITTEE

After the death of Prof. P. Stroobant, Prof. K. Lundmark was appointed to succeed him as president of Commission 5.

The Union was invited by the International Council of Scientific Unions to nominate a delegate who could be consulted by the "Institut International de Coopération Intellectuelle" in matters of scientific nomenclature affecting the Union; Prof. E. Strömgren, president of Commission 3, was appointed to this function.

Dr H. Spencer Jones represented the Union at the triennial meeting of the International Council of Scientific Unions held at London in April 1937, and read a report, prepared by the General Secretary, on the recent activities and scope of work of the International Astronomical Union.

INCOME AND EXPENDITURE

The accounts for the years 1935, 1936, 1937 are given below. The balance on January 1, 1938 was £2664. 2s. 8d. and 7502.41 guilders, the total being equivalent to approximately 53,600 gold francs. This does not represent the true balance, as a large amount of the money has already been allotted. (1) 22,800 gold francs has been allotted to the Carte du Ciel and is at present unexpended. (2) 1800 gold francs will be required for special grants to Commissions 20 and 27. (3) The sum for the annual grants for 1938, 17,000 gold francs minus 1200 gold francs which had already been paid for Commission 6 before the end of the year and (4) 6000 gold francs for the Bureau of the Union must be available at the beginning of the year. The true balance is, therefore, approximately 7200 gold francs.

INCOME AND EXPENDITURE, 1935

GUILDERS

	INCOME	EXPENDITURE	
∞ Aug. 8 Transferred from Pounds Account...	... Fl. 728.05	Postage and Transport...	... Fl. 100.20
Sept. 26 Subscription Norway (1935) 191.85	Stationery 9.35
Oct. 30 Subscription Netherlands (1935) 382.80	Cheque-book 3.00
		Clerical Assistance 86.63
		Balance, January 1, 1936 1103.52
	<u>Fl. 1302.70</u>		<u>Fl. 1302.70</u>

INCOME AND EXPENDITURE, 1936

GUILDERS

INCOME	EXPENDITURE
Balance, Jan. 1, 1936	Fl. 1103.52
Subscriptions:	
May 19 Belgium (1936)	286.36
Apr. 2 Canada (1936)	430.27
Nov. 18 Czecho-Slovakia (to complete 1934 and 1935)	891.50
Sept. 16 Denmark (1936)	143.50
Aug. 22 France (1936)	1159.10
Sept. 21 Great Britain (1936)	1150.40
Dec. 23 Italy (part 1935)	1340.15
Apr. 16 Japan (1935)	1531.37
Nov. 14 Japan (part 1936)	1020.77
Apr. 22 Norway (1936)	191.49
May 23 Portugal (1936)	285.60
July 7 Roumania (part 1934)	413.38
May 7 Spain (part 1935)	731.66
Nov. 24 Sweden (part 1936)	76.64
June 20 Switzerland (1936)	190.85
Aug. 8 U.S.A. (1935)	1531.90
Dec. 11 U.S.A. (1936)	1432.92
Sale lunar maps	49.82
Cambridge University Press (sales)	94.74
Interest	16.20
	Fl. 14072.14
	Fl. 14072.14
	Fl. 184.90
	176.63
	195.06
	48.60
	48.53
	240.90
	1922.40
	7.49
	5996.50
	5251.13

INCOME AND EXPENDITURE, 1936

SWISS FRANCS

INCOME	EXPENDITURE
Oct. 5, Transferred from Guilders Account ... frs. 13400—	... frs. 13400—

INCOME AND EXPENDITURE, 1936

POUNDS

INCOME	EXPENDITURE
Balance, Jan. 1, 1936 ... £ s. d. 3314 3 4	Grants to Commissions:
Cheques returned ... 2 2	<i>Commission 11:</i>
Sale report ... 2 0	Jan. 6 Prof. Esclangon (1936) ... 198 8 3
Interest on Deposit Account ... 10 14 1	Jan. 6 Prof. Abetti (1936) ... 99 2 6
	<i>Commission 19:</i>
	Jan. 6 Dr Spencer Jones ... 164 11 8
	<i>Commission 27:</i>
	Jan. 6 Prof. Banachiewicz (1936) ... 52 19 3
	<i>Commission 31:</i>
	Jan. 6 Prof. Nörlund (1st semester 1936) ... 264 6 8
	International Council of Scientific Unions ... 25 4 0
	Printing ... 479 11 11
	Clerical Assistance ... 1 13 9
	Stationery, etc. ... 4 6
	Postage, transport ... 2 5 2
	Balance, Jan. 1, 1937 ... 2036 13 11
	<u>£3325 1 7</u>

INCOME AND EXPENDITURE, 1937

GUILDERS

INCOME		EXPENDITURE	
Balance, Jan. 1, 1937 ...	Fl. 5251.13	Grants to Commissions:	
Subscriptions:		<i>Commission 6:</i>	
Apr. 12 Belgium (part 1937) ...	248.52	Dec. 28 Prof. Strömngren (1938) ...	Fl. 708.80
May 7 Belgium (to complete 1937) ...	93.23	<i>Commission 18:</i>	
Mar. 25 Canada (1937) ...	514.02	May 4 General Perrier (part special grant) ...	3905.19
Dec. 17 Czechoslovakia (1936) ...	559.95	<i>Commission 19:</i>	
Sept. 18 Denmark (1937) ...	176.82	Feb. 22 Dr Spencer Jones (1937) ...	623.44
Jan. 15 Egypt (part 1936) ...	476.09	<i>Commission 23:</i>	
May 27 Egypt (to complete 1936) ...	52.28	Apr. 26 Lund, Humphries (Hyderabad)	2634.26
Nov. 11 Egypt (1937) ...	527.81	International Council of Scientific Unions ...	147.42
Dec. 27 France (part 1937) ...	1027.14	Clerical Assistance ...	154.65
Feb. 6 Great Britain (1937) ...	1372.95	Cambridge University Press ...	1093.01
Mar. 15 Italy (to complete 1935, part 1936) ...	872.60	Printing, mimeographing and stationery ...	77.96
Feb. 24 Italy (part 1936) ...	997.29	Stamps, transport, telegram, telephone ...	104.18
Apr. 5 Italy (to complete 1936) ...	104.33	Bank expenses ...	29.57
Jan. 8 Netherlands (part 1936) ...	251.82	Feb. 1, Transferred to Pounds Account, £800	7168.75
Feb. 3 Netherlands (to complete 1936) ...	94.50	Balance, Jan. 1, 1938 ...	7502.41
Feb. 24 Norway (1937) ...	171.41		
Jan. 8 Poland (part 1935 and 1936) ...	2343.95		
Aug. 16 Portugal (part 1937) ...	248.93		
Nov. 18 Portugal (to complete 1937) ...	103.64		
Nov. 25 Roumania (1928, 1929) ...	1544.15		
Jan. 16 Roumania (to complete 1934) ...	658.30		
Apr. 7 Roumania (1935, part 1936) ...	1556.14		
Apr. 29 Roumania (to complete 1936, part 1937) ...	560.35		
Feb. 18 Sweden (to complete 1936) ...	267.12		
Feb. 6 Switzerland (1937) ...	171.97		
Oct. 4 U.S.S.R. (1936, 1937) ...	2857.03		
May 27 Yugoslavia (1936) ...	411.40		
Dec. 23 Yugoslavia (to complete 1936, 1937) ...	615.42		
Sale lunar maps ...	4.56		
Interest ...	14.79		
	Fl. 24149.04		Fl. 24149.04

INCOME AND EXPENDITURE, 1937

SWISS FRANCS	
INCOME	EXPENDITURE
Balance, Jan. 1, 1937	Grants to Commissions:
...	<i>Commission 5:</i>
...	Mar. 2 Prof. Lundmark (special grant) ...
...	frs. 13400—
...	<i>Commission 6:</i>
...	Jan. 2 Prof. Strömgen (part 1937) ...
...	1200—
...	Jan. 21 Prof. Strömgen (to complete 1937) ...
...	450—
...	<i>Commission 11:</i>
...	Jan. 21 Prof. Esclangon (1937) ...
...	3000—
...	Jan. 21 Prof. Abetti (1937) ...
...	1500—
...	<i>Commission 18:</i>
...	May 4 General Perrier (part special grant) ...
...	648.50
...	<i>Commission 27:</i>
...	Jan. 21 Prof. Banachiewicz (1937) ...
...	1100—
...	<i>Commission 31:</i>
...	Jan. 21 Prof. Nörlund (1st semester 1937) ...
...	4000—
...	Bank expenses ...
...	1.50
...	Balance, Jan. 1, 1938 ...
...	0—
...	frs. 13400—

INCOME AND EXPENDITURE, 1937

POUNDS	
INCOME	EXPENDITURE
Balance, Jan. 1, 1937	Grant to Commission 31:
...	Sept. 3 Prof. Nörlund (2nd semester 1937) ...
...	£ 2096 13 11
...	Feb. 1, From Guilders Account, Leiden ...
...	800 0 0
...	Interest on Deposit Account ...
...	13 2 9
...	£2849 16 8
...	frs. 13400—

After the devaluation of the Swiss franc in the autumn of 1936 it was decided to pay in depreciated Swiss francs the grants for 1937 to countries in which the currency had been recently depreciated. In view of the rise of prices in the countries concerned payments for the current year are being made in gold francs. It was requested that the subscriptions be paid in gold francs, and nearly all countries have done so.

The question in which currency contributions and subventions are to be expressed in the next triennium will have to be considered by the Executive Committee at the Stockholm meeting.

PUBLICATIONS

In addition to Vol. v of the *Transactions* of the Union the following volumes have been published under the auspices of the various commissions of the Union with the aid of subventions from the Union.

- Commission 5. *Les Observatoires Astronomiques et les Astronomes, Supplément.* STROOBANT.
- Commission 12. *Immagini Spettroscopiche del Borde Solare.* ABETTI.
Cartes Synoptiques de la Chromosphère et Catalogue des Filaments de la Couche Supérieure. D'AZAMBUJA.
- Commission 19. *Results of the International Latitude Service, from 1922.7 to 1931.0.* Vol. VII. KIMURA.
- Commission 23. *Astrographic Catalogue 1900.0, Hyderabad Section (Part III), Dec + 36° to + 40°, vol. x: Measures of Rectangular Co-ordinates and Diameters of 64,791 star-images on plates with centres in Dec + 38°.* BHASKARAN.
- Commission 27. *Minima of Eclipsing Variables, 1936, 1937, 1938.* BANACHIEWICZ.
- Commission 31. *Bulletins Horaires du Bureau de l'Heure.* ESCLANGON.

Also a photographic reproduction on reduced scale of the Maps in Vol. II of the *Named Lunar Formations* by Mary A. Blagg and K. Müller has been published.

THE MEETING AT STOCKHOLM

At the Paris meeting Profs. Bergstrand and Lindblad tendered an invitation to the Union to meet in Stockholm in 1938. This invitation to a country in which such important contributions to astronomy have originated was cordially received.

The date for the meeting was afterwards fixed at August 3-10, 1938. A local committee was formed with Prof. Bertil Lindblad as president, and Dr Yngve Öhman as secretary.

In answer to letters to National Committees and Adhering Organizations two general propositions were received by March 3, 1938, which according to the By-laws were placed on the Agenda and circulated to the same group of bodies. Draft reports of the various commissions were asked for by April 1, 1938 and those received in time have been bound together and issued in advance of the meeting to all members who have notified their intention of being present.

The official opening of the Congress on the morning of August 3 will be followed as usual by meetings of the standing Commissions. Requests for grants during the three years 1939-41 must be in the hands of the General Secretary by midday on Monday, August 8, in time for consideration by the Executive Committee and the Finance Committee. The latter Committee and the standing Commissions will

report to the General Assembly on the morning of August 10. At this meeting the Executive Committee will submit nominations for the new Executive Committee (By-law III, 11). The President and Profs. Banachiewicz and Bianchi retire from the Executive Committee at the end of the Stockholm meeting. The new Executive Committee and the new standing Commissions will be elected at the final session of the General Assembly on Wednesday, August 10.

Agenda for the First Meeting of the General Assembly:

1. Official opening of the Congress.
2. Address by the President of the Union.
3. Appointment of Recorders for the Meeting.
4. Report of the Executive Committee.
5. Appointment of Finance Committee—one member to be nominated by each adhering country.
6. Appointment of Committee to advise the Executive Committee in the selection of members of standing Commissions.
7. Resolutions submitted by National Committees of astronomy:
 - (a) That, from the beginning of 1940, the positions of stars used for the determination of time or in connection with radio time-signals be based on the FK3 system. (Great Britain)
 - (b) That the Union recommends the early publication of the British Nautical Almanac and American Ephemeris at least 3 years ahead of the date in which they are actually used. (Egypt)
 - (c) Qu'il y a lieu d'adopter une classification internationale des publications en Astronomie, dans le cadre de la classification décimale universelle. (Belgium)