PART 2

INAUGURAL CEREMONY

REPORT OF THE GENERAL ASSEMBLY

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CEREMONIE INAUGURALE

Mardi 24 août, à 9^h 30^m

La Cérémonie Inaugurale s'est tenue à la Patinoire de Grenoble, devant und assemblée distinguée de représentants du gouvernement de la République Française, du Conseil Général de l'Isère, de la ville de Grenoble, et de l'Université Scientifique et Médicale de cette ville.

Madame Alice Saunier-Séité, Secrétaire d'Etat aux Universités, Monsieur Louis Mermaz, Président du Conseil Général de l'Isère, Monsieur Hubert Dubedout, Député de l'Isère, Maire de Grenoble, et Monsieur Gabriel Cau, Président de l'Université Scientifique et Médicale de Grenoble, ont honoré la cérémonie de leur présence.

Le fauteuil présidentiel a été occupé par Monsieur Jean Kovalevsky, Président de l'Association UAI-France 76.

Après un interlude musical, le Président ouvre la séance et donne la parole à Monsieur Dubedout, Maire de Grenoble, qui souhaite la bienvenue à l'Assemblée Générale de l'UAI au nom de la ville de Grenoble.

Le Président, après avoir remercié Monsieur le Maire Dubedout, prie Monsieur L. Mermaz de prendre la parole.

ALLOCUTION DE MONSIEUR L. MERMAZ, PRESIDENT DU CONSEIL GENERAL DE L'ISERE, DEPUTE:

Madame le Ministre, Monsieur le Préfet, Monsieur le Maire, Messieurs les Présidents, Mesdames, Messieurs,

Le Conseil Général, assemblée représentant les habitants du département de l'Isère, avait décidé de subventionner l'organisation de votre 16ème assemblée générale. Il a aussi demandé à son président de venir vous saluer ce matin.

En participant ainsi directement à vos travaux, le Conseil Général veut souligner d'abord combien il apprécie l'honneur qui est fait au département d'avoir à acceuillir les astronomes du monde entier; il veut également montrer notre fierté d'abriter le remarquable potentiel universitaire grenoblois; il veut, enfin, signifier l'interêt que veut porter une instance régionale à la recherche scientifique.

C'est en effet sur le territoire du département de l'Isère que vous allez être amenés à travailler et aussi à vous détendre durant plus de dix jours: les structures d'acceuil de la ville de Grenoble, auxquelles la municipalité a attaché un intérêt méritoire, le domaine universitaire de Saint-Martin-d'Hères et Gières, avec ses installations scientifiques et d'accueuil, constitueront le cadre de vos travaux et de votre vie quotidienne. Les organisateurs de votre assemblée générale ont également prévu une série de manifestations culturelles, de promenades et d'excursions qui permettent aux participants et accompagnants de mieux connaître le département. Nous vous souhaitons donc ici une très cordiale bienvenue dans notre département de l'Isère.

La deuxième raison qui a incité le Conseil Général à marquer un intérêt particulier à votre 16ème assemblée générale est son souci de manifester son attachement au potentiel universitaire grenoblois. Sans parler des palmarès établis récemment par divers hebdomadaires et revues françaises et qui placent très souvent Grenoble au premier plan des universités de ce pays, la notoriété des maîtres de nos universités grenobloises a acquis une dimension internationale que le Conseil Général se devait aussi de saluer: abriter un tel potentiel pédagogique et scientifique donne en effet au département et à ses instances des devoirs particuliers en la matière.

La troisième raison de la part que prend le Conseil Général à cette manifestation est l'intérêt qu'il entend manifester à la recherche scientifique quel que soit, en effet, le rôle irremplaçable d'instances nationales de coordination et d'impulsion de la recherche, comme la D.G.R.S.T. et le C.N.R.S. Il importe que soit accru le rôle des universités dans le devenir de chaque région. L'autonomie a souvent per-

mis aux nouvelles universités de consacrer une part grandissante de leur activité de recherche scientifique au mieux être économique, social et culturel des habitants de leur région. On se doit d'insister sur la nécessité de donner en France la priorité à la recherche scientifique.

Mais, au-delà de ces considérations qui ont animé notre Conseil Général de l'Isère, vous me permettrez de vous dire, Mesdames et Messieurs, combien l'Assemblée générale de l'union astronomique internationale et cette science elle-même, dont vous êtes ici les meilleurs représentants, nous paraissent porteurs d'avenir. Depuis les sages de la Chaldée, l'homme cherche à percer le mystère de l'univers. Si l'astronomie a pu ainsi naître et présenter aujourd'hui le fantastique développement que nous lui connaissons c'est parce qu'elle a su se nourrir de deux complémentarités: la complémentarité des hommes d'abord, les Egyptiens, les Grecs, les Chinois, les Indiens, les Arabes, les Européens, se passèrent tour à tour le flambeau de l'astronomie pour aboutir aujourd'hui à cette magnifique communauté scientifique qui couvre le monde entier. La complémentarité des sciences aussi, puisque l'astronomie n'a pu se développer qu'en faisant appel à de multiples disciplines et en donnant naissance à son tour à de nouvelles sciences. En effet, si l'astronomie utilise toutes les sciences et fait appel à toutes les techniques, elle contribue également à toutes les sciences et à toutes les techniques.

L'astronomie moderne n'a pas pu se développer sans la contribution décisive de la mécanique, de la physique, de la physique nucléaire, de la chimie, de la géologie et bien d'autres. Le développement considérable de l'astronomie a rendu possible des changements qualitatifs décisifs dans les domaines de la géographie, la météorologie, la radio-astronomie, la photographie et la conquête de l'espace qui n'aurait jamais pu naître et se développer sans l'astronomie.

C'est cette double complémentarité, dont l'astronomie a toujours su donner le meilleur exemple, qui nous paraît la plus réconfortante. Et c'est finalement à travers vous, ce symbole de progrès et d'espoir que je tenais surtout à saluer ce matin.

Le Président remercie Monsieur le Député Mermaz et passe la parole à Monsieur G. Cau.

ALLOCUTION DE MONSIEUR G. CAU, PRESIDENT DE L'UNIVERSITE SCIENTIFIQUE ET MEDICALE DE GRENOBLE:

Madame le Ministre, Monsieur le Préfet, Monsieur le Président du Conseil Général, Monsieur le Maire, Monsieur le Président de l'U.A.I., Mesdames, Messieurs,

Après la cité, par la voix de son Maire, et après le département par celle du Président du Conseil Général, l'Université Scientifique et Médicale de Grenoble se doit de souhaiter la bienvenue à la XVIe Assemblée Générale de l'Union Astronomique Internationale.

Je mesure tout l'honneur qui échoit à notre Université de servir de siège à un congrès qui rassemble plus de 40 délégations, honneur d'autant plus grand que l'Astronomie ne figure pas encore dans les disciplines enseignées à Grenoble, honneur d'autant plus périlleux que désormais il nous faut nous en montrer dignes en favorisant l'implantation de recherches astronomiques dans l'environnement favorable d'une Physique auréolée de la présence de prix Nobel tels que Louis NEEL et MOSSBAUER, de mathématiciens de notoriété internationale.

Au nom des Universités de GRENOBLE, je remercie très vivement les responsables de l'Union Astronomique Internationale d'avoir arrêté leur choix sur notre ville, sur les installations du campus de St. Martin d'Hères. Je tiens à témoigner ma gratitude à mon prédécesseur, Monsieur le Professeur SOUTIF, qui a su déployer énergie et diplomatie pour orienter et pour obtenir la décision de tenir pour la seconde fois en FRANCE l'Assemblée Générale de l'U.A.I.

Ce choix suscite une grande espérance pour notre Université: l'aboutissement du projet franco-allemand d'un grand interféromètre millimètrique installé sur le pla-

teau de Bure. Le bouillonnement d'idées qui pendant deux semaines fait de GRENOBLE la capitale mondiale de l'Astronomie ne peut que laisser un foyer dynamique de recherche astronomique. Il appartient à nos autorités de tutelle, à vous, Madame le Ministre, qui présidez à la destinée de l'Université Française, de répondre à cette espérance et d'adjoindre une nouvelle marque de rayonnement scientifique à GRENOBLE grâce à la réalisation de ce projet.

Les travaux de cette XVIe Assemblée Générale abordent les multiples aspects de l'astronomie qui a vu s'étendre son champ d'étude au-delà de l'imaginable. Grâce aux progrès techniques prodigieux, les limites de l'inconnu reculent en entraînant en un premier temps la stupéfaction, l'admiration, puis avec l'accélération de la communication, un intérêt moins soutenu pour aboutir à l'indifférence. Vos découvertes interfèrent en la vie de chacun tantôt de façon spectaculaire, tantôt de façon insidieuse: chaque planète apporte sa moisson. Que de réflexions suscitées à propos de la présence ou de l'absence de vie sur Mars à la fois sur le plan scientifique et sur le plan philosophique! N'est-ce pas le moment face à cette révolution des connaissances en astronomie d'évoquer cette pensée de TEILHARD de CHARDIN: "L'univers ne tend aucunement, comme nous pourrions le craindre, à écraser, mais au contraire à exalter par son énormité nos valeurs individuelles" en y ajoutant une prise de conscience des responsabilités.

A l'instar de l'Antiquité qui nous légua la règle selon laquelle rien de ce qui touche l'homme ne saurait laisser indifférent, notre époque par l'astronomie nous oblige à n'être indifférent ni au monde, ni à l'univers. L'Université a pour mission d'aider à la diffusion des connaissances sur les systèmes planétaires, stellaires ou galactiques autant que sur l'organisation de la matière ou de l'homme, dans le souci d'élever le niveau scientifique au profit de l'épanouissement de l'individu, au profit du progrès social et non dans le but de former des hommes sur les bases de besoins apparents du moment et de critères d'utilitarisme discutable.

Puissiez-vous trouver dans le cadre du campus universitaire les conditions favorables au déroulement agréable des nombreux colloques programmés! Puissiez-vous garder le meilleur souvenir de ce séjour à GRENOBLE et vous remémorer tel contact, telle discussion, telle approche scientifique en évoquant le site de nos montagnes! Puissiez-vous à l'issue de vos travaux avoir le désir de revenir pour constater que vous avez suscité un nouveau centre d'Astronomie!

Je vous redis à nouveau, au nom de l'Université Scientifique et Médicale de GRENOBLE, bienvenue à l'Union Astronomique Internationale, et, voeux les plus ardents pour le plein succès de cette XVIe Assemblée Générale.

Le Président, après avoir remercié Monsieur Cau, s'adresse à l'Assemblée lui-même comme suit:

ALLOCUTION DE MONSIEUR J. KOVALEVSKY, PRESIDENT DE L'ASSOCIATION UAI-FRANCE 1976:

Madame le Ministre, Monsieur le Préfet, Monsieur le Recteur, Monsieur le Député-Maire, Messieurs les Présidents, Mes Chers Collègues,

Au nom de l'Académie des Sciences et au nom du Comité National Français d'Astronomie, j'ai le grand honneur, et aussi le grand plaisir de vous accueillir et de vous souhaiter la bienvenue à la XVIe Assemblée Générale de l'Union Astronomique Internationale.

L'Académie des Sciences, qui a délégué au Comité National Français d'Astronomie ses responsabilités pour l'organisation de ce Congrès, avait été extrêmement heureuse que votre Union ait accepté l'invitation qu'elle vous a adressée il y a 3 ans de vous réunir en France.

Notre pays a une longue tradition astronomique, depuis la création de l'Observatoire de Paris il y a près de 310 ans. Les découvertes astronomiques de Cassini, Laplace, Le Verrier, Jansen et de bien d'autres encore sont bien connues de vous tous. Mais c'est surtout l'importance des apports actuels faits en France dans le domaine de l'Astronomie, que nous aimerions vous présenter au cours de votre séjour en France et vous permettre ainsi d'en juger les résultats. Tous les congres-

sistes trouveront, parmi les documents qui leur sont distribués, un panorama de l'Astronomie Française, rédigé par l'Institut National d'Astronomie et de Géophysique. Un certain nombre d'entre vous visiteront, ou ont déjà visité quelques-uns de nos observatoires. Nous vous invitons cordialement à profiter de votre séjour en France pour le faire.

La dernière fois que l'UAI s'est réunie en France, fut en 1935, à Paris, pour votre 5e Assemblée Générale. Quelques-uns d'entre vous s'en souviennent, mais vous êtes très peu nombreux dans ce cas. Ceci parce que, au cours de ces quarante dernières années qui ont vu tant d'évènements graves se dérouler, nombreux sont vos collègues de 1935 qui nous ont quitté. Mais c'est aussi parce qu'ils n'étaient que 300, tandis que nous serons plus de 2000, ces jours-ci à Grenoble pour échanger les résultats de nos derniers travaux et pour organiser de nouveaux programmes de recherche en coopération internationale.

Si ce bond dans le nombre de congressistes témoigne de l'essor de l'astronomie au cours des dernières décennies, ce fait a aussi pour conséquence que l'organisation de cette assemblée générale est devenue très complexe. Nous avons eu, pour cela, le concours des astronomes, des autorités nationales et locales, politiques, administratives et universitaires, ainsi que d'un certain nombre d'entreprises privées.

Les astronomes qui vous accueillent, travaillent au sein d'une association appelée UAI-France 76 qui est une émanation du Comité National Français d'Astronomie. De nombreux collègues ont consacré beaucoup de leur temps au sein de cette organisation et je tiens à les en remercier ici tout particulièrement. Ils ont fait ce travail en collaboration avec l'organisation locale "Grenoble Accueil" qui n'a pas ménagé ses efforts sur le plan de l'organisation sur place.

Le gouvernement français a reconnu l'importance de cette Assemblée Générale. Je suis heureux de remercier ici Madame le Secrétaire d'Etat aux Universités pour l'important effort financier consenti par son Ministère pour l'organisation de ce Congrès. Je remercie aussi le Ministère des Affaires Etrangères pour les bourses de séjour et de voyage qu'il a accordées à de nombreux collègues étrangers.

L'enthousiasme, exprimé par les diverses autorités locales à l'idée de réunir à Grenoble cette assemblée générale a certainement été pour beaucoup dans le choix de cette ville pour vous rassembler. L'aide qu'elles ont toutes apportée a été considérable. C'est avec gratitude que je remercie ici Monsieur le Président du Conseil Général de l'Isère et Monsieur le Député-Maire de Grenoble pour les importantes contributions du Département de l'Isère et de la ville de Grenoble à l'organisation de ce Congrès.

Je remercie aussi MM. Les Présidents de l'Université Scientifique et Médicale de Grenoble, de l'Institut National Polytechnique de Grenoble et de l'Université des Sciences Sociales de Grenoble, ainsi que M. le Directeur de la Bibliothèque Inter-Universitaire de Grenoble pour avoir mis à notre disposition les magnifiques locaux du Domaine Universitaire. Je remercie aussi M. le Directeur du Centre Régional des Oeuvres Universitaires et Scolaires pour la part que ses services ont pris pour résoudre les problèmes matériels de la vie quotidienne des astronomes. Nous remercions enfin les établissements et organismes publics et privés qui ont participé au financement de ce congrès.

J'espère que tous ces efforts n'auront pas été vains et que vous vous plairez à Grenoble. Je vous renouvelle donc, au nom de l'Academie des Sciences, du Comité National Français d'Astronomie et de l'Association UAI-France, nos souhaits de bienvenue et nos voeux les meilleurs pour le succès de vos travaux scientifiques.

Ensuite, la parole est donnée à Monsieur L. Goldberg, Président de l'Union Astronomique Internationale.

ALLOCUTION DU PROFESSEUR L. GOLDBERG, PRESIDENT DE L'UAI

Madame le Ministre, Monsieur le Préfet, Monsieur le Recteur, Monsieur le Président de l'Université, Monsieur le Président du Conseil Général, Monsieur le Maire, Professeur Kovalevsky, Mesdames, Messieurs,

L'Union Astronomique Internationale est très honorée d'avoir été invitée à tenir sa seizième Assemblée Générale en France, ce pays qui symbolise le progrès et la coopération internationale en astronomie. Nous éprouvons une profonde gratitude pour la chaleur et la générosité de votre bienvenue et nous nous réjouissons grandement de l'agréable semaine que nous allons passer ici.

Il y a 41 ans que l'U A I s'est réunie en France pour la dernière fois. Durant cette période, l'astronomie a subi de nombreuses et remarquables modifications qui, pour la plupart, n'auraient guère pu être prédites. En 1935, notre vénéré collègue Bernard Lyot nous décrivit les observations de la couronne solaire qu'il avait effectuées à l'Observatoire du Pic-du-Midi avec le coronographe qu'il avait récemment inventé. Lyot avait fait à plusieurs reprises l'ascension du Pic du Midi en skis, en portant le télescope attaché sur son dos. A présent, de nouvelles générations d'instruments puissants et sophistiqués, couvrant le domaine complet du spectre électromagnétique, peuvent être installés à peu près n'importe où dans le système solaire, sur orbite terrestre, dans le milieu interplanétaire et, même, sur les surfaces de la lune, de Vénus et de Mars. Ces progrès étroitement liés avec les nouveaux développements en physique atomique et nucléaire et en astrophysique théorique, combinés aux progrès des ordinateurs ont suscité une véritable révolution dans nos connaissances et créé pour les astronomes, maintes sources de perplexité.

Pourtant, tout comme nous sommes émerveillés par les nouveaux développements récents, les astronomes de 1935 considéraient avec admiration, la richesse de *leurs* propres expériences. Le Professeur Ernest Esclangon, Directeur de l'Observatoire de Paris, qui devait être élu Président de l'U A I , faisait la déclaration suivante:

"Mais le présent siècle devait, dans le domaine de l'Astronomie, nous réserver des révélations aussi extraordinaires qu'inattendues, de nature à troubler de surprises et d'émerveillement notre esprit confondu. A ce titre, on peut dire qu'une science nouvelle est née, comme si, par une sorte de dédoublement, notre vieille astronomie avait enfanté une astronomie nouvelle, débordant de force, de jeunesse, de vie, forçant, dès ses premiers pas, l'admiration la plus enthousiaste et la plus unanime".*

Si le contenu scientifique de l'Astronomie peut changer, en revanche le sens de l'enthousiasme avec lequel les astronomes poursuivent leur travail ne diminue pas, tout comme l'esprit d'amitié et de générosité unissant les astronomes de pays divers *maintient* la coopération dans les réunions internationales.

Tous les astronomes sont les bienvenus à notre union internationale, même si, pour des raisons indépendantes de notre volonté, certains collègues ne peuvent participer à des réunions en dehors de leur pays.

Monsieur le Maire,

Nos collègues français n'auraient pu choisir un site plus agréable que Grenoble, pour tenir notre seizième Assemblée Générale. C'est une ville belle et, même, fascinante, moderne, à l'avant du progrès et, cependant, pleine de souvenirs d'une

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* Yet the present century was going to give rise in the field of Astronomy, to revelations which were as extraordinary as they were unexpected, and which filled our mind with surprise and wonder. A new science was indeed borne, as if, through some kind of doubling, our old astronomy had given birth to a new astronomy, overflowing with strength, youth and vitality, creating the most enthusiastic and unanimous admiration".

histoire ancienne et glorieuse. C'est un homage à l'ingéniosité et au courage de votre peuple, qu'une telle ville ait pu se développer dans un site aussi sauvage, au centre de massifs montagneux. A première vue, il peut sembler surprenant de trouver un des centres culturels importants de France, dans un tel environnement, jusqu'à ce qu'on réalise la coopération unique qui existe entre l'industrie et les activités scientifiques des universités et laboratoires de la ville.

Monsieur le Préfet,

Nous, astronomes, nous ressentons des liens particulièrement étroits avec Grenoble et le Département de l'Isère, car un des premiers préfets fut ce grand mathématicien du début du 19e siècle, Jean Baptiste Joseph Fourier qui fit de Grenoble sa résidence officielle pendant son mandat de 1802 à 1815. C'est ici qu'il développa ses importantes recherches sur la conduction de la chaleur et qu'il découvrit la fameuse série mathématique portant maintenant son nom et constituant à présent un des outils fondamentaux pour l'analyse des observations astronomiques.

Monsieur le Recteur,

Nous vous sommes profondément reconnaissants d'avoir mis à notre disposition les magnifiques installations de l'Université scientifique et médicale, une des quatre grandes universités constituant l'Académie de Grenoble. Votre Université possède une réputation mondiale et est particulièrement renommée parmi les astronomes pour son éminent Département de Physique et pour son Ecole d'Eté de Physique théorique et d'Astrophysique des Houches.

Madame le Ministre,

L'aide généreuse que le gouvernement français a bien voulu octroyer à de nombreux astronomes, à titre d'intervention dans leurs frais de voyage, est très appréciée par l'Union.

Le peuple français et ses dirigeants ont toujours manifesté une attitude éclairée vis-à-vis de l'astronomie, depuis que Louis quatorze décida la construction de l'Observatoire de Paris et nomma Giovanni Domenico Cassini en qualité de premier directeur. Telle était la puissance et l'influence du Grand Roi Soleil, que pendant les soixante-douze années de son règne, de 1643 à 1715, très peu de taches solaires se manifestèrent. L'inauguration de l'Observatoire de Paris établit une tradition d'éminentes contributions et de collaborations internationales qui n'eut aucune interruption jusqu'à nos jours. Les grands mathématiciens et astronomes français des 17e, 18e et 19e siècles ont contribué à bâtir les fondations de l'astronomie classique; leurs travaux constituent une base solide pour la formation de tous les astronomes professionnels. Avec une telle tradition, il était normal que les recherches en mécanique céleste et en astronomie de position, jointes à l'astronomie solaire devaient continuer à recevoir une grande attention au 20e siècle. Par exemple, Dr. Benjamin Baillaud fut l'organisateur et la personnalité la plus marquante dans le grand projet de la Carte du Ciel. Elu premier président de l'U A I , Baillaud fut un ardent apôtre de la coopération internationale. Le professeur André Danjon qui servit plus tard également en tant que président de l'U A I inventa un instrument de transit bâti sur un nouveau principe, grâce auquel des positions d'étoiles purent être déterminées avec une précision remarquable.

Depuis la fin de la deuxième guerre mondiale, l'astronomie française a subi une renaissance majeure, tout en transférant l'accent de l'astronomie classique, vers l'astrophysique, la radioastronomie et les recherches spatiales, tout en maintenant sa puissante tradition en physique solaire.

Il est impressionnant de constater le très rapide développement de l'astronomie française dans maints observatoires. J'espère que de nombreux astronomes profiteront de leur présence en France pour visiter les observatoires à Paris, Meudon, Pic-du-Midi, Nançay, Haute Provence, Nice, Lyon et Bordeaux.

Lors de la cérémonie inaugurale de la cinquième Assemblée Générale à Paris, en 1935, le Président Frank Schlesinger exprimait ses vues sur l'absence presque to-

tale de construction de grand télescope en Europe occidentale, résultant de la 1ère Grande Guerre.
Schlesinger disait:
"I believe that there is not a similar period in which so few large telescopes have been constructed in these centers of civilization".*

Heureusement, la situation de nos jours peut être décrite en changeant simplement les mots "si peu" ("so few") par "tant" ("so many") et nulle part la construction de télescope n'a été plus active qu'en France; en ce moment, en tout cas, où bientôt, les Français auront en opération le télescope de 3.6 m en collaboration avec le Canada et Hawaii, un télescope de 2 m, un télescope de Schmidt à Nice, un télescope de 1 m pour l'Observatoire de Lyon (au Gornergrat en Suisse), un instrument semblable au Chiran (pour l'O.H.P.), un interféromètre dans la région millimétrique.

Nos collègues français ont toujours fait preuve d'un grand talent dans la construction d'instrumentations nouvelles. Je me contenterai de citer les techniques connues comme les lentilles de Fresnel et de Fabry, le foyer cassegrain, le dépôt chimique d'argenture, le test de Foucault, les étalons Fabry-Perot, l'optique Chrétien-Ritchey, le spectro-héliographe, le coronographe, l'astrolabe impersonnel, les cameras électroniques, les spectromètres à transformer de Fourier, l'interférométrie spiculaire, etc....

Dr. Kovalevsky,
Je voudrais vous remercier encore, ainsi que les astronomes français pour la façon magistrale avec laquelle vous avez organisé la plus grande Assemblée générale dans l'histoire de l'U A I .Puis-je aussi, au nom de l'U.A.I., exprimer les plus chaleureuses félicitations pour les progrès magnifiques que l'astronomie fait dans votre pays, ainsi que nos voeux les plus sincères pour l'avenir de l'astronomie française.

Monsieur Kovalevsky remercie Monsieur le Président Goldberg et donne la parole à Madame Alice Saunier-Séité.

ALLOCUTION DE MADAME ALICE SAUNIER-SEITE, SECRETAIRE D'ETAT AUX UNIVERSITES

Monsieur le Député-Maire, Monsieur le Préfet, Monsieur le Président du Conseil Général, Messieurs les Présidents, Mesdames, Mesdemoiselles, Messieurs,

L'importance de votre congrès illustre la vitalité et l'universalité de votre union. Elle est à la mesure de l'intérêt accordée à l'astronomie dans les grands pays scientifiques.

Pendant une semaine vous allez débattre des données d'une science fascinante qui a, plus qu'aucune autre et depuis les origines les plus lointaines, préparé et accompagné le développement de l'humanisme.

Depuis toujours, l'homme se préoccupe de son milieu, de son environnement et essaye de comprendre et d'expliquer. Les différents aspects de la voute céleste par ses grandes régularités et ses subtiles différences ont, probablement très tôt, stimulé ses observations et ses analyses.

Tour à tour le ciel a été pour l'homme le symbole de la perfection, la source de la vie et de son inspiration poétique. Il y a vu l'écriture de son destin. Il y a placé ses espoirs, l'origine de ses misères, le siège de ses divinités enfin le support de ses méditations les plus sûres et les plus hardies sur lesquelles est venu se fonder votre astronomie.

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* Traduction: "Je crois qu'il n'y a pas eu de période semblable au cours de laquelle si peu de grands télescopes ont été contruits dans les centres civilisés d'Europe occidentale".

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Pour vous, aujourd'hui, le ciel est surtout le premier et le plus complet des laboratoires où s'élaborent les théories les plus avancées. Les astronomes ont beaucoup de chance de posséder un laboratoire aussi étonnant que l'espace, où se trouvent rassemblées les conditions extrêmes de températures, de densité, de gravitation, de rayonnement, de dimensions.

Grâce à lui, l'astronomie ne cesse d'apporter aux autres sciences des éléments nouveaux et extraordinaires et par delà les découvertes du phénomène de la vie et de la conception de l'univers, elle permet de relier l'homme à celui-ci.

C'est vrai que l'on ne peut rester indifférent à l'idée qu'une étoile mène une existence compliquée depuis la contraction qui l'a vu naître jusqu'à l'effondrement qui annonce sa mort.

Et c'est un des plus beau triomphe de la physique que d'avoir réussi à fonder la connaissance de cette évolution sur la seule étude d'un rayonnement émis par un point dans l'espace il y a quelques millions d'années.

En révèlant l'unité de la matière, l'astronomie confère à la science et à ses efforts des valeurs universelles, elle est un instrument de culture incomparable.

Plusieurs personnalités et savants eminents vous ont présenté avant moi l'astronomie, ses acquisitions, ses problèmes, votre Union Internationale si active et qui est un élément moteur indispensable à l'épanouissement de votre science. Quant à moi je tiens à rappeler que cette science fascinante, carrefour de nombreuses disciplines est une de celle qui nécessite des instruments puissants et où la coopération est la plus nécessaire car ces moyens coûteux ne peuvent être le fait d'un seul pays, même quand celui-ci soutient un effort important dans le domaine scientifique.

La coopération internationale est une des constantes de la politique astronomique de la France. Notre pays prend part activement à plusieurs grandes opérations. C'est ainsi que nous participons pour un tiers à l'Observatoire Européen Austral pour lequel un télescope de 3,60 m a été construit et son installation au Chili, à peu près terminée. Avec le Canada, et les Etats-Unis, le C.N.R.S. construit à Hawaii un télescope de 3,60 m en voie d'achèvement. Un projet franco-allemand de radioastronomie millimétrique est étudié par le C.N.R.S. et la Max Plank Gesellschaft; ce projet extrêmement prometteur du point de vue scientifique doit réussir. Enfin les moyens spatiaux pour l'étude des rayonnement X ou γ sont utilisés grâce à notre participation à l'effort spatial européen au sein de l'Agence Spatiale Européenne qui a plusieurs programmes de satellites astronomiques déjà réalisés ou en projet et dans le cadre de notre coopération avec l'Union Soviétique.

Cette énumération illustre assez bien les possibilités de l'astronomie française et sa place dans le domaine international à côté de ce qui est réalisé au sein de nos propres établissements.

La France abrite aussi à l'Observatoire de Paris le bureau International de l'Heure. C'est le plus important des services internationaux placé sous le patronage de l'Union Astronomique Internationale. Il m'est agréable aujourd'hui de confirmer que la France met à votre disposition des locaux pour installer à l'Observatoire de Paris votre secrétariat permanent.

Le Congrès International de l'Union Astronomique qui se tient en France, pour la première fois depuis 1936 a pour cadre Grenoble et son Université. Je n'insisterai pas sur le dynamisme et les atouts de cette université prestigieuse qui vous acceuille et qui fait le renom de cette ville. Monsieur le Député-Maire nous l'a rappelé il y a quelques instants. Je n'insisterai pas non plus sur les illustres prédécesseurs qui dans cet établissement firent tant pour la science et plus particulièrement la vôtre, qui regroupe aujourd'hui plus de 3000 participants représentant plus de 30 nations. Aucune autre ville en France après Paris ne méritait d'assurer une telle charge ni une telle responsabilité.

Au cours de ces journées, vous allez réfléchir, beaucoup discuter, et essayer d'expliquer ce qu'est votre science, ce que sont vos travaux, ce qui vous guide, pourquoi et comment. Cet effort d'explication est un devoir essentiel du savant. L'homme est inquiet devant le progrès scientifique, il ne comprend pas, il n'en voit bien souvent que les effets négatifs. Les effets directs et indirects de l'explosion scientifique sur la vie des sociétés sont considérables. Il est du de-

voir du savant d'y réfléchir et d'aider l'homme à comprendre, à ne pas rejeter cette connaissance, à ne pas accroître son trouble et son angoisse.

Ces idées qui semblent si actuelles sont depuis longtemps débattues, puisqu'au VIème siècle avant J.C., Théopompe de Lamsaque disait: "Tout théoricien pur est un praticien social qui s'ignore".

Plus que jamais le savant doit sortir de sa tour d'ivoire. La science conditionne le devenir de la société, elle ne peut lui rester étrangère.

Après les paroles de Madame le Ministre Alice Saunier-Séité, et l'exécution d'un interlude musical très apprécié, le Président Kovalevsky lève la séance.

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REPORT OF THE XVIth GENERAL ASSEMBLY OF THE INTERNATIONAL ASTRONOMICAL UNION (RESOLUTIONS INCLUDED)

AGENDA

First Session

1. Formal opening of the General Assembly, by the President
2. Appointment of official interpreters
3. Report of the Executive Committee:
   (a) Discussion of the printed report, as published in Information Bulletin No. 36
   (b) Report of decisions taken at meeting in Grenoble, in particular of admission of new Members
4. Report by the General Secretary
5. Report by the President of the proposals for membership in the Executive Committee
6. Announcement of:
   (a) The names of representatives of Adhering Countries, empowered to vote on their behalf
   (b) The names of representatives to serve on the Nominating Committee
   (c) The names of Acting Presidents of Commissions
7. Appointment of the Finance Committee
8. Appointment of the Resolutions Committee
9. Consideration of proposal for resolution submitted by the French National Committee of Astronomy as follows:
   "L'Assemblée Générale de l'Union Astronomique Internationale, considérant l'érosion monétaire, estime qu'une augmentation de 20% des cotisations est nécessaire pour éviter une dégradation des services qui sont offerts par l'UAI à la Communauté Astronomique Internationale". The proposal will be submitted to the Finance Committee.
   Other Adhering Countries did not present motions for resolutions.
10. Consideration of proposals for resolutions submitted by Commissions

(a) *Commission No. 5*

Résolution 1

L'Assemblée Générale de l'UAI

Compte tenu du travail excellent et complet, accompli par le Groupe de Travail désigné pour procéder à la révision de la Classe Astronomique de la Classification Décimale Universelle (UDC), en coopération avec la Fédération Internationale de Documentation (FID)

recommande l'adoption par tous les astronomes des propositions de ce Groupe de Travail, concernant UDC 52, telles qu'elles sont décrites dans le document PC 75-7 de la FID en date du 31 mars 1975,

recommande la publication de ce document et sa diffusion de façon appropriée par l'UAI, et

recommande à tous les éditeurs de journaux primaires ou secondaires et à toutes les bibliothèques astronomiques d'adopter ce texte, de le divulguer et de l'appliquer aussi vite et aussi largement que possible, ainsi que les révisions de manuel de rédaction de l'UAI, établies par la Commission 5 et son Groupe de Travail sur la Politique d'Edition.

(b) *Commission No. 8*

Résolution 1

on long-term planning of meridian astronomy

1. *Noting* the great improvements of accuracy and efficiency of night-time ob-

servations by means of photographic and photoelectric techniques obtained during the recent decade,

recognizing that even greater improvements must be expected in the coming decate, both for night and daytime absolute observations by photoelectric techniques,

recognizing the importance of continued first class visual absolute observations for a period of overlap, it is

recommended that meridian departments review their long-term plans and make these known to the commission.

2. *Noting* the expected, revolutionary progress of astrometry through space techniques, it is

recommended that space astrometry should be developed and performed as soon as possible, and it is

recommended that this should not affect planning of groud based techniques before the accuracy, reliability and long-term planning of space astrometry have been certified.

Resolution 2
on values of precession (also for Commission 4)

Noting the great improvements of accuracy and efficiency of meridian observations obtained during the recent decade and expected during the next,

noting the expected progress through space astrometry and radio astrometry,

noting the relatively large estimated errors (10%) of the proposed changes of the precessional values, and reminding that the error of such unique quantities often prove to be greater than estimated,

noting that a change of the values will cause numerous trivial, but annoying mistakes in computing during many coming decades,

noting that the improved values given by Fricke can be easily introduced in proper motions when it is of importance, it is

anticipated that a change now would be regretted and probably changed again in only 20 years, it is

recommended to make no change now, and it is

recommended to print in all catalogues explicitly the formulae and constants which were used to transfer between different equinoxes.

(c) *Commission No. 10*

Resolution 1

Reflecting upon the continuing contributions from research at ground-based observatories, plasma laboratories and theoretical institutes,

recognizing the large gaps in solar observations that inevitably will occur between individual space missions, and being

deeply concerned about the many recent abandonments of ground-based programs due to lack of funding.

recommends that the various national funding agencies take care to support a balanced program of solar research with appropriate recognition of the vital role played by ground-based observatories, theoretical institutes and plasma laboratories.

Resolution 2
on Flare reporting

IAU Commission No. 10. recommends

1. That the solar community, during the next IAU Assembly, states the present scientific utility of the flare patrol with regard to solar research and observations, and endorses a program of flare patrol devoted to the *next solar cycle*.

2. That on a regional basis, the solar astronomers reach an agreement on the solar institutes which, in fact, will carry out this "quasi-permanent " program.

3. That in addition to this permanent program there will be plans for a few months each year for some kind of temporary "subflare campaign" in which more of the observatories would participate, and for which there would be an increase in the benefit of those who need a very complete survey of small subflares.

11. Consideration of proposal for resolution submitted by the Executive Committee.

On the proposal of the President of IAU Commission No. 5 the Executive Committee resolved to submit to the General Assembly the following rewording of the second sentence of article 12 (a) of the By-laws for approval:
"This (Special Nominating Committee) consists of the President and past President of the Union, a member proposed by the retiring Executive Committee, and four members elected by the Nominating Committee from among twelve Members proposed by Presidents of Commissions. Other than the President and immediate past President, present and former members of the Executive Committee shall not serve on the Special Nominating Committee".

To become valid, this motion requires the approval by an absolute majority of the votes of Adhering Countries.

Proposals of a financial character have been incorporated in the draft budget to be considered by the Finance Committee. Other proposals for resolutions have been presented in draft form and will first be discussed by the Commissions. No proposals for resolutions have arrived from Inter-Union Commissions.

Second Session

12. Report of the Finance Committee
(a) Accounts for 1973-1975
(b) The Residual budget for 1976
(c) The budget for the ensuing period, as proposed by the Executive Committee:

Draft Budget for 1977-1979
Unit of Contribution 1237.50 gold francs
(1.462.92 Swiss francs at 1 April 1976)

Receipts in Swiss francs	
1. Contributions from Adhering Countries	943.585,34
2. Revenue from publications	61.260,03
3. Interest on accounts	33.924,00
4. UNESCO subvention through ICSU	92.520,00
Total receipts	1.131.289,37
Total payments	1.131.289,37
Balance	0

Payments in Swiss francs		
1.	Administrative Office	436.900,00
2.	Subvention to ICSU	23.589,63
3.	Commission expenses	10.280,00
4.	Projects of Commissions	
4.1.	Exchange of Astronomers	60.000,00
4.2.	Other projects	34.206,70
5.	General Assembly	136.210,00
6.	Publication	38.550,00
7.	Publications for developing countries	50.000,00
8.	Executive Committee	51.400,00
9.	Officers' meetings	20.560,00
10.	Symposia, Colloquia	117.540,74
11.	Inter-Union Commissions	51.400,00
12.	Executive Committee projects	12.850,00
13.	Representation	27.404,30
14.	Bank charges	3.558,00
15.	Astronomers' schools	26.000,00
16.	Regional meetings	30.840,00
	Total payments	1.131.289,37

Projects under Payments 4.2. Commission	Swiss francs
4. Ephemerides	2.487,76
6. Telegram Bureau	5.597,46
16. Planetary documentation, Meudon	5.286,49
17. Lunar documentation, Meudon	5.286,49
20. Minor Planets	6.219,40
carried forward:	24.877,60

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brought forward	24.877,60
27. Variable Stars Catalogue	9.329,10
Total	34.206,70

13. The unit of subscription for 1977-1979. The Executive Committee will propose to the Finance Committee that the unit of subscription be increased by 10% from 1125 gold francs to 1237,50 gold francs.

14. Appointment of the Special Nominating Committee

15. Proposals for resolutions presented by the Executive Committee

16. Proposals for resolutions presented by Commissions, subject to the recommendation by the Resolutions Committee

17. (a) New Adhering Country
(b) Announcement of new individual Members of the Union

18. Commissions:
(a) Structural changes in Commissions, if any
(b) The election of Presidents and Vice-Presidents
(c) The membership of Organizing Committees

19. Place and date of the XVIIth General Assembly
Consideration of the Canadian invitation to hold the XVIIth General Assembly at Montreal, Canada, in 1979

20. Election of President, three Vice-Presidents, General Secretary, and Assistant General Secretary

21. Addresses by the retiring and newly elected Officers

22. Closing Ceremonies

At the first session of the General Assembly, to be held on Tuesday, 24 August, items 1 through 11 will be considered. The remaining items, and any that may have been adjourned from the first session, will be considered at the second session, to be held on Thursday, 2 September.

First Session

Held in the "Patinoire" in Grenoble, France, on Tuesday, 24 August 1976 at 10.30.
Professor L. Goldberg, President, in the chair.

1. Formal Opening. The President welcomed the Members of the IAU, Invited Participants, Registered Guests, representatives of Adhering Countries and National Committees of Astronomy, representatives of Scientific Unions and other organizations, and formally opened the first session of the sixteenth General Assembly of the Union.

He wished a particularly hearty welcome to the official representatives of ICSU and sister Unions as follows:

ICSU (International Council of Scientific Unions)	: Prof. C. de Jager
BIH (Bureau International de l'Heure)	: Dr. B. Guinot
BIPM (Bureau International des Poids et Mesures)	: Dr. J. Terrien
CODATA (Committee on Data for Science and Technology)	: Prof. P. Melchior
COSPAR (Committee on Space Research)	: Prof. C. de Jager
FAGS (Federation of Astronomical and Geophysical Services)	: Ing. Gen. G. R. Laclavère

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ICSU-AB (ICSU Abstracting Board)	: Prof. J.-C. Pecker
IPMS (International Polar Motion Service)	: Dr. S. Yumi
IUAA (International Union of Amateur Astronomers)	: Mr. K. E. Chilton, Dr. V. Barocas, Dr. C. Baldinelli
IUGG (International Union of Geodesy and Geophysics)	: Prof. P. Melchior
IUHPS (International Union of the History and Philosophy of Science)	: Prof. R. Taton
SCOPE (Scientific Committee on Problems of the Environment)	: Prof. J.-C. Pecker
URSI (International Union of Radio Science)	: Prof. W. N. Christiansen
ICTS (ICSU Committee on the Teaching of Science)	: Dr. D. McNally
SCOSTEP (Special Committee on Solar-Terrestrial Physics)	: Dr. Z. Svestka (Dr. E. R. Dyer)

The President continued by suggesting that messages of good wishes should be sent to former Presidents and General Secretaries of the IAU prevented from attending the present meeting. This suggestion was approved by acclamation.

The President then took the word and addressed the General Assembly as follows:

Before proceeding to the business of the General Assembly, there are two matters on which I should like to comment. First, I am especially happy to see so many of our young colleagues here - astronomers who are attending a General Assembly for the first time, and it is to them that I wish to address a few words on what a General Assembly is and what role it plays in the life of the Union.

As you know, the aims of the I A U are (1) to facilitate relations between astronomers of different countries where it is useful or necessary to organize international co-operation and (2) to promote the study and development of astronomy in all its branches. The work of the Union is centered in 40 Commissions, of which a very few are administrative in character, and the others cover all of the sub-disciplines of astronomy, a small number by technique and the majority by subject matter. During the intervals between General Assemblies, the Commissions, which are vested with a high degree of autonomy, will normally organize about six specialized symposia per year and an equal number of colloquia. Moreover, regional meetings, covering a fairly broad range of subject, are now being scheduled in different parts of the world at the rate of one or two in each of the years in which no General Assembly is held.

The General Assembly, however, sympolizes the unity and shared common goals of astronomy as well as the often unpredictable interdependence of superficially unrelated branches of astronomy, e.g. the solar corona and quasars, black holes and binary stars, radio astronomy and astrometry, solar oscillations and stellar evolution, etc. The Plenary Sessions, of which this is the first of two, are entirely administrative in nature, terribly important for the smooth operation of the Union but also, I must confess, somewhat ceremonial and dull. Some of you may find it interesting to learn how your affairs are conducted by the officers of the I A U and the official delegates of the countries but all of you are, I am sure, looking forward to the next seven or eight days. The menu will be a rich one. First of all, each of the 40 commissions will be meeting singly and jointly for an average of about 9 hours each. A certain number of commission meetings will deal with routine administrative matters, such as elections, reports of working groups, resolutions, international co-operation, etc., but the majority will be scientific in content. The scientific meetings have been organized well in advance, in most cases with a well defined program of invited talks, and feature general review papers that will help the young astronomers particularly to learn about the latest advances in a given field of research.

In addition to the commission meetings, seven Joint Discussions have been organized, most of them lasting an entire day, and all of them covering broad areas of research that interest two or more commissions. Most of the programs of the scientific meetings will be found in the final printed program and therefore you will have an opportunity to plan each day in advance. On any one day, the choices among

a joint discussion and a dozen commission meetings will require the application of a stern will, but no more so than you require nowadays when selecting topics for your own research. Finally, the Invited Discourses, which are intended to display the latest ideas and results in various branches of astronomy, will climax the week-long presentation of astronomical progress.

You will also be tempted by many entertainments of a non-scientific nature during the days ahead - receptions, excursions, fine restaurants, matchless scenery. Do not slight these opportunities altogether, for the importance of personal contacts during General Assemblies is just as great today as 41 years ago when the I A U last met in France, and the attendance was less than 300. At that time, the Chairman of the French National Committee, M. A. de la Baume Pluvinel, reminded his audience that "these meetings are the occasion, for the members of the great astronomical family, to know one another better and to form durable ties of friendship with each other. Exchanges of views take place between astronomers who were acquainted with each other only by their work and these particular conversations are sometimes as profitable as the work done in the Commissions". I would like to add my personal observation that the ever widening contacts between scientists at international meetings, especially since 1950, have created an enormous amount of understanding and good will among all countries concerned, East and West and North and South. The exchanges of scientific information and ideas among astronomers have been immeasurably freer and generous because we have come to like and respect each other as identifiable human beings and not only as names on scientific papers. And so I urge the young astronomers to take full advantage of the opportunity to make friends while they are here. The rewards will be immediate and in many cases they will last for a lifetime.

I should like now to speak about the problem of Chinese membership in the IAU, which is a matter of the utmost concern to all of us. At the close of the last General Assembly in Sydney, I expressed the view that the Executive Committee should have no task more urgent than that of restoring membership in the IAU to the People's Democratic Republic of China. Unfortunately, I cannot report that we have been successful in this endeavour, although we, together with ICSU, have made earnest efforts to dissolve the deadlock in which we find ourselves. Up until now, the Executive Committee has found no way acceptable to the Chinese of reinstating their membership in the IAU without expelling Taiwan, an action that would violate the statutes of the Union. Considering that the membership of the IAU has tripled since China's withdrawal in 1960, it is obvious that most of those present here will not be familiar with the issues relating to the Chinese problem and the attention being given by the Executive Committee to its solution, and therefore a few words of explanation are in order.

May I point out at the outset that the IAU has never regarded Taiwan as in any sense substituting for the People's Democratic Republic of China. As you know, China adhered to the IAU in 1935 but ceased temporarily to participate in the work of the Union following the revolution and the founding of the People's Republic in 1949. In 1955, Professor Otto Struve, then President of the IAU, wrote Professor Chang, President of the Chinese Astronomical Society, inviting China to resume its membership in the IAU. As a result, the People's Republic of China sent delegations to the general assemblies in 1955 and 1958, in Dublin and in Moscow, respectively. In 1959, when Taiwan applied and was accepted for membership in the IAU, the Executive Committee passed a resolution specifying that it would be representing astronomy *only on the island of Taiwan*. Nevertheless, China withdrew in 1960 and thus its seat in the IAU is not being filled by anyone at the present time - to the great sorrow of all astronomers, it is empty.

Why did China leave the I A U ? Because, if I may quote from the joint statement issued at the conclusion of President Nixon's visit to Peking in 1972, the Chinese government "firmly opposes any activities which aim at the creation of 'one China, one Taiwan', 'one China, two Governments', 'two Chinas', and independent Taiwan' or advocate that 'the status of Taiwan remains to be determined'". They insist that Taiwan is a province of China and therefore that the Academia Sinica of Peking must be recognized as the sole adhering organization representing

all of China. Furthermore, they would require the I A U to deny admission to representatives from Taiwan to all I A U sponsored conferences. For the I A U to accept these conditions would not only violate both its principles and statutes, but would establish a precedent that could lead in the future to the politically motivated expulsion of other members of the Union. It has been our view that the movement of scientists into and out of Taiwan is at present under the control of the government in Taipei and that this *de facto* situation must be recognized by separate representation for Taiwan in the I A U We do not advocate or favor any particular political relationship between Taiwan and China, but neither do we demand that Taiwan incorporate itself into China as a condition for membership by its scientists in the international scientific community. That is not properly the business of the I A U

Some of our colleagues are growing restive at the continued absence of Chinese astronomers from I A U meetings and would like quick action to speed their return. For example, I have heard it said that: "if the U. N. can dismiss Taiwan, why can't the I A U do the same?" The answer is simple: the I A U believes that all astronomers have the right to be represented in the organization, regardless of political considerations. The U. N. chooses its membership on political grounds; the I A U does not. I need only remind you that in 1955 the People's Democratic Republic of China was welcomed into the I A U fifteen years before its acceptance by the U. N.

I would like to reiterate that, at present, the readmission of China to the I A U would require a change in the statutes of the Union. The Executive Committee cannot simply decree that the Academia Sinica of Peking should replace the Academia Sinica of Taipei as the rightful adhering organization of China because the latter represents only Taiwan and the statutes make no provision for cancelling memberships. If the statutes were to be changed to allow cancellations of membership, the criteria would have to be clear and unambiguous. Two proposals have been made: (1) to restrict membership to countries that belong to the U. N. or U N E S C O or (2) to require a certain minimum level of astronomical activity as a condition for membership. In my judgment, both of these proposals are in conflict with the aims of the Union and are therefore unacceptable, the first for reasons to which I have already alluded and the second because it would force more than one country out of the Union and would stifle the progress of astronomy in developing countries.

Despite these difficulties, I believe that the present impasse is not insoluble and that we must continue to strive for an arrangement that does not require China to modify its political position towards Taiwan and yet at the same time makes it possible for astronomers on Taiwan to participate in the work of the I A U

Irrespective of whether China rejoins the I A U in the immediate future, we astronomers should try to accelerate the frequency of contacts with our Chinese colleagues and to develop co-operative projects on an individual or country-to-country basis. There are now many signs that the Chinese have resumed the expansion and development of their activity in astronomy and that co-operation and exchanges with astronomers of other countries would be welcomed by them. As an example, I should mention that at the request of the Chinese, the Kitt Peak Observatory has recently sent to the Peking Observatory copies of drawings of its two largest telescopes and has invited the Chinese astronomers to engage in joint discussions on telescope design. I would also urge astronomers, as the General Secretary urged all National Committees one year ago, to use every opportunity to invite Chinese astronomers to conferences in their own countries and to let them know how eager we are to communicate and work with them.

After these words, the President asked those present to stand while the General Secretary would read the names of Members who had died since the XVth General Assembly, or whose deaths had not been known at the time of that meeting. The General Secretary then read the following list:

C. G. Abbot, J. S. Astapovich, P. F. Bok, P. E. Bourgeois, J. A. Carroll, R. P. Cesko, G. A. Chebotarev, N. A. Chudovicheva, G. M. Clemence, P. Collinder, E. U. Condon, H. Daene, R. E. Danielson, L. D. de Feiter, L. Detre, A. J. Dos Santos,

V. C. A. Ferraro, G. Gjellestad, P. M. Gorshkov, A. Gougenheim, B. J. Harris, F. Henn, S. Herrick,H. G. Hertz, W. R. Hindmarsh, J. Hopmann, T. E. Houck, H. M. Jeffers, N. S. Kalikhevich, H. Kienle, K. O. Kiepenheuer, G. F. G. Knipe, F. Koebcke, G. P. Kuiper, E. M. Lindsay, A. W. Lines, T. A. Littlefield, M. R. Madwar, V. Maître, W. J. Miller, R. L. Minkowski, D. Mugglestone, A. T. Nesmyanovich, E. V. Novopashennyj, C. P. Olivier, J. Paton, S. B. Pikel'ner, E. K. Rabe, R. O. Redman, B. Rosen, S. V. Rublev, E. W. Salpeter, A. Schmitt, F. P. Scott, B. M. Shchigolev, W. M. Smart, N. N. Sytinskaya, G. van Biesbroeck, W. H. van den Bos, M. J. Verbaandert, A. N. Vyssotsky, S. Wierzbinski, R. Wildt, J. Witkovski, K. Wurm, N. A. Yakovkin, F. Zagar, W. Zonn, F. Zwicky.

2. *Appointment of official interpreters and tellers.* The General Assembly appointed by acclamation B. E. J. Pagel as official interpreter from French to English, L. N. Houziaux and J. P. Swings as official interpreters from English to French, and Claude Froeshle and A. F. Hayli as official tellers.

3. *Report of the Executive Committee.* The President passed the word to the General Secretary who invited the national representatives to discuss the report of the Executive Committee as printed in Information Bulletin No. 36. There was no discussion and the report was approved unanimously.

On the proposal of the General Secretary, the Assembly then approved unanimously to put on the agenda the application of Iraq for admission to the IAU as Adhering Country.

4. *Report of the General Secretary.* Invited by the President, the General Secretary read his addendum to the report of the Executive Committee, as follows:

"The present report is to provide supplementary information on the activities of the Union for the period from 1 January 1976 until now, and on its finances until 30 June 1976.

The President, General Secretary, and the Assistant General Secretary, together with the Staff of the Secretariat, met in Athens, Greece, on 16 February and, without the Staff, in Tucson, Arizona, U.S.A., on 1 June 1976. Dealt with were the most pressing problems of the IAU, such as its finances, the Reports on Astronomy 1976, the proposals for new Presidents and Vice-Presidents of IAU Commissions and the representation of the Union in other international bodies. Particular attention was paid to the forthcoming ordinary General Assembly: the invited speakers were reviewed, the programmes of the Joint Discussions were re-examined, and the Commissions meetings, their subjects included, were co-ordinated to avoid overlaps as much as possible. It was agreed to move the IAU office to Lausanne, Switzerland, well before the General Assembly.

The Executive Committee had to continue its work by correspondence. It approved the triennial report to the General Assembly, including the budget to be presented to the Finance Committee, and the Agenda for the XVIth General Assembly. In view of the savings resulting from the generous allocation by the French Government of free air-tickets to some members of the Executive Committee and Commissions Presidents, the Executive Committee resolved to increase the number of young astronomers'grants, each of $ 100, to one hundred.

The General Secretary maintained close contact with the French Local Organizing Committee, especially as regards the distribution of the French and IAU grants to young astronomers, the allocation of meeting rooms, and the printing of the Final Programme. He found the preparations for the General Assembly to proceed quite satisfactorily, thanks to the untiring efforts of the Local Organizing Committee.

Presidents of IAU Commissions formulated the programmes of the meetings of Commissions to be held in Grenoble, and forwarded to the General Secretary their requirements for meeting rooms and times. They subsequently actively participated in finalizing the listing of Commissions meetings as printed in the Final Programme. A few last minute changes will be made public on the announcements board.

Financial considerations made it necessary to publish the Reports on Astronomy 1976 in three volumes, each volume grouping the reports of Commissions with simi-

lar or complementary activities. It is hoped that this will make the reports more accessible than if they were published in one volume. Most of the reports of Commissions sent to the General Secretary for inclusion in the volumes are of a remarkably high standard and show that the decision to continue the publication of the Reports on Astronomy was correct. I wish to thank the Presidents of Commissions for their outstanding work, and to express my gratitude also to the Vice-Presidents, and all Members who contributed to the success of the Reports on Astronomy 1976.

Two IAU Symposia and 7 Colloquia are being held this year in conjunction with the General Assembly, and I wish to thank all those who spared no effort in making these meetings successful, and especially the Assistant General Secretary for her untiring work, as the meetings were her responsibility. I wish to thank also particularly the organizers of the two Regional Meetings under the auspices of the I A U , held in Trieste and in Tbilisi, in 1974 and 1975 respectively. These meetings, following the Athens meeting of 1972, have now established a new tradition of IAU activity, which is to be applied in the near future not only in Europe, but in other parts of the world as well, such as South America and New Zealand.

My short summary would not be complete if I did not mention the finances of the IAU. Really, there is not much to say, and this is good - for they are good. I hope the Finance Committee will be able to confirm my statement. Moreover, I am happy to report that only 2 Adhering Countries, all in category one, failed to pay their contributions for 1975. (Four other countries paid the greater part of their contributions for 1975, and the fact that they are somewhat behind is outside their control, since they spared no effort to pay their dues completely). Very encouraging are the payments for 1976: 26 out of 47 Adhering Countries have already paid their contributions, and have thus positively responded to the appeal of the Executive Committee to pay promptly in the year of the General Assembly.

On the other hand, as explained in the main report of the Executive Committee, the continuing inflation makes it necessary to increase the unit of contribution for the years to come by 10%. However, the proposal of the Executive Committee will be changed slightly so that the increase that will be asked will be 10.16% *in Swiss Francs*. If it had been in gold francs, as it was stated originally, it would be about double. The reasons are due to the subtleties of the money market, which will be explained in detail to the Finance Committee. Furthermore, as our budget is in Swiss Francs, the Executive Committee proposes at the same time to abandon the gold franc as basis for the unit of contribution and adopt the Swiss Franc, which is also based on gold, being equal to 0.2175926 grams of pure gold.

Finally, I am happy that the application of Iraq to become a Member Country of the IAU has been placed on the agenda. The Executive Committee considers this application as fulfilling the requirements of the Union and recommends the admission of Iraq to the Union.

Now that my term of office is drawing to an end, I wish to thank heartily all those who contributed to the successful work of the Union during that period. Thanks to them the international collaboration in astronomy, on a global scale, has been so fruitful. The concerted efforts of our colleagues not only led to many exciting discoveries, but also gave us the unique feeling of security which one has within a big family that works towards a noble common goal."

5. *Report of the President on the proposals for membership in the Executive Committee.* The President called the attention of the Assembly to article 12 (a) of the By-laws which provides that proposals for the elections to the President of the Union, six Vice-Presidents, the General Secretary and the Assistant General Secretary are submitted to the General Assembly by the Special Nominating Committee. The Special Nominating Committee in office, consisting of the present President, the former President B. Strömgren, a member nominated by the former Executive Committee, H. Elsässer, and four members selected by the Nominating Committee: A. Blaauw, J.-C. Pecker, L. Perek and A. B. Severny, had made the following proposals as to the composition of the next Executive Committee:

As President for the term 1976-1979:	Prof. A. Blaauw, The Netherlands
As Vice-Presidents for the term 1976-1982:	Dr. D. S. Heeschen, U.S.A. Prof. E. K. Kharadze, U.S.S.R. Prof. S. van den Bergh, Canada
As General Secretary for the term 1976-1979:	Prof. E. A. Müller, Switzerland
As Assistant General Secretary for the term 1976-1979:	Prof. P. A. Wayman, Ireland
The full Executive Committee will thus consist of the above six together with:	
Continuing Vice-Presidents:	Mr. J. G. Bolton, Australia Prof. Ch. Fehrenbach, France Prof. W. Iwanowska, Poland
In an advisory capacity:	Prof. L. Goldberg, former President, U.S.A. Prof. G. Contopoulos, former General Secretary, Greece

According to the By-laws the formal election will take place at the final session of the General Assembly.

6. *Announcements*. Called on by the President, the General Secretary announced
(a) the names of the representatives of Adhering Countries to vote at the General Assembly and
(b) the names of representatives of Adhering Countries on the Nominating Committee:

Country	*(a) Official Representative*	*(b) Representative on Nominating Committee*
Arab Republic of Egypt	A. S. Asaad	A. S. Asaad
Argentina	J. A. Lopez - absent	J. A. Lopez - absent
Australia	R. G. Giovanelli	W. N. Christiansen
Austria	H. Haupt	H. Haupt
Belgium	P. Swings	M. S. Arend
Brazil	J. A. de Freitas Pacheco	S. Ferraz-Mello
Bulgaria	N. Nicolov	B. Kovachev
Canada	D. A. MacRae	D. F. Gray
Chile	C. Anguita	F. Noël
Colombia	J. Arias de Greiff	J. Arias de Greiff
Cuba	not represented	not represented
Czechoslovakia	V. Guth	V. Bumba
Denmark	A. Reiz	O. Møller
Finland	J. Tuominen	J. Tuominen
France	J. F. Denisse (J.-C.Pecker)	M. J. Boulon
G.D.R.	G. Ruben	G. Ruben
Germany, F.R.	W. Priester	G. Traving
Greece	J. Xanthakis (M.Mousoulas)	S. Svolopoulos
Hungary	L. Dezsö	B. Seidl
India	V. Radhakrishnan	G. Swarup
Iran	H. Zomorrodian	H. Zomorrodian
Ireland	P. K. Carroll	P. K. Carroll
Israel	Y. Ne'eman	G. Shaviv
Italy	L. Gratton	L. Gratton
Japan	Z. Suemoto	W. Unno

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Korea DPR	not represented	not represented
Korea Republic	not represented	not represented
Mexico	P. Pişmiş	E. Mendoza
Netherlands	H. van der Laan	E.P.J. van den Heuvel
New Zealand	P. J. Edwards	P. J. Edwards
Norway	Ø. Elgarøy	Ø. Elgarøy
Poland	W. Iwanowska	A. Opolski
Portugal	not represented	not represented
Roumania	not represented	not represented
South Africa	M. W. Feast	E. E. Baart
Spain	D. A. Orte	L. Quijano
Sweden	T. Elvius	B. Höglund
Switzerland	U. W. Steinlin	B. Hauck
Taiwan	Chun-Shan Shen	Chun-Shan Shen
Turkey	N. Gökdogan	Z. Tüfekçioglu
United Kingdom	M. J. Seaton	R. J. Tayler
Uruguay	not represented	not represented
U.S.A.	B. F. Burke	F. J. Kerr
U.S.S.R.	A. B. Severny	A. G. Massevich
Vatican City State	P. J. Treanor (M. F. McCarthy)	M. F. McCarthy
Venezuela	J. Stock	J. Stock
Yugoslavia	G. Teleki	M. Vukicevic

Note: In some cases National Committees designated substitute delegates. Their names are listed in parentheses.

(c) The General Secretary announced that the Executive Committee had asked H. van der Laan to act for Yu. N. Parijskij as President of Commission No. 40 for the duration of the General Assembly.

7. *Appointment of the Finance Committee.* In accord with Article 18(a) of the By-laws the General Assembly appointed the following Finance Committee consisting of one representative of each Adhering Country:

Country	*Representative in Finance Committee*
Arab Republic of Egypt	S. Yousef
Argentina	J. A. Lopez - absent
Australia	W. H. Robertson
Austria	H. Haupt
Belgium	F. Bertiau
Brazil	P. Kaufmann
Bulgaria	M. Popova
Canada	J. L. Locke
Chile	C. Anguita
Columbia	J. Arias de Greiff
Cuba	not represented
Czechoslovakia	M. Kopecký
Denmark	K. Gyldenkerne
Finland	K. Mattila
France	N. Bel
G.D.R.	G. Ruben
Germany, F.R.	W. Fricke
Greece	L. N. Mavridis
Hungary	B. Balázs
India	S. D. Sinvhal
Iran	H. Zomorrodian

Ireland	P. A. Wayman
Israel	G. Shaviv
Italy	G. Godoli
Japan	Z. Suemoto
Korea DPR.	not represented
Korea Republic	not represented
Mexico	M. Peimbert
Netherlands	J. van Nieuwkoop
New Zealand	P. J. Edwards
Norway	Ø. Hauge
Poland	S. Piotrowski
Portugal	not represented
Roumania	not represented
South Africa	M. W. Feast
Spain	D. J. Cardús
Sweden	B. Westerlund
Switzerland	M. C. Huber
Taiwan	Ting, Yeou-Tswen
Turkey	K. Özemre
United Kingdom	D.W.N. Stibbs
Uruguay	not represented
U.S.A.	L. W. Fredrick
U.S.S.R.	G. S. Khromov
Vatican City State	P. J. Treanor
Venezuela	J. Stock
Yugoslavia	G. Teleki

Note: Substitutions designated by a few National Committees during the General Assembly have been omitted in the above list.

8. *Appointment of the Resolutions Committee.* At the request of the President, the General Secretary informed the assembly that the Resolutions Committee is to advise the Executive Committee as regards the proposals for resolutions submitted to the General Assembly for consideration. The General Assembly appointed M. K. V. Bappu and L. Dezsö to serve on the Resolutions Committee, with the General Secretary and the Assistant General Secretary attending in an advisory capacity.

9. through 11. *Considerations of proposals for resolutions submitted by the French National Committee of Astronomy, by Commissions, and by the Executive Committee.* The General Secretary said that the proposals for resolutions as given under points 9., 10. and 11. of the agenda as well as proposals for resolutions submitted during the General Assembly would first be dealt with by the Resolutions Committee and then voted on, with due regard to the recommendations of that Committee, by the General Assembly.

The General Secretary continued by announcing that all other items of the agenda would be deferred until the next session of the General Assembly.

The President then formally adjourned the meeting at 12.00.

FINAL SESSION

Held in the Weil Amphitheatre of the Scientific and Medical University, Grenoble, on Thursday, 2 Septembre 1976, *at* 10.00.

Professor L. Goldberg, President, in the chair

Before passing to the agenda, the General Secretary, called upon by the President, read to the Assembly a message of good wishes received from the People's Republic of Korea.

12. and 13. *Report of the Finance Committee and consideration of the unit of contributions*. The Finance Committee, as appointed at the first session, had to examine the accounts of the Union for the years 1973-1975, the budgets of the IAU for 1976 and for the period 1977-1979, and to consider the unit of contribution payable to the IAU by Adhering Countries from 1 January 1977 on. The President called upon Professor G. Teleki, member of the Finance-Subcommittee, to present to the General Assembly the report prepared by the Chairman of the Finance Committee Professor D. W. N. Stibbs. Dr. Teleki read as follows:

REPORT OF THE FINANCE COMMITTEE TO THE GENERAL ASSEMBLY

1. At the First Session of the XVIth General Assembly on 24th August 1976, the Finance Committee, consisting of the nominated representatives of Member Countries, was duly appointed to perform its duties in accordance with Article 18(a) of the By-laws. The Finance Committee met on that date when the President welcomed the members and outlined the function of the Committee. The President explained that for each ordinary General Assembly the Executive Committee prepares an estimate of the budget for the period to the next ordinary General Assembly which it submits to the Finance Committee, together with the accounts for the preceding period. The Finance Committee examines the accounts and the estimate of the budget on which it prepares reports and submits them to the General Assembly for approval.

2. The Finance Committee appointed D. W. N. Stibbs as its Chairman, and it appointed a Sub-Committee to make a detailed examination of the accounts and the estimate of the budget. The Sub-Committee consisted of the Chairman ex officio, Miss M. Bel (France), L. W. Fredrick (U.S.A.), G. S. Khromov (U.S.S.R.), G. Teleki (Yugoslavia), with G. Contopoulos, Miss E. A. Müller and A. Jappel members ex officio as General Secretary, Assistant General Secretary and Executive Secretary of the Union respectively. The Sub-Committee was convened by the Chairman on the 26th and 27th August, and it presented a report to the Finance Committee at its second meeting on 28th August.

3. The Chairman reported to the Finance Committee that the accounts for the period 1973-75, summarized in the narrative report of the Executive Committee to the General Assembly, had been subjected to detailed examination by the Sub-Committee with verifications supplied by the Secretariat during the examination. It was noted that the accounts had been kept at a very high standard and that all the relevant documents were available. The Sub-Committee had concluded that the accounts were in order, both on the basis of its own inspection and on the summary statement of the Auditor to the Union, M. Roger Bacle of Paris.

The Finance Committee, on the basis of the inspection of the accounts by the Sub-Committee, recommends to the General Assembly that the accounts for 1973-75 be approved.

4. The budgetary estimates for 1976, summarized in the Report of the Executive Committee, were examined by the Sub-Committee which noted that the projected expenditure was within the financial provision of the Budget accepted by the XVth General Assembly, and that it was consistent with the policy of the Union embodied in the Budget.

The Finance Committee recommends to the General Assembly that the budgetary estimates for 1976 be accepted.

5. The Sub-Committee reported to the Finance Committee that it had examined in detail (a) the comprehensive budgetary proposals for the period 1977-79 submitted by the Executive Committee, and (b) the proposal from the French National Committee that the Unit of Contribution be increased by 20 per cent.

The Sub-Committee recommended to the Finance Committee that, as proposed by the

Executive Committee, the Unit of Contribution be increased by 10.16 per cent, and that it should be expressed in the reference currency of the Union, the Swiss franc (one Swiss franc being equal in value to 0.2175926 g of fine gold). This recommendation was accepted by the Finance Committee by an absolute majority.

The Finance Committee recommends to the General Assembly that the Unit of Contribution be increased by 10.16 per cent and that it be expressed in the reference currency of the Union, namely the Swiss franc.

6. The Finance Committee considered the Budget for 1977-79 based on the new Unit of Contribution in Swiss francs and by an absolute majority accepted the revised budget put forward by the Sub-Committee.

The Finance Committee recommends for adoption by the General Assembly the following budget:

BUDGET FOR 1977-79

Unit of Contribution 1465.00 Swiss Francs
(One Swiss Franc equal to 0.2175926 g of fine gold)

Receipts in Swiss Francs

1. Contributions from Adhering Countries	944.925
2. Revenue from publications	60.000
3. Interest on accounts	51.925
4. UNESCO subvention through ICSU	92.520
Total	1.149.370
Payments	1.143.585
Excess of receipts over payments	5.785

Payments in Swiss Francs

1. Administrative Office	449.900
2. Subscription to ICSU	23.625
3. Commission expenses	10.280
4. Projects of Commissions	
4.1. Exchange of Astronomers	67.405
4.2. Other projects	34.205
5. General Assembly	136.210
6. Publications	38.550
7. Publications for developing countries	50.000
8. Executive Committee meetings	51.400
9. Officers' meetings	20.560
10. Symposia and Colloquia	117.540
11. Inter-Union Commissions	41.400
12. Executive Committee projects	10.000
13. Representation	20.000
14. Bank charges	3.660
15. Young Astronomers' schools	38.850
16. Regional meetings	30.000
Total	1.143.585

List of projects under Payments: Item 4.2

Commissions and projects	Swiss Francs
4. Ephemerides	2.485
6. IAU Telegram Bureau	5.595
16. Planetary Documentation, Meudon	5.290
17. Lunar Documentation, Meudon	5.285
20. Minor Planet Center	6.220
27. Variable Star Catalogue	9.330
Total	34.205

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7. The Sub-Committee, noting that more funds of the Union were located in Current Accounts than was necessary for its recurrent expenses, recommended that 60.000 dollars be transferred from those accounts into Savings Accounts where the funds by interest would augment the revenue of the Union by at least 18.000 Swiss francs by the end of the budgetary period 1977-79.

The Finance Committee accepted the recommendation unanimously, and so recommends to the General Assembly.

8. The Sub-Committee reported to the Finance Committee that, on the basis of a detailed examination of the running costs of the Administrative Office of the Union, it was unreasonable at the present time to expect the host institution to contribute more than 27.000 Swiss francs to the total costs during the budgetary period, and that 37.000 Swiss francs of the reserves of the Union should be available to meet the remainder of expenses not specifically included in the budgetary provision if the need arose.

The Finance Committee accepted the recommendation unanimously, and so recommends to the General Assembly.

9. The Sub-Committee, recognizing the need for flexibility in indenting charges against payment items in the Budget, recommended to the Finance Committee that it should be formally stated that the Executive Committee would be expected to make adjustments in the total charges against items should the need arise, without indenting charges against reserves except where specified, provided such adjustments were consistent with the policy embodied in the Budget and were within the overall financial provision.

The Finance Committee, noting that the recommendation would be particularly relevant to Items 4.1. and 15 in the Budget if the Commission proposals were not satisfactory to the Executive Committee, unanimously accepted the recommendation on the adjustment of payments, and so recommends to the General Assembly.

10. The Sub-Committee considered the arguments for and against the augmentation of the receipts of the Union by the introduction of an individual membership fee, and it concluded that, for the time being, this possible source of funds should not be considered.

The Finance Committee concurred with the view of the Sub-Committee, and so recommends to the General Assembly.

11. The Sub-Committee considered the question of the investment of some of the funds of the Union, and recommended that speculative or growth investment should not be entertained at the present time. However, it considered that some of the funds of the Union might profitably be placed in higher interest bearing accounts than are currently operated by the Union.

The Finance Committee unanimously accepted these recommendations, and so recommends to the General Assembly.

12. In conclusion, the Finance Committee warmly supported the wish of the Sub-Committee to place on record its gratitude to the Secretariat of the Union for their courtesy and helpfulness in making available their meticulously kept documents on the finances of the Union and for their expert professional advice which greatly assisted the Committee in its work.

D. W. N. Stibbs
Chairman, Finance Committee

The President thanked Professor Teleki and said that since the unit of contribution and the comprehensive budget for 1977-1979, as proposed by the Finance Com-

mittee, differed from those mentioned in the Agenda, it would be necessary first to put these two amendments on the Agenda by the approval of at least two thirds of the votes of Adhering Countries represented at the General Assembly, and then to vote on the report of the Finance Committee itself. The General Assembly placed the two amendments on the agenda by a majority of more than two thirds of votes.

The President then proceeded to take the vote on the individual recommendations of the Report of the Finance Committee. They were all approved by an absolute majority of votes, as called for by Statute 11(b). The President therefore declared the Report of the Finance Committee approved and thanked Professor Stibbs, the members of the Finance Committee and the General Secretary for their work.

14. *Appointment of the Special Nominating Committee.* The President referred to Article 12 of the By-laws which provides that proposals for elections to the President of the Union, six Vice-Presidents, the General Secretary, and the Assistant General Secretary are submitted to the General Assembly by the Special Nominating Committee which consists of the President and the past President of the Union, a member proposed by the retiring Executive Committee from Members not belonging to the Executive Committee, both immediately past and present, and four members selected by the Nominating Committee from among twelve Members proposed at the meeting of Presidents of Commissions.

The President then moved that the General Assembly appoint the following Members to serve on the Special Nominating Committee:

A. Dollfus (France)
B. A. Lindblad (Sweden)
A. G. Massevich (U.S.S.R.)
A. Reiz (Denmark)
J. P. Wild (Australia)

This list was unanimously approved.

15. and 16. *Resolutions.* The General Secretary reported that the proposals for resolutions submitted to the General Assembly by the Executive Committee, by National Committees of Astronomy and by Commissions had been passed on to the Resolutions Committee for consideration. Thus, before voting on the resolutions, Professor M. K. V. Bappu would present to the General Assembly the report of the Resolutions Committee.

The President then called upon Professor Bappu, Chairman of the Resolutions Committee, to take the floor.

REPORT OF THE RESOLUTIONS COMMITTEE TO THE GENERAL ASSEMBLY

The proposals for Resolutions examined by the Committee include those received from the Executive Committee, the French National Committee, Commissions of the Union and the Working Group for Planetary System Nomenclature. We have now examined all proposals carefully, and in some cases discussed these with the appropriate Commission Presidents. Some of these Resolutions have been presented to the General Assembly at its First Session. We recommend that the proposal of the Executive Committee listed under 11 of the Agenda, and which refers to the Special Nominating Committee, be adopted. The proposal is to reword the second sentence of article 12(a) of the By-laws as follows:

This consists of the President and past President of the Union, a member proposed by the retiring Executive Committee, and four members elected by the Nominating Committee from among twelve Members proposed by Presidents of Commissions. Other than the President and immediate past President, present and former members of the Executive Committee shall not serve on the Special Nominating Committee.

The proposal for a resolution made by the French National Committee of Astronomy is financial in scope and as indicated at the First Session, has been submitted to the Finance Committee. The General Assembly has already accepted the report of the

Finance Committee, which has considered the French proposal. A proposal for a resolution on values of precession, proposed by Commission 8, has been withdrawn by the Commission. All other proposals for resolutions that have appeared on the Agenda at our first meeting have been taken as resolutions of Commissions and will be covered by Resolution 10 that this Committee will propose later.

I shall now read the text of each resolution that the Resolutions Committee wishes to place before you, for adoption by the General Assembly. This list covers proposals adopted by Commissions during the General Assembly and which, in our opinion, are of sufficient interest and importance for consideration by the General Assembly.

RESOLUTION NO. 1

Proposée par les Commissions Nos. 4, 8 et 31 de l'UAI

L'Union Astronomique Internationale soutient les recommendations contenues dans le Rapport Commun des Groupes de Travail de la Commission 4 sur:

le Système des Constantes Astronomiques de 1'UAI (1976),
le nouveau standard pour 1'époque et pour 1'équinoxe,
le système de référence fondamental,
les procédés de calcul des positions apparentes et de réduction des observations,
les échelles de temps pour les théories dynamiques et les éphémérides,
et les autres données nécessaires à la préparation des éphémérides;

et recommande de les utiliser pour la préparation du catalogue fondamental K5 et, à partir de 1'année 1984, pour celle des éphémérides nationales et internationales, ainsi que pour tout autre travail astronomique impliquant ces éléments.

RESOLUTION NO. 1

Proposed by IAU Commissions 4, 8 and 31

The International Astronomical Union endorses the recommendations given in the Joint Report of the Working Groups of Commission 4 on:

the IAU (1976) System of Astronomical Constants,
the new standard epoch and equinox,
the fundamental reference frame,
the procedures for the computation of apparent places and the reduction of observations,
time scales for dynamical theories and ephemerides,
and other quantities for use in the preparation of ephemerides;

and recommends that they shall be used in the preparation of the fundamental catalogue FK5 and of the national and international ephemerides for the years 1984 onwards, and in all other relevant astronomical work.

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RESOLUTION NO. 2

Proposée par la Commission No. 5 de l'UAI

L'Assemblée Générale de l'Union Astronomique Internationale s'inquiète de la forte augmentation du prix des publications qui, liée à l'expansion continue de la littérature scientifique, rend difficile aux jeunes astronomes et aux astronomes des pays en voie de développement l'accès à la connaissance astronomique, et

reconnaissant que le Comité Exécutif a déjà pris, avec succès, des mesures en vue de réduire le coût des publications,

demande

(i) au Comité Exécutif de continuer à veiller par tous les moyens possibles à ce que les publications de l'UAI soient disponibles à des prix fortement réduits,

(ii) aux éditeurs d'ouvrages astronomiques de faire tous efforts pour produire des publications à un prix moins élevé et pour utiliser de nouveaux moyens de diffusion des informations.

RESOLUTION NO. 2

Proposed by IAU Commission No. 5

The General Assembly of the International Astronomical Union *notes* with concern the large increases in prices of publications, which, together with the continuous expansion in scientific literature, makes accessibility of astronomical knowledge difficult to young astronomers and astronomers in the developing countries, and

recognizing that the Executive Committee has already taken action, with success, to reduce the cost of publications,

requests

(i) the Executive Committee to take whatever further action may be possible to ensure that IAU publications are made available at greatly reduced prices

(ii) publishers of astronomical literature to make every effort towards the production of less expensive publications and to employ new ways of disseminating information.

RESOLUTION NO. 3

Proposée par la Commission No. 5 de l'UAI

L'Assemblée Générale de l'Union Astronomique Internationale considère que Astronomy and Astrophysics Abstracts (AAA) correspond parfaitement aux besoins spécifiques exigés par un service analytique en Astronomie et en Astrophysique et recommande vigoureusement que AAA continue à être préparé, sous les auspices de l'UAI, par l'Astronomisches Rechen-Institut, Heidelberg, République Fédérale l'Allemagne.

RESOLUTION NO. 3

Proposed by IAU Commission No. 5

The General Assembly of the International Astronomical Union considers that Astronomy and Astrophysics Abstracts (AAA) fulfils excellently the specialized needs for an abstracting service in Astronomy and Astrophysics and recommends strongly that AAA continue to be produced by the Astronomisches Rechen-Institut, Heidelberg, Germany Federal Republic, under the auspices of the IAU.

RESOLUTION NO. 4

Proposée par les Commissions Nos. 12, 14 et 29 de l'UAI

L'Union Astronomique Internationale tient en haute estime les activités du Bureau National des Standards (NBS) des Etats-Unis, consacrées à la compilation et à l'évaluation critique des données atomiques et moléculaires, et considère qu'elles sont essentielles aux progrès de l'Astronomie.

RESOLUTION NO. 4

Proposed by IAU Commissions 12, 14 and 29

The International Astronomical Union highly values the activities of the United States National Bureau of Standards in the compilation and critical evaluation of atomic and molecular data, and considers these activities essential for the advancement of astronomy.

RESOLUTION NO. 5

Proposée par les Commissions Nos. 16 et 17 de l'UAI

L'Assemblée Générale de l'Union Astronomique Internationale prenant note de l'intérêt que plusieurs de ses Commissions portent au développement d'un Programme International du Système Solaire, appuie la proposition faite par le COSPAR de créer un comité directeur, comprenant des représentants de l'UAI, et chargé de développer ce programme.

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RESOLUTION NO. 5

Proposed by IAU Commissions 16 and 17

The General Assembly of the International Astronomical Union noting the interest of several of its Commissions in the development of an International Solar System Programme, supports the COSPAR proposal for the establishment of a steering committee, including IAU representatives, to develop this programme.

RESOLUTION NO. 6

Proposée par les Commissions Nos. 19 et 31 de l'UAI

L'Union Astronomique Internationale

reconnaissant

que le Service International du Mouvement du Pôle et le Bureau International de l'Heure ont des activités complémentaires et que tous deux contribuent d'une façon essentielle à la détermination et à la compréhension du mouvement du pôle, et

reconnaissant

que les nouvelles techniques radio et laser apporteront une contribution importante à l'étude du mouvement du pôle, mais qu'il est encore trop tôt pour définir le profil d'un nouveau service fondé sur l'utilisation de ces techniques, et

notant

avec satisfaction que la détermination du mouvement du pôle issue des différentes stations du Service International du Mouvement du Pôle a atteint la précision exigée pour la solution de problèmes qui se posent depuis longtemps,

recommande

que le Service International du Mouvement du Pôle continue à fonctionner sous sa forme actuelle et que le Conseil Scientifique du Service International du Mouvement du Pôle et le Comité de Direction du Bureau International de l'Heure continuent à rechercher en commun les possibilités d'utilisation des techniques modernes sur une base permanente, et

insiste

auprès des organismes nationaux et internationaux concernés pour qu'ils maintiennent leur aide au Bureau Central du Service International du Mouvement du Pôle et à chacun des observatoires qui coopérent avec ce service.

RESOLUTION NO. 6

Proposed by IAU Commissions 19 and 31

The International Astronomical Union

recognizing

that the activities of the International Polar Motion Service and of the Bureau International de l'Heure are complementary, and that they both make essential contributions towards the determination and understanding of the motion of the pole, and

recognizing

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that the new laser and radio techniques will make an important contribution to the study of polar motion but that it is at present too early to determine the form of a new service based on these techniques, and

noting

with satisfaction that the International Polar Motion Service multi-station derivation of polar motion has attained the precision needed to resolve long-standing problems,

recommends

that the International Polar Motion Service continue to operate in its present form, and that the Scientific Council of the International Polar Motion Service and the Directing Board of the Bureau International de l'Heure jointly keep under continuous review the possibility of the utilization of modern techniques on a permanent basis, and

urges

that the international and national agencies concerned continue their support of the Central Bureau of the International Polar Motion Service and of each co-operating observatory.

RESOLUTION NO. 7

Proposée par les Commissions Nos. 19 et 31 de l'UAI

L'Union Astronomique Internationale ayant passé en revue les diverses fonctions du Bureau International de l'Heure, BIH, telles qu'elles sont définies dans les Transactions de l'UAI, Vol. XIIIA, 1967, et prenant en considération l'accroissement de ces activités consécutif aux responsabilités supplémentaires confiées au BIH,

recommande

maintenant que soit adopté pour le BIH le texte de référence suivant:

Les fonctions du BIH sont

(a) d'établir l'échelle du Temps Atomique International TAI, en accord avec les décisions de la 14ème Conférence Générale des Poids et Mesures et de concert avec le Bureau International des Poids et Mesures;

(b) d'établir à partir de toutes les données pertinentes, et de publier, les valeurs courantes du Temps Universel et de la vitesse angulaire de la rotation de la Terre et, également, les coordonnées operationnelles du pôle utilisées à cet effet;

(c) de rendre effectif le système du Temps Universel Coordonné UTC en diffusant tous les renseignements nécessaires à la coordination des émissions des signaux horaires et à la synchronisation des pendules sur l'échelle UTC;

(d) de diffuser les informations importantes pour les utilisateurs scientifiques du temps, et de fournir sur demande les données disponibles concernant le temps;

(e) d'effectuer les recherches scientifiques nécessaires aux progrès du service.

RESOLUTION NO. 7

Proposed by IAU Commissions 19 and 31

The International Astronomical Union having reviewed the functions of the Bureau International de l'Heure, BIH, which were defined in the Transactions of the IAU, Vol. XIIIA, 1967, taking account of subsequent developments which have resulted in the BIH being entrusted with additional responsibilities, it now

recommends

that the following terms of reference of the BIH be adopted:

The functions of the BIH shall be

(a) to establish the scale of the International Atomic Time TAI, in accordance with the decisions of the 14th Conférence Générale des Poids et Mesures and in conjuction with the Bureau International des Poids et Mesures;

(b) to establish, from all relevant data, and to publish the current values of the Universal Time and of the angular velocity of the Earth's rotation and, in addition, the operational coordinates of the pole used for this purpose;

(c) to implement the system of the Coordinated Universal Time UTC by the distribution of all necessary information for the coordination of time signal emissions and the synchronization of clocks on the UTC scale;

(d) to distribute information important for scientific users of time, and to supply on request the available data on the subject of time;

(e) to perform scientific research as necessary for the improvement of the service.

RESOLUTION NO. 8

Proposée par la Commission No. 40 de l'UAI

L'Union Astronomique Internationale

reconnaissant

(a) que les résultats scientifiques de l'exploration de l'univers obtenus grâce à la radioastronomie sont importants pour l'humanité;

(b) que le spectre radio est de plus en plus utilisé, principalement par des émetteurs localisés dans l'espace ou la haute atmosphère;

recommande

1. aux ingénieurs responsables de la conception des futurs services d'émission à partir du sol, de la haute atmosphère ou de l'espace, de veiller à ce que les effets de l'interférence dans les bandes allouées, les bandes adjacentes et les bandes harmoniques restent en-dessous des limites nuisibles d'interférence telles qu'elles sont spécifiées dans le Rapport CCIR 224-3;
2. à toute la communauté astronomique de continuer à insister fermement auprès des utilisateurs effectifs du spectre radio pour qu'ils respectent ces limites.

RESOLUTION NO. 8

Proposed by IAU Commission No. 40

The International Astronomical Union
recognizing
(a) the value to mankind of the scientific results achieved by radio astronomy through the exploration of the universe;
(b) the increasing use of the radio spectrum, especially by space and air-borne transmitters;
recommends
1. that designers of future ground, airborne and space-based transmitting services, ensure that the effects of in-band, adjacent-band and harmonic interference are below the harmful interference limits as specified in CCIR Report 224-3;
2. that efforts continue by the entire astronomical community to stress that the active users of the radio spectrum should adhere to these limits.

RESOLUTION NO. 9

Proposée par la Commission No. 50 de l'UAI

L'Union Astronomique Internationale s'inquiète vivement de l'augmentation des niveaux d'interférence avec les observations astronomiques, qui résulte de l'illumination artificielle du ciel nocturne, des émissions radio, de la pollution atmospérique et du survol par les avions des sites d'observatoires.

En conséquence, l'UAI demande instamment aux autorités civiles responsables d'entreprendre une action urgente afin de préserver de telles interférences les observatoires existants ou en projet. Dans ce but, l'UAI se charge de fournir, par l'intermédiaire de la Commission 50, tous renseignements concernant les limites acceptables d'interférence et les moyens possibles de contrôle.

RESOLUTION NO. 9

Proposed by IAU Commission No. 50

The International Astronomical Union notes with alarm the increasing levels of interference with astronomical observation resulting from artificial illumination of the night sky, radio emission, atmospheric pollution and the operation of aircraft above Observatory sites.

The IAU therefore urgently requests that the responsible civil authorities take action to preserve existing and planned observatories from such interference. To this end, the IAU undertakes to provide through Commission 50 information on acceptable levels of interference and possible means of control.

A large number of Resolutions have been formulated by several different Commissions of the IAU. It would be impractical to give to each one of these the attention of the General Assembly. These Resolutions have been formulated in each Commission with care and after much deliberation. The Union has complete confidence in the functioning of its Commissions and I present to you one additional Resolution, proposed by the Resolutions Committee, that will endorse this view.

RESOLUTION NO. 10

Proposée par le Comité des Résolutions

L'Assemblée Générale de l'Union Astronomique Internationale cautionne les Résolutions adoptées individuellement par chacune de ses Commissions et recommande aux astronomes de mettre ces Résolutions en application.

RESOLUTION NO. 10

Proposed by the Resolutions Committee

The General Assembly of the International Astronomical Union endorses the Resolutions adopted by its individual Commissions and recommends that astronomers give effect to these Resolutions.

Dr. M. K. V. Bappu
Chairman, Resolutions Committee

All proposals of the Resolutions Committee as presented by Dr. Bappu were carried by an absolute majority of votes.

17(a). *Admission of Iraq to the IAU.* The General Secretary referred to his narrative report and reaffirmed that the Executive Committee had carefully examined the application of Iraq for admission to the Union and found that the degree of astronomical development in this country satisfied the standards required for IAU membership. He therefore moved that the General Assembly admit Iraq as a new Adhering Country to the Union. This motion was carried unanimously.

The President invited the official representative of Iraq Dr. May A. Kaftan to be seated among the representatives of Adhering Countries. Y. Ne'eman the official representative of Israel, welcomed on behalf of his country Iraq as a Member Country of the IAU and emphasized the importance of scientific co-operation of the countries in the Near East.

17(b). *New Members of the Union.* The General Secretary reported that the Executive Committee had, on the proposal of adhering bodies and on the advice of the Nominating Committee, admitted 724 new Members to the Union, and deleted 31 Members from its membership list. The names of the new Members had been displayed in a prominent place and the General Secretary did not propose to read them. He informed the Assembly that these names would be incorporated in the alphabetical list of IAU Members to appear in print.

18. *Commissions.* The General Secretary presented, on behalf of the Executive Committee, the following list of Presidents and Vice-Presidents of Commissions for election by the General Assembly:

No.	Commission Name	President	Vice-President
4	Ephemerides	V. K. Abalakin	A. M. Sinzi
5	Documentation	J.-C. Pecker	W. D. Heintz
6	Astronomical Telegrams	E. Roemer	J. Hers
7	Celestial Mechanics	V. Szebehely	Y. Kozai
8	Positional Astronomy	R. H. Tucker	E. Høg
9	Astronomical Instruments	J. Ring	E. H. Richardson
10	Solar Activity	G. Newkirk, Jr.	V. Bumba
12	Solar Atmosphere	M. K. V. Bappu	Y. Uchida
14	Spectroscopic Data	E. Trefftz	J. G. Phillips
15	Physics of Comets, Minor Planets, and Meteorites	N. B. Richer	B. D. Donn
16	Planets and Satellites	T. C. Owen	B. A. Smith, V. G. Tejfel'
17	Moon	E. Anders	K. P. Florensky
19	Rotation of the Earth	R. O. Vicente	P. E. G. Pâquet
20	Motions of Minor Planets, Comets, and Satellites	B. G. Marsden	G. Sitarski
21	Light of the Night Sky	R. Dumont	H. Tanabe
22	Meteors, Interplanetary Dust	I. Halliday	W. G. Elford
24	Photographic Astrometry	C. A. Murray	H. K. Eichhorn v. W.
25	Stellar Photometry, Polarimetry	M. F. McCarthy	J. A. Graham
26	Double Stars	P. Muller	O. G. Franz
27	Variable Stars	J. Smak	J. D. Fernie
28	Galaxies	B. E. Markarian	B. E. Westerlund
29	Stellar Spectra	M. Hack	W. K. Bonsack
30	Radial Velocities	A. H. Batten	M. Duflot
31	Time	A. Orte	S. Iijima
33	Galactic Structure and Dynamics	F. J. Kerr	G. G. Kuzmin
34	Interstellar Matter and Planetary Nebulae	G. B. Field	V. Radhakrishnan
35	Stellar Constitution	B. Paczynski	R. J. Tayler
36	Stellar Atmospheres	D. Mihalas	G. Traving
37	Star Clusters	S. van den Bergh	G. Lyngå
38	Exchange of Astronomers	D. A. MacRae	J. Delhaye
40	Radio Astronomy	H. van der Laan	G. Swarup
41	History of Astronomy	J. Dobrzycki	M. A. Hoskin
42	Close Binary Stars	G. Larsson-Leander	B. Warner
44	Observations Outside the Atmosphere	R. M. Bonnet	R. J. van Duinen
45	Spectral Classification	B. Hauck	A. Slettebak
46	Teaching of Astronomy	E. V. Kononovich	D. Wentzel, L. Houziaux
47	Cosmology	I. D. Novikov	G. O. Abell
48	High-Energy Astrophysics	I. S. Shklovski	F. Pacini
49	Interplanetary Plasma	A. Hewish	H. J. Fahr
50	Protection of Observatory Sites	R. Cayrel	F. G. Smith

This list was approved by the General Assembly.

The General Secretary continued by showing the panels of the Organizing Committees of IAU Commissions, as approved by the Executive Committee, and announced that the composition of Commissions would be published in the IAU Transactions volume XVIB.

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19. *Place and date of the XVIIth General Assembly*. The President informed the Assembly that the Union had been invited by the Canadian National Committee of Astronomy to hold the XVIIth General Assembly in Montreal, Canada, from 14 to 24 August 1979, and asked Professor D. A. MacRae to present the invitation. Professor MacRae spoke, first in English and then in French, as follows:

"Mr. President, Ladies and Gentlemen:

As Chairman of the Canadian National Committee I extend a cordial invitation to the International Astronomical Union, to hold its seventeenth General Assembly in the city of Montreal, Canada. This invitation is issued by our adhering organization, the National Research Council of Canada, on behalf of Canadian astronomers. Canada will welcome all members of the Union and invited participants who come as individuals to attend the General Assembly.

Canada is a young country. Astronomy in recent years has blossomed in a vigorous proliferation of research centres across our land. Our astronomers have the enthusiasm and ambition of youth. They look forward eagerly to playing host at the first IAU General Assembly to be held in our country.

The city of Montreal is proud to have been chosen as the proposed site. It is one of our eastern cities and its latitude is almost identical with that of Grenoble. Montreal is easy to reach by air, by land or by water. It is our largest city. There are ample accommodations and adequate facilities for attending to IAU business, and also for diversions. The city authorities, the University of Montreal, and the Province of Quebec will do their utmost to welcome the IAU and make the seventeenth General Assembly a success.

Canada is a large country. We hope you will also plan visits to our astronomical observatories and research institutions. As many of you know, we have a number of optical, solar and radio observatories, astrophysical laboratories, and centres for theoretical studies. Several are within easy reach of Montreal. Others you can visit when you travel westward via the St. Lawrence River and Lake Ontario to Toronto, Niagara Falls and beyond. The Great Lakes are North America's fresh-water equivalent of the Mediterranean Sea. Several of our major research centres are to be found dotted across the Prairies, located among our Canadian Rocky Mountains, and perched on our Pacific Ocean coast.

Monsieur le Président, Mes chers Collègues,

Je voudrais déclarer de nouveau que le Conseil national de recherches du Canada vous invite cordialement à venir à notre pays en été 1979. Cette invitation est appuyée par l'Université de Montréal, par la ville de Montréal, par la belle province de Québec, et par tous les astronomes du Canada. Nous espérons vous avoir au Canada à l'occasion de la dix-septième Assemblée Générale de l'Union Astronomique Internationale."

The motion of the President that the Canadian invitation be accepted was carried unanimously. The President thanked Professor MacRea for his kind words.

20. *Election of the new Executive Committee*. The Chairman formally moved that Professor Adriaan Blaauw be elected the new President of the Union for the term 1976-1979. This was approved by acclamation.

The Chairman then called the attention of the Assembly to the names put forward at the first session, and formally proposed that Dr. D. S. Heeschen, Professor E. K. Kharadze and Professor S. van den Bergh be elected Vice-Presidents until 1982. This was unanimously approved. Next, the Chairman formally proposed that Professor Edith A. Müller be elected General Secretary in place of Professor G. Contopoulos, and Professor P. A. Wayman Assistant General Secretary in place of Professor Edith A. Müller. These proposals were approved by acclamation.

The Chairman then invited Professor Blaauw, Dr. Heeschen, Professor Kharadze, Professor van den Bergh and Professor Wayman to join the Executive Committee on the

platform, and invited the former IAU President P. Swings to do so too.

21. *Adresses by retiring and newly elected Officers.* The retiring President, Professor Leo Goldberg, spoke as follows:

"We are drawing to the close of the administrative part of this XVIth General Assembly.

Before calling on Professor Blaauw, I should like to express my sincere thanks and appreciation to my good friends and colleagues on the Executive Committee whose hard work and devotion to the I A U have made my task as President an easy one during the past three years. There have been many outstanding Executive Committees in the history of the I A U , but this one has achieved a very special destinction. In a period of otherwise severe inflation, in prices, in budgets, in numbers of astronomers, this Committee succeeded in reducing the customary length of its meetings by nearly a factor of two. I have felt proud to be associated with such an efficient and harmonious body. I particularly want to thank the outgoing vice-Presidents Bart Bok, Per Olof Lindblad, Bernard Lovell and Evald Mustel for their many years of valuable service and co-operation.

The I A U also owes thanks to the outgoing advisors of the Executive Committee, Bengt Strömgren and Kees de Jager, from whose wisdom and experience we have benefited richly.

Next, I would like the members of the I A U to know how much they owe to the General Secretary, the Assistant General Secretary and their staff for the loving care with wich they handle the administration of the Union's affairs in accordance with the decisions of the General Assembly and the Executive Committee. During the last three years, I have watched with wonder and admiration as George Contopoulos, with the loyal and hardworking assistance of the Executive Secretary Arnost Jappel and the administrative assistant Jarka Dankova, have handled literally thousands of pieces of correspondence, administered the funds of the Union, prepared and issued the publications and worked out the intricate details of the program of scientific and administrative meetings during the General Assembly. What is most remarkable about your performance, George, is that you have been able to continue your outstanding research in galactic structure, as those of us who have heard you lecture recently can testify. Finally, I want George Contopoulos to know how much I appreciated the tact and diplomacy with which he educated me to the responsibilities and especially to the prerogatives of our respective offices.

Edith Müller, as Assistant General Secretary, has had the responsibility for overseeing the planning of colloquia, symposia and regional meetings and in so doing has left no doubt that she is prepared to uphold the long standing I A U tradition of distinguished general secretaries. May I ask the General Assembly to show its appreciation of the Secretariat in the usual way?"

The final remarks of the retiring President were followed by great applause.

Then the new President, Professor Adriaan Blaauw, took the word and said:

"Dear Colleagues, Ladies and Gentlemen,

Now that the General Assembly has elected me President of the Union, I wish to convey to you my feelings of profound gratitude. Gratitude first of all, for the confidence you thereby have expressed in the guidance which, from now on, I may contribute in the handling of the affairs of the Union - and gratitude also because it is a very great honour indeed to be elected to this office. As we all know, among those who have held it have been some of the most distinguished astronomers of this century. It was therefore not without embarrassment that I received the request for being a candidate for this post. I accepted it, in the awareness that in the course of my career I have had the privilege of becoming well acquainted with astronomers and their institutes in many parts of the world, and have been in a position to gain valuable experience in the management of a large international organization, during the years of my directorate of ESO. I trust that these experiences may help me meeting the expectations you expressed by electing me.

Reading reports of past Union Assemblies - as one tends to do in such circumstances - I was struck by the words spoken by that remarkable astronomer and former president of the Union, Otto Struve, when he offered among his reasons for accepting the post the following:

"... I have become a confirmed internationalist, and believer in the neccessity for international co-operation. I feel most at home in an organization such as the IAU."

I wish to take up this task in the same spirit.

The affairs of the IAU are manyfold, but a good deal of them remain remote from the membership in their daily work in research or teaching. For most of the members, it is only occasionally, and especially at our Assemblies, that they become more closely acquainted with the role of the IAU. Yet, there are important matters that do require the regular attention of the Executive Committee, and many smaller ones that require the constant care of the Union's secretariat. This situation is a natural one, like that on a big summer cruiser where the steering is the business of a small crew only, while the passengers have a good time - each one in his way.

We have now again arrived at the moment of a change of this crew - at least partially - and I want to, first of all, thank you, Leo Goldberg, for your leadership during these past three years. Your outstanding record of both scientific and administrative achievements made you particularly fitted for this task. We admire your work in many fields of astrophysics and we equally admire the talents you showed in your administrative career, from your directorate at Harvard to your present position as director of Kitt Peak Observatory - with many simultaneous activites including leadership in areas of space research. It was especially in this "Kitt Peak phase" that I have the pleasure of learning to know you more intimately, for which I am very grateful. The Union thanks you for all you did for it, not forgetting your serving 6 years as a vice-president, and we consider ourselves very fortunate that for the years to come we may continue to benefit from your wise counsel as a member of the Executive Committee.

To you, George Contopoulos, who has now served the IAU for six years with so much devotion and enthusiasm, may I tell you how much it means to us that you, with your profound knowledge of the Union, will remain with us in the Executive Committee.

To the younger ones among us - and we are glad that there are so many - who have attended only the last few assemblies, it may seem that there is a fairly fixed pattern in the Union's activities: like these assemblies with the regular commission meetings, the planning of symposia and colloquia, the regional meetings, decision on membership and travel grants, etc. But viewed over a longer time span we see how some of the things we now take for granted, at one time were major items for consideration or surprising developments. It is interesting to note that when Otto Struve spoke the words I just quoted, he also noted the following three great events in the progress of the Union: the admission of Germany to the Union's membership, the impact of the scientific contributions from the Soviet Union, and the rise of the IAU symposia. Other striking developments could be recalled for more recent years.

So, we may ask ourselves which will be the major developments of tomorrow and try to be prepared for them. Among the highlights of this Assembly was Dr. Sagan's fascinating discourse on the exploration of the planets; we note how in these days the notion of possible extraterrestrial life enters our domain as a matter of course, and we cannot but guess at the enormous impact this may have on our future research and teaching. An item of deep concern has already been raised earlier at these meetings: the absence of astronomers from the Chinese continent. Let us hope this sad incompleteness will soon be remedied. But then, I believe it is equally important that we try to ensure that the participation from nations that did since long adhere to the IAU and contributed so much to it, will not diminish; that the Union preserve the truly world-wide international support it already has, and which makes it such a precious tool for our science. - To mention another topic: that of the preservation of the very best sites for ground based observations, now being

discussed rather inconspicuously in Commission 50, we may ask: may it not become a matter of serious concern for the Union in the foreseeable future?

As regards the nature of our assemblies, I believe some soul searching is in order. The lower than expected attendance of this Assembly - notwithstanding the inviting and beautiful surroundings where it was held - may perhaps be due to more than the conflicting academic duties and shortage of travel funds; could it perhaps be that the interest shifts more to the symposia and colloquia than to the scientific sessions of our committee meetings?

With a few such questions in mind, and a good number of smaller ones at hand, I am looking forward to a profitable collaboration with the new Executive Committee.

Si, maintenant, j'ajoute encore quelques mots en français, ce n'est pas tellement parce qu'il est aussi une des langues de notre Union, mais bien plutôt pour exprimer ma joie du fait, que je commence mes nouvelles fonctions dans ce pays où, pendant mon mandat à l'ESO, de nombreux et éminents collègues me sont devenus des amis chers, sans parler des amitiés profondes qui remontent à beaucoup plus loin. Et c'est dans ce même esprit que je vais retrouver à Genève notre sympatique et dévouée Secrétaire Générale. Permettez-moi, chère Edith, de vous assurer que le Comité Exécutif et moi-même nous nous réjouissons de cette future période de collaboration fructueuse pour le bénéfice de l'Union."

22. *Closing Ceremonies*. The Chairman called upon Professor M. Migeotte to propose a comprehensive vote of thanks. Prof. M. Migeotte spoke as follows:

"Le Comité Exécutif m'a invité à m'adresser tout spécialement à nos collègues français, responsables de l'organisation de cette Assemblée Générale, pour les remercier au nom de tous les autres astronomes et astrophysiciens qui y ont participé.

Après avoir bien réfléchi, j'ai compris pourquoi j'avais été choisi pour cette importante mission. Certains d'entre-vous savent que je professe à l'Université de Liège, en Belgique. Beaucoup d'entre-vous sans doute ont lu des romans de Georges Simenon, qui est liégeois et Docteur Honoris Causa de notre Université. Sans doute peu d'entre-vous savent que c'est en lisant une partie de l'oeuvre de cet auteur que notre président sortant Léo Goldberg a perfectionné son français, ce qui lui a permis d'impressionner tous ses auditeurs lors de son discours d'ouverture prononcé à l'occasion de cette Assemblée Générale. On peut donc en conclure que l'Université de Liège, grâce à un de ses éminents Docteur Honoris Causa, a joué un rôle important dès le début de notre Assemblée.

Dans son allocution, Léo Goldberg a signalé que Louis XIV était tellement puissant que, pendant son règne, il était parvenu à imposer au Soleil, un minimum de taches! Au cours de ces dix derniers jours, nous avons pu nous rendre compte de la puissance extraordinaire de certains collègues français. Notons, par exemple, que dans le ciel habituellement serein de la Haute Provence, Charles Fehrenbach est parvenu à accueillir par un formidable coup de tonnerre les congressistes qui souhaitaient visiter l'O.H.P. De son côté, Jean Rösch a réussi à faire neiger pendant la visite de l'Observatoire du Pic-du-Midi. Ceci pour vous dire que cette Assemblée Générale a vraiment été préparée sur une très grande échelle.

Grâce à une excellente organisation, les présidents de toutes les commissions ont trouvé immédiatement des locaux adéquats. Lors des grandes conférences publiques, nous avons pu admirer la maîtrise de M. Wlérick pour canaliser de grandes foules.

L'exposition astronomique à l'Université de Grenoble a certainement intéressé beaucoup d'entre nous, tandis que des expositions, en ville, ont permis de sensibiliser le grand public à certains aspects de l'astronomie.

Les excursions dans les environs de Grenoble nous ont donné la possibilité d'admirer la nature et les richesses de cette région, tandis que les visites dans différents grands observatoires ont permis de juger du développement de l'astronomie française.

Nous avons aussi été très sensibles aux manifestations artistiques. Enfin, hier

soir, après l'excellent et copieux dîner, la piste de danse est devenue rapidement un foyer intense d'émissions de radiations infrarouges d'où sortiront sans doute beaucoup d'étoiles naissantes.

Bref, pour nous, Grenoble n'est plus seulement la "Capitale de la noix" et le siège d'une importante université mais c'est une ville où nous avons passé des heures heureuses, enrichissantes et stimulantes.

Nous n'oublierons pas que nous les devons à tous nos collègues français qui ont consacré une grande partie de leur temps à la préparation de cette Assemblée. Permettez-moi de citer en particulier M. KOVALEVSKY, Président du Comité National Français d'Astronomie et d'U A I France 1976, M. WLERICK, Secrétaire Général, Melle AVIGNON, Melle DEBARBAT, MM. PECKER, BOISCHOT, MORANDO, CHAPRONT et LEQUEUX et toutes leurs collaboratrices, notamment Melle DROUIN, Mmes MANNING et GOUTAS.

Au nom de tous les autres participants à la XVIème Assemblée Générale de l'U A I et en nom personnel, j'ai l'honneur et le plaisir de les remercier chaleureusement et de leur témoigner notre profonde reconnaissance."

On behalf of the ladies, Mrs. Charlotte Goldberg expressed her thanks as follows:

"My dear friends,

I take great pleasure to speak for the many guests of the IAU who have been entertained and taken care of so graciously by the French Ladies Committee of the General Assembly.

We know that it took a combined effort of so many of you working with your tireless Chairman, Mrs. Delhaye, to plan these days with very interesting trips to introduce us to this most beautiful part of your country and opportunities to see and visit with each other again.

This has been a memorable visit for us and we say a most sincere thank you to all of you from all of us."

The Chairman then called upon the retiring General Secretary, Professor George Contopoulos, who spoke as follows:

"Perhaps I am the most happy person of this General Assembly at this moment, as my task is over.

In the past 6 years I tried to serve the Union as best as I could. It was an exciting, although sometimes difficult, work. Every day many letters with beautiful stamps would come from all the corners of the world, from the far east to the far west. In the peak of the work before the General Assembly, we reached 40 letters a day. And every letter required some action. Arnost Jappel and myself tried hard to reply immediately and satisfy, as much as possible, every wish of our colleagues all over the world. But our work was not always easy. There was no respite, whether we had a revolution, a threat of war, or the students threatening to occupy our building in the University. The mail would come, more or less regularly, and if you dared to take one day's vacation it would pile up to dangerous heights. Then there was the difficutly in travelling. Several times during the junta period I went to the airport and I was not sure whether I would be allowed to pass through.

However, the work of the Union continued normally. But for that I must say that I am very grateful to many people, too many to be mentioned here separately. Thus I will mention only a few of them.

I had a very close and fruitful collaboration first of all with the Executive Committee, with the president of the IAU Commissions, the Organizers of IAU Meetings, especially the French Organizers of the General Assembly, with the National Committees and the IAU representatives in various international bodies. They all provided useful information and advice and, more important, they did most of the work. It is the greatest pride of the IAU that most of its services are provided free by a large number of devoted people.

Then our Secretariat had a substantial support from the Greek Ministry of Culture and Science and the staff of the Department of Astronomy of the University of Thessaloniki and Athens.

More important was the contact and help from the Officers of the IAU, the President and the Assistant General Secretary. It was a great comfort to me that I could rely on Leo Goldberg in every difficulty I had to face. And I was sure that he would take over himself the most difficult cases. Sometimes, as I was going to bed at night the telephone would ring. And there was Leo Goldberg who would say, very cheerfully, "Good morning George". Of course it was then noon time in Arizona.

As regards Edith Müller, she has taken up, with complete success, one of the most important tasks of the Union: Scientific Meetings and Publications. It is characteristic of Edith Müller that she managed to write more letters than myself as Assistant General Secretary. I am therefore quite sure that I leave the work of the IAU in very competent hands.

Finally I should thank Arnost Jappel and Jarka Dankova. They have been so devoted to the work of the Union that they have become *the* living tradition of the Union. They stayed always in their post, even during the most difficult period of the IAU Secretariat.

I remember one particular Sunday. Arnost and Jarka took their car for an excursion. They noticed that the town was empty and they said to each other "How nice it is to drive early on Sunday". Then they saw some tanks. They thought that a parade was going on and paid no attention. Further on they saw a soldier and they asked him how to reach the highway. (By the way Arnost has managed to learn some Greek during his stay in Greece). But the answer of the soldier was "forbidden". "Why forbidden?" asked Arnost. And the answer was "Papadopoulos (the Greek dictator) is down. Another Papadopoulos has taken over". In fact the tanks were not on parade, they were simply overthrowing the previous government.

I could tell many stories like that. But I would like to finish with a small personal story. As I was absorbed by the work of the IAU together with my other duties, research, administration and travel, my children complained that they did not see enough of their father. And during one of my travels, my little daughter improvised a new kind of prayer. "Let daddy come back to us, and not be lost in some foreign airport". Well, thank God, I was not lost anywhere and I am happy to be here with you to-day. But I am also happy to return to my family and to my research.

As regards the IAU, it is now in the most competent hands of the new Executive Committee. Thus I have no doubt for its progress.

Many thanks to all of you."

The Chairman then invited the newly elected General Secretary, Professor Edith A. Müller, to say a few words. Professor Müller spoke as follows:

First of all I wish to thank the General Assembly for the confidence given to me. It is a great honour for me to serve the Union as its General Secretary. The IAU is a large and, in fact, rapidly growing family and, thus there will be an increasing amount of work and problems that the General Secretary will have to face. But I am not worried because I know that I can count on the co-operation of all of you, on the expert advice of my predecessors and good friends George Contopoulos, Kees de Jager, Lubos Perek, Jean-Claude Pecker and Donald Sadler, and on the fine collaboration of the executive secretary Arnost Jappel and the administrative secretary Jarka Dankova. The Union now starts a new three-years term during which, I am sure, many new scientific achievements and discoveries will be made about which you will be reporting at the XVIIth General Assembly. I wish you all a lot of success in your work and life and I look forward to seeing all of you and many more in Montreal three years from now.

The Chairman closed the meeting at twelve o'clock wishing all a good journey home.