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United Nations Group of Experts
on Geographical Names
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WORKING PAPER No. 18

REPORT OF THE WORKING GROUP ON EXTRATERRESTRIAL TOPOGRAPHIC FEATURES

1. Group Terms of Reference

The competence of the Group of Experts on Geographical Names to consider the field of extraterrestrial names was determined at its Second Session in 1970. The Working Group then established consequent upon this determination was charged with the examination of such toponyms without qualification as to scope or methods (United Nations document ESA/RT/C/GN/1 dated 29 April 1970).

Chairman : A.M. Komkov (U.S.S.R.)
M.F. Burrill (U.S.A.)
H.A.G. Lewis (U.K.)

2. Relevant Resolutions - London Conference

Resolutions by the Second United Nations Conference on the Standardization of Geographical Names which are specifically relevant to this Working Group are numbers 21, 24 and 34. Action required by these resolutions is indicated by extracts from these resolutions hereunder:

from Resolution 21

..... "that the United Nations Group of Experts study the question of drafting an international convention on the standardization of extraterrestrial nomenclature, in co-operation with other competent bodies".

from Resolution 24

..... "that the United Nations Group of Experts give consideration ... to a document ..... which might provide a base for ..... the naming and renaming of various kinds of extraterrestrial topographic features .....".

from Resolution 34

..... "the conference ..... having agreed that its field of application extends to the establishment of standardized names of geographical entities lying beyond a single sovereignty, recommends the continuing study of this wider aspect .....".

The Chairman summarized action which had been taken since the London Conference The contemporary state of mapping of the Moon and Mars, amongst which may be mentioned the 1:250,000 scale lunar mapping programme of the United States National Aerospace Agency, and the mapping of Mars from Mariner photography emphasised the need to devise a suitable system for referring to extraterrestrial topographical features as an aid to communication amongst scientists and others of all nations.

A circular letter had been sent by the Chairman to the individual members of his Group, including Colonel Sharma, Dr. Radó and Dr. Lapesa, who had requested to be associated with the work of the Group during the later stages of the London Conference. The letter reported on correspondence which had taken place between the Chairman (Professor A.M. Komkov) and Dr. A; Dollfus, President of both the Inter-Union Commission for Lunar Satellites and of Commission 17, "The Moon", of the International Astronomical Union and with Professor D. Menzel, Chairman of the I.A.U. Working Group on Lunar Nomenclature.

Dr. Burrill reported that at a meeting in Washington on 23 January 1973 attended by Dr. Menzel and representatives of the Department of State, NASA, the US National Committee of the I.A.U., the Smithsonian Institution, the National Academy of Science and the Board on Geographic Names, it was made clear that only twenty to thirty names are required for moon maps soon to be produced for NASA, that these can be drawn from an existing bank of names, and that the matter of formal contact between NASA and Dr. Menzel's subcommittee remained to be discussed at a meeting in Houston, Texas in March 1973.

Discussion

The naming of extraterrestrial features is a complex matter and one which properly falls within the orbit of the United Nations Group of Experts on Geographical Names. Nomenclature of extraterrestrial features must be acceptable to all nations and this fact together with the need to determine how best to render names in a standardized form in each of the various languages of the world places the matter firmly in the province of the United Nations Group of Experts on Geographical Names. The drawing-up of such systems of nomenclature was not appropriate to astronomers alone. Naming of features on the Near Side and the Far Side of the Moon had traditionally been commemorative. Because the number of names allocated by astronomers were relatively few in number, a subsidiary system had been employed for the Near Side which entailed the addition of alphabetic (Latin and Greek) suffixes and for certain features numerical suffixes to identify minor

features located near to named topographical features. It was now widely admitted that the alphabetical-numerical suffixes were of limited use and in many cases confusing, now that large-scale topographic maps of the Moon were available. This alphanumeric system of identification of surface features was not suitable for use on large-scale maps of the Moon prepared from photographs taken by lunar-orbiting vehicles. The amount of detail now plottable renders such a system inoperable if confusion is to be avoided. However, the custom is well-established and astronomers, particularly amateur astronomers, have grown accustomed to the system. Telescopic resolution of lunar surface features falls short of the extreme detail now seen on topographical maps of the Moon but nevertheless many astronomers studying the Moon on telescope are reluctant to abandon the name plus alphanumeric suffix as a method of designating lunar topographic features. The syste is, nonetheless, unsatisfactory for large-scale topographic maps.of the Moon.

Commemorative naming of major features on the Far Side of the Moon had taken place but so far no letter or number suffixes had been employed and it appeared most desirable to avoid using any such method of designation of features of secondary importance on that side of the Moon except possibly where they were located within the perimeter of a major feature.

Direct exploration of the Moon by manned and unmanned lunar missions have resulted in a truly immense amount of surface information to which reference may be made. In the course of the Apollo missions, for example, a considerable amount of naming had taken place. Although those names were intended solely for operational purposes of reference during the missions, they inevitably tend to gain currency in just the same way as Antarctic names which have become established by the process of constant usage.

In a properly conceived system of nomenclature, the usefulness of names from the toponymic point of view would receive special attention.

There is the further question of the legal standing of names allocated to extra terrestrial surface features by non-governmental bodies. It was agreed that the status of the Group of Experts as a United Nations body and the standing of the experts as official representatives of their own linguistic/geographic divisions made the Group of Experts the body best constituted to deal with this question.

The large-scale of cartographic work now being undertaken and the increasing currency of Martian and Lunar names emphasised the urgency of the need to devise adequate systems of nomenclature and uniform methods of rendering names in various

linguistic systems compatible with the aims of international standardization of the names of terrestrial features. There is clearly a necessity to co-ordinate all naming activity and achieve uniformity in the processes employed.

3. The Working Group will consider the extent to which names will be allocated and on what basis. In this connection, NASA and other agencies engaged on extra-terrestrial mapping will be invited to furnish details of their programmes, both current and projected, with a view to assessing the magnitude of the task in the near future and in the longer term.

4. Guide-lines will be drawn up by the Group of Experts and various methods of naming should be studied. No system of naming will be rejected out of hand. Commemorative naming using the names of learned men of all nationalities will be considere Bearing in mind the limitation in the number of such commemorative names, the Group of Experts will examine the feasibility of using terrestrial geographical names, geographical and other terms and the use of ordinary words selected from the languages of the entire world. In this task the assistance of the United Nations Organization and its member nations is requested.

5. The Group of Experts will confer with astronomers and others on the extent to which retention of alpha-numeric suffixes was desirable but the extension of this type of designation of features on the Far Side of the Moon and on Mars will be discouraged.

6. Systems for identifying small features will be investigated and tested, including methods based on the use of co-ordinates.

7. The Working Group of the Group of Experts on Geographical Names is finally charged with examining how best to achieve legal international status for names allocated to extraterrestrial features.

The Working Group, in accordance with Resolution 21 of the London Conference, will continue its activity in drawing up a plan for international agreement in the standardization of the names of extraterrestrial topographical features in co-operation with the international organizations (ICSU, IAU, etc...).

In this connection, the Group charges the Chairman of the Group of Experts together with the co-ordinator of the Working Group on Extraterrestrial Topographical Features, Professor Komkov, to maintain contact with those organizations and to prepare a status report for the next General Assembly of the I.A.U.