

SUMMARY RECORD OF THE WORKING GROUP ON EXTRATERRESTRIAL FEATURES

1. Terms of reference

The competence of the Group of Experts to participate in the field of extra-terrestrial names was established at its second session (1970). The Working Group was charged with the examination of such toponyms without qualification as to scope or method (ESA/RI/C/GN/1 of 29 April 1970). Members of the Working Group present at the 14 March 1975 meetings were: Mr. A.M. Komkov (Convenor), Mr. H.A.G. Lewis (Rapporteur), Dr. M.F. Burrill (USA), Mr. S. Radó (Hungary) and Col. D.N. Sharma (India). New members joining the Group were Mr. R.R. Randall (USA), Dr. Vayscacos (Greece) and Mr. P. Howda (Norway).

Mr. Millman President of the IAU Working Group on Planetary Nomenclature participated in the meetings. Most of the Group of Experts also participated.

2. Background documents

Report of the London Conference^{1/} (paragraph 68); Report of UNGEGN, fifth session, 1973^{2/}, Annex XII; UNGEGN Sixth Session Working Papers 14 and 21^{3/}.

3. Discussions

Two meetings of the Working Group were held on 14 March 1975.

4. Mr. Komkov (USSR) gave a brief account of the rapidly changing situation in space exploration which had brought about the production of often very large-scale maps of the Moon and was now being extended to the planets with their satellites. For this mapping names were urgently required. It was in response to this wider international need that the Working Group on extraterrestrial features had been formed by the GEGN in 1970.

5. Introducing his report (Working Paper No. 12)^{4/}, which summarized developments since the GEGN 1973 meeting and which contained also the minutes of the first meeting in Ottawa of the International Astronomical Union (IAU) working group for Planetary System Nomenclature, Mr. Komkov (USSR) said that Mr. P. Millman, Chairman of the IAU Working Group, had kindly travelled down from Ottawa to attend this current meeting of the experts. There had not been entire agreement among the astronomers at the Ottawa meeting and some of the solutions there proposed did not

^{1/} Second UN Conference on the Standardization of Geographical Names, Volume I, report of the Conference. Document E/CONF.61/4, UN Sales Publication No. E.74.I.2.

^{2/} See document ESA/RI/C/GN/3.

^{3/} Documents are available upon request to the Cartography Section of the United Nations.

^{4/} Ibid.

seem entirely satisfactory from a toponymic point of view. However, it is always easier to criticize than to be constructive. The need now was for the GEGN Working Group, taking fully into account the views of the IAU which Mr. Millman would put forward, to make constructive proposals for the coming IAU Meeting in Moscow, at which Mr. Millman and Mr. Komkov (USSR) would be present.

6. The Working Group of the GEGN had concluded prior to the meeting that a solution to the problem of planetary nomenclature should be sought in close co-operation between scientists and that the involvement with legal aspects which were many and complicated should be avoided.

7. Mr. Millman, bringing greetings from the IAU, fully supported Mr. Komkov's remarks on the urgent need for close co-operation on the production of guidelines for extraterrestrial nomenclature. There might be 30 to 40 planetary worlds within our solar system requiring names before the end of the century. The IAU Working Group on Planetary System Nomenclature, of which he is chairman, had been set up as a result of the 1973 IAU meeting in Sydney. There has not yet been complete agreement on the working group and full co-ordination had yet to be achieved among all fields. They were agreed, however, that hurried thought and precipitate action were to be avoided; that emotion was to be eschewed and that names should be simple clear and unambiguous, providing a heritage of which we should not feel ashamed. It was regretted that there had been some duplication of names on Mars and the Moon. As regards the proposed categories of names, he noted that birds and cities had been put forward only as possible categories for use on Mercury. His working group would welcome suggestions from the GEGN and other interested groups in member countries.

8. Mr. Randall (USA) asked if Mr. Millman would outline the way in which the IAU developed names and the manner in which these names were brought into the user system. Mr. Millman replied that there were at the present time five task groups with IAU: for the Moon, Mercury, Venus, Mars and the outer solar system respectively. Each task group contained both planetary specialists as well as general astronomers, and consulted directly with those concerned with management of space programmes and those devoted to the history of science and astronomy. The main working group on Planetary System Nomenclature, composed of task group chairmen under Mr. Millman's chairmanship, was responsible for the co-ordination of decisions and recommendations made by the various task groups. After approval by the main Working Group, decisions are submitted to the IAU Executive Committee, consisting of the President, two Secretaries and six vice-presidents, each from a different member country, which meets annually. Final approval is given by the General Assembly of the IAU which will next be held in Grenoble in 1976. It was hoped that by that time much of the first stage groundwork will have been completed.

9. Mr. Lewis (U.K.) was sorry to see an increased number of Latin generic terms and hoped that the number would be curtailed. Every effort should be made to avoid the further use of Latin. It led to the introduction of unfamiliar terms for features which would one day have widespread reference. It also led to the invention of clumsy or incorrect genitive versions of proper names. His preference was for topographic terms selected from English for English use, from Russian for Russian use, etc., and for names to be selected from terrestrial features, each name corresponding roughly to the planetary feature, relief names for relief, river names for elongated depressions, etc. If, for example, town names are used for craters, the length of the name could well be used in relation to the size of the crater. Parts of names could also be used.
10. In selecting names from English the greatest care should be taken that the names selected were suitable for conversion into non-Roman writing systems and vice versa. Dr. Radó (Hungary) drew attention to Working Paper 21^{5/}, which recorded the agreement of the EC and SE Europe Division and the USSR Division that each member of these divisions should compile lists of prominent persons in the field of science and culture for use in naming extraterrestrial features.
11. Mr. Millman said he would welcome any such lists. There were still over 2,000 sheets of the 1:250,000 map of the Moon to be named, and the Mariner photos of Mercury had already shown several thousand craters, so there was going to be a need for very many names.
12. Mr. Konkov (USSR) stressed the need for caution in giving names, since once these had appeared on maps they were extremely difficult to change. Mr. Randall (USA) said that the U.S. Board on Geographic Names had already established an Advisory Committee on Extraterrestrial Features which had so far met informally. He emphasized that this committee is wide-ranging in composition and that the members have contacts with IAU. He also drew attention to the general problem of providing names at short notice for maps already in production.
13. Mr. Konkov (USSR) said that a similar body had been established in the Soviet Union, with a close relationship with the IAU. He thought that exchange of information between the USA and the USSR in this field was desirable. He felt that the problem of providing names at short notice could perhaps be met by allocating provisional names which might be changed at a later date. The present output of maps, which exceeded the ability to think up names, called for a mutually

5/ Document available upon request to the Cartography Section of the United Nations.

beneficial, world-wide co-operation in devising names. Mr. Millman said that the IAU had already considered the question of the need for a central archive of extraterrestrial names. At NASA's request, the Smithsonian Institute had set up an ADP listing of all lunar names. Mr. Millman thought the Smithsonian a suitable body for such an archive.

14. Mr. Kok (Malaysia) proposed that names should be limited and that reference to the great mass of features should be by computer-generated numerals.

15. Mr. Komkov (USSR) mentioned that a co-ordinate naming system had earlier been proposed by GEGN for application to small features, and that there had also been a proposal for artificial names composed of syllables generated by computer. The Soviet Union was carrying out comparative naming experiments at 1:250,000, 1:1,000,000 and 1:5,000,000 maps.

16. Mr. Setetos (Greece) thought that the same names could be used for more than one planet, provided that Roman numerals were added to distinguish them.

Mr. Millman said that this had been thought of, but it was felt that major features would always need different names. The names of smaller features on very large-scale maps needed for ephemeral purposes had been taken from an existing general-use list of first names taken from all the languages of the world. He agreed with Mr. Kok that there will probably be too many small features to be named immediately and that some co-ordinate numbering system might have to be used until specific circumstances require names. An accurate co-ordinate system already existed for Mars and one for Venus would be produced later.

17. Col. Sharma (India) proposed that there should be a standard proposal form available to fill in biographical, geographical and other details of name-proposals for archival use, and Mr. Millman agreed.

18. Col. Sharma (India) raised the problems of transliteration and spelling names in a uniform phonetic system. Mr. Millman said that the IAU had six years ago agreed on a transliteration from Cyrillic into Roman letters. The IAU felt it was important to keep the original spelling of Roman alphabet names but that some pronunciation guide could be useful to deal with the problems that Col. Sharma had illustrated.

19. In reply to a suggestion from Professor Gall (Guatemala) that Divisional experts might like to get in touch with members of the IAU task groups, Mr. Millman said that he would provide the names and addresses of these members to Mr. Komkov as Chairman of the GEGN Working Group. He would be glad to receive the names of those

who wished to receive copies of the IAU proceedings.

20. Mr. Vayacacos (Greece) thought it might be possible to set up a body of words selected from Latin and Greek to serve as names. Mr. Komkov (USSR) said that the practical comparative naming experiments now being carried out would be helpful in assessing the merits of this sort of proposal.

21. On the use of Latin in general, Mr. Millman said that his working group, conscious of the universal status of Latin, was in favour of keeping traditional Latin terms, in nominative singular and plural forms only. He, and many others had remarked that they regretted the increased number of Latin generic terms. "Labyrinthus" had been adopted for a particular feature and would probably never be used again. The terms "Fatera", "planitia", "planum", "tholus", "vastitas" and others were being reviewed for possible exclusion. For the specific part of names, the IAU wished to use only modern-language names, in the original Roman form or in standard systems of transliteration. The Latin genitive would not be used. As regards the term mare, it will not be used other than on the Moon unless a water feature is found on some other planet. Mr. Rendall thought that for the general user of extraterrestrial names (school books, newspapers, etc.) it would be necessary to use translated forms of Latin generics.

22. On the question of Latin other views were expressed but the Group of Experts had yet to reach an agreed position.

23. Mr. Burrill thought that both the chosen list of generics and the proposed categories might usefully be looked at again. He also stressed that IAGU experience had shown that allocating names from a list of feminine names could be a source of great embarrassment.

24. Mr. Komkov (USSR) summarized the results of the day's discussions by observing that there were no simple or quick answers to the many problems that had been raised, but it was clearly the sense of the meeting that the IAGU and IAU working groups should co-operate in developing and finalizing general principles for extraterrestrial naming, based on the IAU table. In his view the immediate tasks of the IAGU working group were:

- (a) to assemble its members' views as a basis for recommendations (taking into account the existing IAGU proposals for Antarctic and Undersea features);
- (b) to make proposals for categories of names;

- (c) to provide lists of suitable names within all categories from its members;
- (d) to deal with problems of writing (spelling, diacritics, romanization; phonetics, etc); and
- (e) to consider archival procedures.

As far as the short time available between now and July would allow, Mr. Komkov would convey the working group's conclusions to the coming meeting in Moscow. Between then and the Athens conference in 1977 the two working groups would maintain close contact with a view to reaching mutually acceptable nomenclature and procedures.

25. Mr. Komkov (USSR) thanked Mr. Millman warmly for his presence at the meeting, for the clarity with which he had explained the IAU's views and for the attention he had given to those of the Experts.

Conclusions

26. (a) Large-scale mapping of extra-terrestrial bodies requires a great number of names and the establishment of naming principles and procedures.
- (b) The varied aspects of planetary nomenclature, and the urgency of the requirement called for joint action by toponymists, astronomers and other scientists.
- (c) Close co-operation between UNCEGN and the IAU Working Group for Planetary System Nomenclature was welcomed and approved.
- (d) Because names, once selected, are difficult to change a soundly based naming system is of the utmost importance.
- (e) The IAU has yet to achieve full co-ordination among the various scientific disciplines but intends its nomenclature to be based on simple, clear and unambiguous names.
- (f) The UNCEGN Working Group regards as a primary task co-operation with the IAU Working Group on Planetary System Nomenclature in working out, along the lines laid down by IAU, a general system of nomenclature which could define the kind of names to be applied to each particular type of feature on each planet.

- (g) Members of the UNCEGN Working Group who have recommendations for this general system of nomenclature will send their proposals to the Convenor (Mr. Komkov) in order that he may submit them for consideration at the meeting of the IAU Working Group in Moscow (July 1976). Copies of their communications should be sent to other members of the Working Group to economize in time.