

## AN INTERNATIONAL AGREEMENT CONCERNING THE DETECTION OF EXTRATERRESTRIAL INTELLIGENCE†

Michael A. G. Michaud  
American Embassy (SCI), 2 avenue Gabriel, 75382 Paris Cedex 08, France

(Received 29 November 1991)

**Abstract** –This paper explains the genesis and provides the texts of two proposed agreements on the procedure to be followed (1) after the assumed receipt of a message from extraterrestrial intelligence, and (2) before an answering message is sent from Earth.

### I. INTRODUCTION

Since 1959, interest in radio searches for evidence of extraterrestrial intelligence has spread throughout the world. In that year, Cocconi and Morrison pointed out that radio astronomy instruments gave us the means to detect radio signals from other civilizations over extremely long distances [1]. Several systematic searches have been conducted in the United States and other nations [2], though no verified evidence of signals of non-human intelligent origin has been found. The U.S. National Aeronautics and Space Administration plans to initiate a long-term search program consisting of both all-sky and targeted searches. This and other search efforts suggest that, if any radio signals from extraterrestrial intelligence do exist, the probability of our detecting them is increasing.

Radio astronomy observations are conducted by several nations, as well as through international cooperative efforts, and could lead to the discovery of a signal from an extraterrestrial civilization. Both governmental and non-governmental institutions have conducted dedicated radio searches for evidence of extraterrestrial intelligence. Yet there is as yet no agreement among those conducting searches as to what should be done if such evidence is found. Some of those involved in or interested in the search believe that the time has come to develop a written agreement among researchers.

By 1984, Professor Allan Goodman of Georgetown University was arguing that we need an international "Code of Conduct" for SETI. He began circulating drafts for comment in 1985, and presented a paper titled "Diplomacy and the Search for Extraterrestrial Intelligence" at the Congress of the International Astronautical Federation in Innsbruck, Austria in October 1986[3]. Goodman's paper outlined four principles, which addressed both the handling of the detection and relations with extraterrestrial civilizations.

---

†Paper IAA-88-530 presented at the 39th Congress of the International Astronautical Federation, Bangalore, India, 8-15 October 1988.

This paper reflects the views of its author and does not necessarily reflect the views of the Department of State.

---

Since then, several authors have addressed the preferred behavior of SETI searchers. For example, Boyce has argued that the two primary guidelines are to verify that the signal is a real phenomenon that can not be explained as anything other than a signal of intelligent origin, and to then release the information to the world [4]. Heidmann has noted the danger of false alerts [5]. Tough has argued that there may be pressures to keep the discovery secret [6]. Other authors have developed principles that should guide the drafting of a reply to a signal from extraterrestrial intelligence [7].

In a paper read by this author at the 1987 Congress of the International Astronautical Federation in Brighton, England, Goodman proposed a draft agreement providing guidance on both the handling of the detection and the development of a reply [8]. Later, at the same Congress, more than twenty participants developed two more detailed texts, separating the proposed agreement on detection from the proposed agreement on sending a response. The agreement on detection has been refined further through correspondence. The proposed texts of both agreements are annexes to this paper.

### 2. THE PROPOSED AGREEMENT ON DETECTION

The proposed agreement on detection would be among research institutions and researchers engaged in serious efforts to detect evidence of extraterrestrial intelligence, and would not be among governments. The parties would agree to observe principles for disseminating information about such a detection if it takes place.

The first article calls for verification of the evidence. This is to encourage scientific thoroughness in evaluating a detection, and to avoid the quick release of unverified information that may be a false alarm. If that evidence can not be confirmed as indicating extraterrestrial intelligence, information about the discovery can be treated in the same way as the discovery of any phenomenon of unknown origin.

Article Two calls for the discoverer to inform other observers or research organizations that are parties to the agreement,

so that they can attempt to verify the discovery independently and so that an observing network can be established. The institutions and observers that are parties to the agreement commit themselves to not release information publicly until it has been determined whether the discovery is credible evidence of extraterrestrial intelligence. This provision is intended to strengthen the scientific credibility of the discovery and to enable continuous observation. It also is intended to give observers an incentive to observe the principles of the agreement, by giving them early access to the discovery.

Several articles concern the release and continued observation of a confirmed discovery. Article Three concerns making the discovery known to astronomers all over the world through the Central Bureau for Astronomical Telegrams of the International Astronomical Union, and lists several other organizations to be informed. Article Four provides that a confirmed detection will be disseminated promptly, openly, and widely through all appropriate media, and that the Secretary-General of the United Nations will be informed. The fifth article requires that all data necessary for confirmation of detection be made available to the international scientific community, and the sixth calls on parties to record and store data bearing on the evidence of extraterrestrial intelligence and to make these recordings available for further analysis and interpretation.

Article Seven provides that, if the evidence of detection is in the form of electromagnetic signals, the parties will seek international agreement to protect the appropriate frequencies through the International Telecommunication Union.

Article Eight makes the important statement that no response to a signal or other evidence of extraterrestrial intelligence will be sent until appropriate international consultations have taken place, and notes that the procedures for those consultations will be the subject of a separate agreement.

---

†Since this paper was delivered in 1988, several of the “next steps” it proposed have been taken. The “Declaration of Principles Concerning Activities Following the Detection of Extraterrestrial Intelligence,” slightly revised since 1988, has been endorsed by the International Academy of Astronautics, the International Institute of Space Law, and Commission 51 (Bioastronomy) of the International Astronomical Union. Endorsement by the International Astronautical Federation is expected in the near future. It has been proposed that the Declaration then be introduced into the United Nations Committee on the Peaceful Uses of Outer Space for discussion and endorsement.

The second proposed agreement, concerning the sending of communications to extraterrestrial intelligence, was the subject of a paper by Billingham, Tarter, and Michaud, presented at the October 1990 Congress of the International Astronautical Federation in Dresden, Germany (this volume).

---

The final article provides that the SETI Committee of the International Academy of Astronautics will conduct a continuing review of procedures in coordination with Commission 51 of the International Astronomical Union. Should credible evidence of detection be discovered, the parties will establish an international committee of scientists and other experts as a focal point for continuing analysis of evidence.

### 3. WHAT NEXT?†

I propose that it is now time to take action on this proposed agreement. The first step I suggest is to seek an endorsement of the text by the International Academy of Astronautics through its SETI Committee. Either in parallel or subsequently, the endorsement of the International Institute of Space Law also should be sought. The International Astronautical Federation and the International Astronomical Union should be informed of this initiative, and should be invited to endorse the agreement, which would then be opened for signature.

The proposed separate agreement on Communication with Extraterrestrial Intelligence is not essentially a matter of scientific research, and involves social and political questions of considerable magnitude. It therefore should be handled separately. One possibility is to refer the text of this agreement to the International Institute of Space Law for debate and recommendations for further action.

### REFERENCES

1. G. Cocconi and P. Morrison, Searching for Interstellar communications. *Nature* 184, 844-846 (1959).
2. For recent surveys of activities, see D. Goldsmith, SETI: the search heats up. *Sky and Telescope*, February, pp. 141-143 (1988) and J. Tarter, SETI observations worldwide. In *The Search for Extraterrestrial Life: Recent Developments* (Edited by M. G. Pagagiannis), pp. 271-290. Reidel, Dordrecht (1985).
3. A. E. Goodman, Diplomacy and the search for extraterrestrial intelligence. *Acta Astronautica* 21, 137-141 (1990). Also see C. Campbell, Protocol of calls from distant space. *New York Times*, 10 June (1985). The general subject also was raised by Paul Ney in his paper Extraterrestrial intelligence contact treaty. *J. Br. Interplanetary, Soc.* 38, 521-522 (1985).
4. P. B. Boyce, The first two steps after the signal arrives: verify and tell the world. *Acta Astronautica* 21, 85-88.
5. J. Heidmann, SETI false alerts as laboratory tests for an international protocol formulation. *Acta Astronautica* 21, 73-80.
6. A. Tough, A critical examination of factors that might encourage secrecy. *Acta Astronautica* 21, 97-102.
7. S. Z. Paprotny, Signals from ETI detected--what next? (IAA-87-584); A. A. Cocca, The XII tables for researchers on extraterrestrial intelligence (IAA-87-580); G. C. M. Reijnen, Basic elements of an international terrestrial reply following the detection of a signal from extraterrestrial intelligence. *Acta Astronautica* 21, 93-95.



8. A. E. Goodman, Diplomatic and political problems affecting the formulation and implementation of an international protocol for activities following the detection of a signal from extraterrestrial intelligence. *Acta Astronautica* 21, 103-108.

## APPENDIX 1

### *Draft International Agreement Concerning Activities Following the Detection of Extraterrestrial Intelligence*

Recognizing that the search for extraterrestrial intelligence is an integral part of space exploration and is being undertaken for peaceful purposes and for the common interest of all mankind.

Inspired by the profound significance for mankind of detecting evidence of extraterrestrial intelligence, even though the probability of detection may be low.

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, which commits states parties to that treaty “to inform the Secretary General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations, and results” of their space exploration activities (Article XI).

Recognizing that any initial detection may be incomplete or ambiguous and thus require careful examination as well as confirmation, and that it is essential to maintain the highest standards of scientific responsibility and credibility.

The parties to this Agreement agree to observe the following principles for disseminating information about the detection of extraterrestrial intelligence:

1. Any individual, public or private research institution, or governmental agency that believes it has detected a signal from or other evidence of extraterrestrial intelligence will seek to verify that the most plausible explanation for the evidence is the existence of extraterrestrial intelligence rather than some other natural phenomenon or an anthropogenic phenomenon before making any public announcement. The discoverer or discovering organization may inform his/her or its relevant national authorities. If the evidence cannot be confirmed as indicating the existence of extraterrestrial intelligence, the discoverer may disseminate the information as appropriate to the discovery of any phenomenon of unknown origin.

2. Prior to making a public announcement, the discovering party will promptly inform all other observers or research organizations that are parties to this Agreement, so that those other parties may seek to confirm the discovery by independent observations at other sites and so that a network can be established to enable continuous monitoring of the signal or phenomenon. Parties to this agreement will not make any public release of this information until it is determined whether this information is or is not credible evidence of the existence of extraterrestrial intelligence.

3. After concluding that the discovery appears to be credible evidence of extraterrestrial intelligence, and after informing other parties to this agreement, the discoverer or discovering organization shall inform observers throughout the world through the Central Bureau for Astronomical Telegrams of the International Astronomical Union, and shall inform the Secretary General of the United Nations in accordance with Article XI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. Because of their demonstrated interest in and expertise concerning the question of the existence of extraterrestrial intelligence, the discoverer or discovering organization shall simultaneously inform the following international institutions of the discovery and shall provide them with all pertinent data and recorded information concerning the evidence: the International Telecommunication Union, the Committee on Space Research of the International Council of Scientific Unions, the International Astronautical Federation, the International Academy of Astronautics, the International Institute of Space Law, and Commission 51 of the International Astronomical Union†

†Editor's note: As of 1991, Commission J of the International Radio Science Union should be added.

4. A confirmed detection of extraterrestrial intelligence be disseminated promptly, openly, and widely through scientific channels and public media, observing the procedures in this agreement. The discoverer or discovering organization will have the privilege of making the first public announcement.

5. All data necessary for confirmation of detection will be made available to the international scientific community through publications, meetings, conferences, and other appropriate means.

6. The parties to this agreement, who undertake to confirm and monitor the discovery, agree to record and store permanently any data bearing on the evidence of extraterrestrial intelligence to the greatest extent feasible in a form that will make it available for further analysis and interpretation. They further agree to make these recordings available to the international institutions listed above and to members of the scientific community for further objective analysis and interpretation.

7. If the evidence of detection is in the form of electromagnetic signals, the parties to this agreement will seek international agreement to protect the appropriate frequencies by exercising the extraordinary procedures established within the framework of the World Administrative Radio Council of the International Telecommunication Union.

8. No response to a signal or other evidence of extraterrestrial intelligence will be sent until appropriate international consultations have taken place. The procedures for such consultations will be the subject of a separate agreement.

9. The SETI Committee of the International Academy of Astronautics will conduct a continuing review of procedures for the detection of extraterrestrial intelligence and the subsequent handling of data in coordination with Commission 51 of the International Astronomical Union. Should credible evidence of extraterrestrial intelligence be discovered, the parties will establish an international committee of scientists and other experts to serve as a focal point for continuing analysis of all observational evidence collected in the aftermath of a confirmed discovery, and also provide advice on the release of information to the public. This committee will be constituted from representatives of each of the international institutions listed above and such other members as the committee may deem necessary. To facilitate the convocation of such a committee at some unknown time in the future, the SETI Committee of the International Academy of Astronautics will initiate and maintain a current list of willing representatives from each of the international institutions listed above, as well as other individuals with relevant skills, and will make that list continuously available through the Secretariat of the International Academy of Astronautics. The International Academy of Astronautics will act as the Depository for this Agreement, and will annually provide a current list of parties to all the parties to this agreement.

## APPENDIX 2

### *List of Institutions*

Central Bureau for Astronomical Telegrams of the International Astronomical Union, Center for Astrophysics, 60 Garde Street, Cambridge, MA 02138, U.S.A.

Secretary-General of the United Nations, United Nations Headquarters, New York, NY 10017, U.S.A.

Director General, International Telecommunication Union, Place Des Nations, CH- 121 I, Geneva-20, Switzerland. Secretary, Committee on Space Research, 51 Boulevard de Montmorency, 75015 Paris, France.

Secretariat, International Astronautical Federation, 3-5 Rue Mario Nikis, 75015 Paris, France.

Secretariat, International Academy of Astronautics, 6 Rue Galilée, 75016 Paris, France.

Secretariat, International Institute of Space Law, 3-5 Rue Mario Nikis, 75015 Paris, France.

Secretariat, International Astronomical Union (IAU-UAI), 98 bis, Boulevard Arago, 75014 Paris, France.

## APPENDIX 3

### *Proposed Agreement on the Sending of Communications to Extraterrestrial Intelligence*

The signatories agree that communications with extraterrestrial intelligence will be guided by the following principles:

1. Communications with extraterrestrial intelligence will be undertaken on behalf of all mankind, rather than specific nations, groups, or individuals.

2. Nations, organizations, and individuals will not unilaterally send communications to extraterrestrial intelligence until appropriate international consultations have taken place.

3. The signatories will not cooperate with attempts to communicate with extraterrestrial intelligence which do not conform to the principles in this agreement.

4. An international group including representation from all interested nations will be formed to deal with the question of whether such a communication should be sent and, if so, what its content should be.

5. If a decision is made to develop a communication to extraterrestrial intelligence on behalf of all mankind, the following principles will be observed:

(a) Respect for the value of life and intelligence.

(b) Respect for the value of diversity, including respect for different customs, habits, languages, creeds and religions, approaches to social organization, and styles of life.

(c) Respect for the territory and property of others.

(d) Recognition of the will to live.

(e) Recognition of the need for living space.

(f) Fair play, justice, and mercy.

(g) Reciprocity and *quid pro quo*.

(h) Nonviolation of others.

- (i) Truthfulness and non-deception.
- (j) Peaceful and friendly welcome.
- (k) Cooperation.
- (l) Respect for knowledge, curiosity, and learning.

6. The drafters of a communication to extraterrestrial intelligence will consider detailed information about mankind to be a commodity of high value which will not be transmitted without due attention to human security and well-being, and to reciprocity.

7. In the event that extraterrestrials appear to pose a threat to human health, well-being, or peace, no nation shall act without consulting the Security Council of the United Nations.