

THE INTERNET AS A GATEWAY TO ETI

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INTRODUCTION

One innovative SETI project is now using the Internet as a gateway to ETI. Called "Invitation to ETI," this project uses the World Wide Web to try to achieve contact with any interstellar probe that has reached Earth. (ETI is extraterrestrial intelligence and SETI is the search for it.)

Issued by 80 scientists and artists, most of whom are involved in the SETI field or the annual CONTACT conference, this invitation hopes to achieve a scientific and philosophical dialogue between humankind and a super-intelligent probe. Over the past 40 years, this is one of the few SETI projects to focus on finding ETI within the solar system. The SETI field has relied almost exclusively on radio and optical telescopes for 40 years and has sought only signals that come from many light-years away.

Because extraterrestrial civilizations and their technology are likely thousands of years older than us, they could launch small inexpensive super-smart probes to explore the galaxy. If such a probe has already reached Earth, it is likely monitoring our telecommunications, including the World Wide Web. Such an advanced technology should have little difficulty learning our languages and customs, and then finding its way around our planet's major computer network.

There are three ways in which the Internet can be a valuable gateway for human-ETI communication. First, the Internet could be used to detect or attract ETI. Second, ETI could use the Internet to reply to us. Third, a full-scale dialogue between ETI and humanity could occur on the World Wide Web.

On what logic and science are these conclusions based? The chain of logic that leads to these conclusions contains three steps.

THE LOGIC

Step 1: If any form of non-Earthly intelligence exists in our Milky Way galaxy, it has likely built small smart robot probes to explore the galaxy. After all, we expect to build such probes within 100 years.

Since our science and technology are only a few hundred years old and our human civilization is only a few thousand years old, we are likely younger than most other forms of intelligence in the universe. We got a late start here on Earth because our sun is younger than most stars. Non-Earthly intelligence will likely be at least 100,000 years old, perhaps even millions of years old.

If a few of these old societies launched exploration probes long ago, it is quite likely that one of them has reached Earth by now.

Step 2 in the logic: Any probe that has reached Earth has probably monitored our telecommunications for many years, mastered our major languages, and learned about our society. It has no doubt discovered our major civilian network of computers (the Internet), and is as fascinated as we are with the range of human behavior exhibited on the World Wide Web.

Step 3 in the chain of logic: If someone wanted to invite ETI to make contact, they could post an invitation on the World Wide Web and make sure it appears in the major search engines and directories. ETI likely checks search terms such as "extraterrestrial intelligence" and "alien probe" in order to monitor our relevant attitudes and beliefs. In this way, ETI will discover the invitation.

A group of 80 scientists and artists have in fact posted such an Invitation to ETI on the World Wide Web. Since 1996 they have been using the Internet as a potential gateway between humans and ETI. Such an opportunity did not exist before the creation of the World Wide Web and its search engines.

THREE WAYS OF USING THE INTERNET AS A GATEWAY

The Invitation to ETI uses the Internet as a gateway to ETI in three ways:

1. The 80 members of this project have issued their invitation on the World Wide Web. They assume ETI will monitor the Web to learn about human society. ETI will discover their invitation through a search engine or directory, or through a link from another SETI page.
2. ETI could use Internet email to reply to the invitation. In fact, the Invitation to ETI web page provides a dedicated email address just for this purpose. If ETI chooses this way of responding, it will be using the Internet as a two-way communications gateway between two cultures.
3. The Invitation to ETI recommends the World Wide Web as the major gateway for a full-scale dialogue between ETI and all humanity. The Internet could be the means of a continuing inter-species exchange of knowledge and questions about the universe, intelligence, life, art, science, philosophy, and the meaning of it all. The next section expands on this possibility.

INVITING ETI TO USE THE WORLD WIDE WEB FOR A DIALOGUE WITH HUMANKIND

What does the Invitation to ETI website itself² say about the potential ETI-human dialogue? Here is an abbreviated version. Note that "you" means ETI because this web page attempts to communicate directly to ETI.

"You might eventually have a scientific, educative, and philosophical dialogue with people around the world. If you are interested, a dialogue between you and people from various parts of our planet could extend over several years. Because it makes information instantly available around the globe, the World Wide Web might be the primary medium of communication. The information could then be incorporated by the mass media, books, and courses."

"Some questions for ETI that are of particular interest to us are on another web page.³ These questions arose in a survey that elicited over 1000 questions from 224 people in 12 countries."

"Humankind could certainly benefit greatly from an educative, scientific, and philosophical dialogue

with you. In the short run, this dialogue will produce some disruption in our society, such as a media frenzy, clashing ideologies, religious quarrels, and government turf struggles. But we believe the long-run benefits will far outweigh any temporary difficulties and turmoil. In particular, humankind could gain five sorts of benefits from a dialogue with you."

"First, many people are eager to find out about you. They want to learn about your history, culture, thinking, ideas, and values. Because all of these are probably deeply different from anything we have ever experienced, we may have to struggle to comprehend them and to deal with our cognitive disruption. But many people look forward to gaining this new understanding and knowledge."

"Second, many people will be thankful for any practical help that you can provide with humanity's day-to-day affairs. They are ready to learn the knowledge needed to avoid the worst dangers to our civilization, and to build a better society. Our biggest needs include peace, lawfulness, effective governance and justice, caring about future generations yet unborn, living in harmony with our planet, global ethics, altruistic service, and a renewed sense of meaning and purpose."

"Third, a dialogue with you can contribute a great deal to humanity's knowledge and understanding of the universe. Contact with you may lead to major progress throughout human civilization in worldview, perspective, values, purposes, science, philosophy, the arts, and our sources of meaning."

"Fourth, interaction with you may speed up humanity's sense of being connected to widespread life in the universe. We will no longer feel alone and isolated in the universe. Interaction among a diversity of civilizations and intelligences (or just knowing they exist) may give us a deeper sense of meaning and purpose in the universe."

"Fifth, we could establish a trusting and harmonious working relationship as a foundation for further cooperation in some political, scientific, cultural, or tourist venture. We look ahead to the day when humans and ETI will cooperate in joint projects in science, exploration, philanthropy, philosophy, spirituality, myths, art, or music. Perhaps, for instance, we could develop an inspiring symphony or a magnificent piece of visual art that harmoniously combines our efforts and yours."

We see, then, that the Internet may be a gateway to a human-alien dialogue that leads eventually to galactic philosophy, music, and art. What an amazing era that will be!

HYPOTHESES AND RESULTS

To understand the hypotheses in this study, it is necessary to examine three levels of hypotheses.

Let us start with the most comprehensive level—the level shared by all SETI projects. The Invitation to ETI is an ongoing SETI project. Since SETI is the search for extraterrestrial intelligence, the ultimate goal of all SETI projects is to test the hypothesis that we are not alone in the universe. Indeed, the email signature used by the SETI League's executive director proclaims this hypothesis: "We know we're not alone!" A confirmed detection will support the hypothesis: a hundred years of fruitless searching will tend to disprove the hypothesis.

The second level is the overall hypothesis for this particular SETI project (as distinct from a particular radio or optical search, for instance). In the Invitation to ETI, the general hypothesis is that a super-intelligent probe is monitoring communications on Earth and will respond to an appropriate invitation. No results have yet confirmed this hypothesis.

About 65 replies have claimed to be from ETI. Although many of these messages seem sincere rather than deliberate pranks, none have yet come close to persuading us of their authenticity. In fact, only three have reached the stage of discussing possible tests or other evidence. Two of the three admitted their hoax within a few days and the third ceased to communicate soon after I asked for evidence.

The evidence for authenticity would have to be completely convincing to the group of 80 and to an independent panel before we would conclude that we are not alone. In the meantime, we find ourselves in the same situation as every other SETI project: no confirmed evidence yet that ETI exists. But the search is far from over.

At the third level, we could generate several hypotheses by manipulating variables within the Invitation to ETI project. Here are some key variables that might well influence ETI's willingness to respond:

- number of people issuing the invitation (8, 80, 800, 8000)
- status of the sponsoring group (free-standing, INGO, UN)
- content and how it is organized
- tone
- the stated benefits for ETI and humans
- the number of languages
- appearance, graphics, artwork, music, sound
- the medium of communication to ETI (Web, rooftop display, advertisements in newspapers or on television).

Although minor changes in some of these variables occur each time I edit the web pages, no major manipulation of variables has occurred and therefore no hypotheses about these variables have been systematically tested.

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