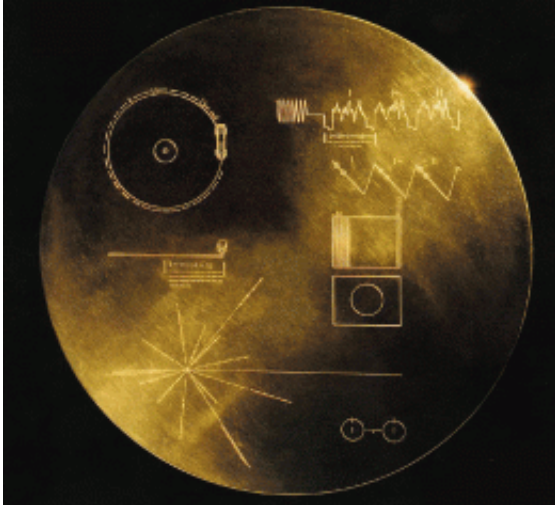


## How to Respond When E.T. Says Hello

April 1 2010, by Clara Moskowitz



In 1977 NASA's Voyager 1 and 2 spacecraft launched into space carrying phonographs called the Golden Records containing pictures and sounds meant to show extraterrestrials a glimpse of life on Earth. Credit: NASA

Scientists are studying the best ways to compose messages meant for alien eyes in case we ever do get the chance to communicate with extraterrestrials.

If mankind ever does receive a signal from extraterrestrials, one of our first decisions may be what to write back.

As director of Interstellar Message Composition at the SETI Institute, psychologist Douglas Vakoch has thought a lot about this question.

"The challenge of constructing any interstellar message is trying to anticipate what you and your recipient have in common," Vakoch said. "One thing we can guarantee is they won't be native speakers of English or Swahili or Chinese."

And the same problem applies to any incoming message to Earth.

"It's very reasonable to think that we will know there's an extraterrestrial out there, that we will have a message that is distinctly artificial, but that we won't be able to decipher it," Vakoch said.

So choosing a language and means to communicate is just as difficult as figuring out what you want to say. A language based on mathematics and scientific principles is a good idea, Vakoch said, because presumably if aliens are advanced enough to send or receive a signal across the abyss of space, then they'll have some scientific understanding.

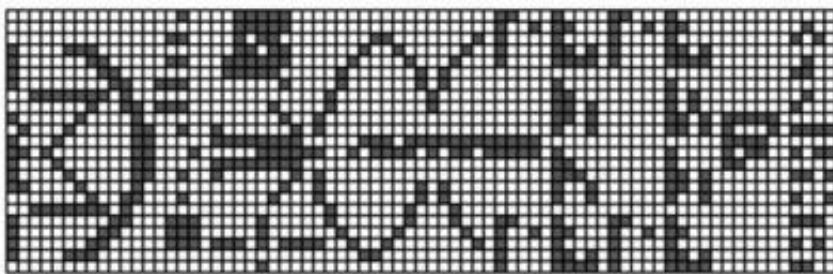
Humankind already has some experience sending messages crafted for alien eyes. One of the most famous of these is the collection of sounds and images contained on the Voyager Golden Records, two phonograph records that were packed aboard the [Voyager 1](#) and 2 [spacecraft](#) before they were launched in 1977 on trajectories that have recently taken them beyond the [solar system](#).

"I think the richest description of ourselves that has been sent into space is the Voyager interstellar records," Vakoch said. "They include greetings in 55 languages, over a hundred pictures describing life on Earth."

The contents of the records were chosen by a committee chaired by the late Cornell University astronomer Carl Sagan. They contained recordings of natural sounds such as thunder and bird calls, as well as music from cultures around the world. But Vakoch said these messages

were largely symbolic, because most scientists admit the chances of another species intercepting these spacecraft are very slim since they have barely travelled beyond the outskirts of the solar system so far in the 33 years they've been in space.

However, even if our postcards to aliens are never received, the act of crafting them may be a worthwhile exercise.



This 1974 radio message was beamed into space by the Arecibo Observatory in Puerto Rico. The message contains a string of 1's and 0's meant to signify the numbers from one to ten, the elements hydrogen and carbon, a representation of DNA, a picture of a human, and the basics of our solar system. The signal was broadcast toward globular star cluster M13. Credit: Frank Drake (UCSC) et al., Arecibo Observatory (Cornell, NAIC)

"Let's step aside from our daily concerns for a moment, and let's think about what we would want to say if our words are going to last a thousand years," Vakoch said.

An interesting aspect of the records, he pointed out, is that they emphasize the positive aspects of life on Earth, while ignoring bleaker realities such as war and environmental degradation.

"It really highlights our natural tendency in making contact in putting our

best foot forward," he said. "It's the natural way to meet strangers. You don't typically tell them about all your problems on a first date."

Though this is an understandable inclination, he said that advanced extraterrestrials may find it very intriguing to hear about the problems that humans face on a day-to-day basis.

"We have a lot of problems as a species that we're struggling with," Vakoch said. "We're not sure if we're even going to survive as a species on our planet. I think a more informative message would be actually to talk about some of the challenges we face because I think that's one of the defining characteristics of our civilization."

In a recent project called "Earth Speaks," the SETI Institute solicited public suggestions about what to say in a communication to aliens.

"One of the most common messages coming in to Earth Speaks is the simple 'Help,'" Vakoch said.

Or perhaps people shouldn't bother composing a message at all. Another [SETI](#) scientist, astronomer Seth Shostak, has proposed that we just broadcast everything on the Google servers out to aliens.

"Instead of trying to think of what's fundamental, just send them a lot of data and let them sort through and find the pattern," Vakoch said.

Vakoch discussed some of the issues around interstellar message composition in a recent paper in the journal *Acta Astronautica*.

Source: Astrobio.net

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