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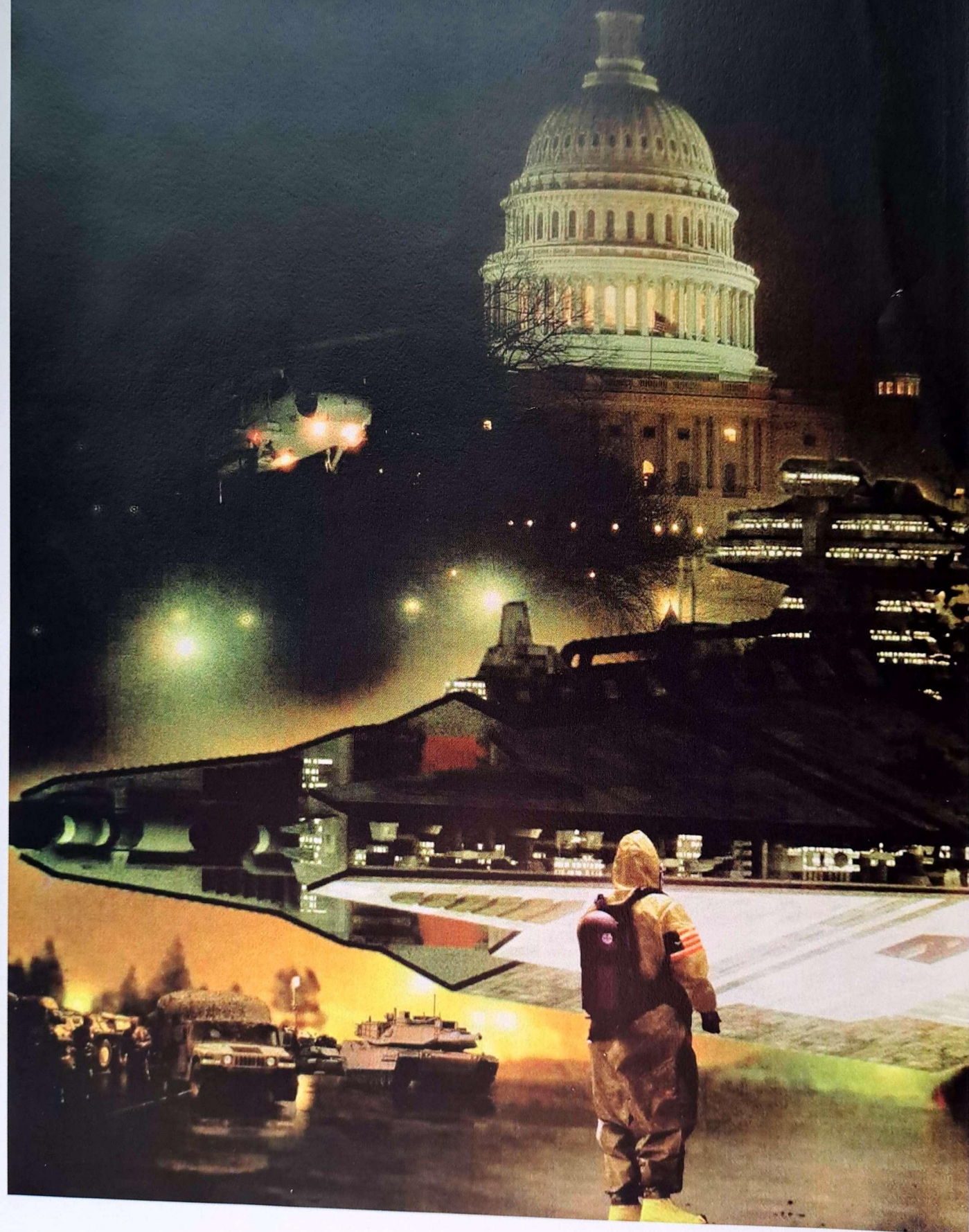
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SCIENCE



WHEN UFOs ARRIVE

The U.S. and other world governments already have detailed secret plans for first contact.

BY JIM WILSON, Illustration by Edwin Herder

Within the scientific community, the question is no longer whether extraterrestrial life exists, but if ET is smart enough to do long division. Scientists are of two minds regarding the existence of extraterrestrial intelligence. Skeptics acknowledge simple life-forms might be found on other planets, but insist that intelligent life is unique to Earth. Their belief is based on the assumption that Earth possesses unique physical attributes, including a magnetic field that deflects cosmic rays and a moon that absorbs asteroids. Together, these protective features make Earth a

EXO BIOLOGY rare safe harbor—one that nurtured the evolution of primitive life-forms into intelligent beings. The opposing camp sees the prospect for discovering alien life in more mathematical terms. Its touchstone is the Drake Equation, which links the probability of discovering extraterrestrial intelligence to factors such as the size of the universe and the number of stars with earthlike planets. With the discovery of each new planet beyond Earth's solar system—there are now more than 100—the odds of encountering

When UFOs land, a series of plans created to deal with nuclear emergencies and biological attacks will be activated.

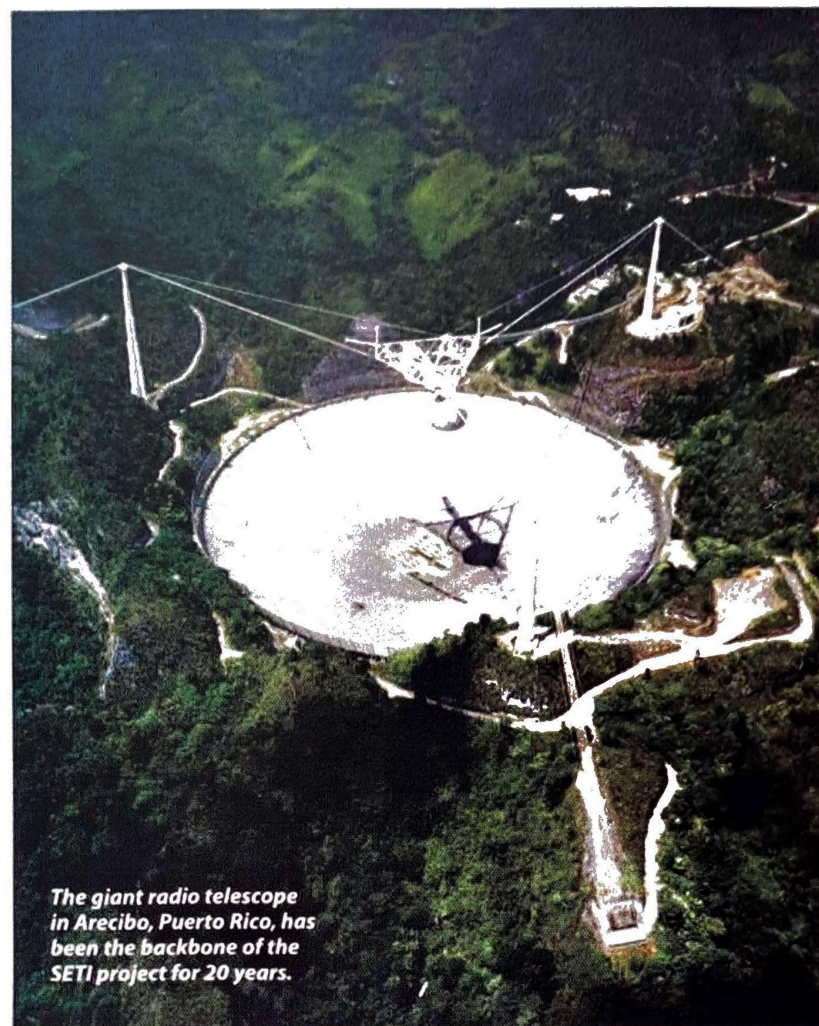
intelligent alien life increase. Governments and international organizations around the world have taken notice of the changing odds. No governmental official has gone on record claiming that UFOs are real, let alone a threat. Yet with little public fanfare, they have begun preparing for the single most important event in human history: first contact. That is, the moment earthlings discover incontrovertible proof that they are not alone.

Early Warning

Unless ET materializes from another dimension in the middle of the Super Bowl, humans most likely will have some advance warning of its arrival. How much time we get to straighten up for extraterrestrial company depends upon who spots ET first.

The privately funded SETI Institute uses radio telescopes owned by observatories around the world to sweep the sky for signals broadcast by advanced civilizations. If ET has read Emily Post, or her intergalactic equivalent, and calls ahead, we could have years, even decades, to prepare for first contact. Unfortunately, the current SETI (Search for Extraterrestrial Intelligence) project can afford to look at only small swatches of the sky, so any extraterrestrial courtesy calls probably will be missed.

A more likely scenario is that the U.S. Air Force would spot ET's spacecraft as it traverses the void between the Earth and the moon. Using powerful radar and optical telescopes in Hawaii, Greenland, Florida and the Indian Ocean, the Air Force Space Command tracks satellites, monitors missile launches, and spots baseball- and larger-size bits of orbiting debris with the hope of preventing it from perforating a space shuttle or the International



The giant radio telescope in Arecibo, Puerto Rico, has been the backbone of the SETI project for 20 years.

Space Station. If ET turns up on Space Command's radar, it would mean the alien visitors are only hours or minutes away.

Countdown To Contact

The broad-brush outline for Earth's response to the first alien encounter is set out in an international agreement called the "Declaration of Principles Concerning Activities Following the Detection of Extraterrestrial Intelligence." Written by a committee of scientists organized by the SETI Institute, the declaration spells out what astronomers should do, and what they should avoid doing, immediately after first contact.

Perhaps the most surprising aspect of the agreement is that astronomers who sign on to the declaration agree to keep the

news of an imminent contact under their hat until the astronomy community and authorities have been notified.

The declaration also establishes fairly specific guidelines regarding the protection of the radio frequencies that alien civilizations might use to communicate with Earth. As soon as a radio signal is confirmed as originating from an extraterrestrial source, the International Telecommunications Union would ask governments around the world to forbid use of that portion of the electromagnetic spectrum. It is hoped that ET will have sufficiently studied human habits to understand that calling earthlings on the frequencies used for microwave ovens and garage door openers will be interpreted as a belligerent act.

"A signal that repeated in an organized pattern was detected beaming straight at the Earth from 1 million miles in space."



A Proposed Welcoming Committee

The International Academy of Astronautics in Paris maintains a list of volunteers willing to help world governments if ET arrives. Most are astronomers. Here is the team that PM would prefer to see on the job. Shown counterclockwise from the center are: Sen. John Glenn, American Representative. As the first American to orbit the Earth and an elected political leader, the senator is the obvious choice to lead the American delegation. Frank Drake, Science Officer. Creator of the Drake Equation and a driving force behind the SETI project, Drake would represent the world's scientific community. Hal Puthoff, Powerplant Engineering. An expert on zero-point energy, a means of extracting limitless power from the quantum vacuum without violating the known laws of physics, Puthoff would understand how ET powers its craft.

Sheila E. Widnall, Weapons Systems. A Massachusetts Institute of Technology professor who served as Secretary of the Air Force in the 1990s, Widnall would be able to assess ET's weapons. Ning Li, Propulsion Systems. A former NASA scientist, Li devised the theory that explains how the electromagnetic force that we use every day might also be harnessed to manipulate gravity. Perhaps ET uses similar technology. K. Eric Drexler, Structural Systems. A trailblazer in the now fast-growing field of nanotechnology—building materials atom by atom—Drexler pioneered the idea of smart materials, which ET would doubtlessly also use in its craft. Jane Goodall, Communications Officer. Having devoted her life to the study of chimpanzees, primatologist Goodall has proved her ability to communicate with intelligent nonhumans.

Close Encounter

About five years ago the first contact protocols were put to the test. For 12 hours, SETI astronomers marveled at the prospect that their golden moment had arrived. A signal that repeated in an organized pattern was detected beaming straight at the Earth from 1 million miles in space.

The first priority was to alert radio astronomers around the world to redirect their telescopes. The signal from the

distant stationary object quickly faded as the relentless rotation of the Earth swept it out of the telescope's listening range. Douglas Vakoch, the SETI Institute's social scientist responsible for preparing Earth's reply to an extraterrestrial message, tells *POPULAR MECHANICS* what happened next: "At this point, all of our discussions were internal to our team. We didn't want to cry wolf. Then, in the midst of the process, we get a call from

The New York Times." So much for the secrecy provision of the SETI protocol. Within hours, the story evaporated. The SETI team identified the mystery signal as a data transmission from SOHO, a sun-watching observatory on an almost-stationary orbit about 1 million miles from Earth.

Vakoch says he was not surprised that the story of the possible alien contact leaked so quickly. "These guidelines have no legal force. They have been

"Only a small part of 'The Brookings Report' dealt with alien encounter. But it contained a stern warning."



Operating on the assumption that a craft with no exhaust stream must be nuclear powered, the Nuclear Emergency Search Team (NEST) would be mobilized to secure an alien aircraft.



drafted in the hope of getting broader discussion."

As far as the U.S. government is concerned, that discussion started and ended more than 40 years ago. Regardless of how the world's astronomy community might want to handle first contact, Uncle Sam has ideas of his own. And they rest on the

assumption that ET is first and foremost an illegal alien.

Presumed Dangerous

The question of how humanity might react to its first contact with intelligent aliens was officially raised in the late 1950s by the then newly created National Aeronautics and Space

Administration (NASA). Curious as to how discoveries about the origin of the universe might affect society as a whole, NASA contracted with the Brookings Institution, a leading think tank, to research the question. Only a small part of its 100-page answer, which came to be known as "The Brookings Report," dealt with alien encounter. But it contained a stern warning. "Anthropological files contain many examples of societies, sure of their place in the universe, which have disintegrated when they had to associate with previously unfamiliar societies espousing different ideas and different life ways; others that survived such an experience usually did so by paying the price of changes in values and attitudes and behavior."

In 1972, as engineers prepared the first space mission that would



Nonhuman but alive, ET would likely be legally classified as an animal and quarantined in a Biosafety Level 4 facility (above) on Plum Island (left).

travel outside of Earth's solar system, NASA decided to ignore warnings in the 1960 "Brookings Report" about the dangers inherent in contact with an advanced alien race. Instead, the space agency sent an invitation for extraterrestrials to visit Earth. A gold-anodized aluminum plaque engraved with a map showing the location of Earth was attached to the Pioneer 10 spacecraft. When it sent its last message, in January 2003, it was more than 7 billion miles along on a trip that will take it to the star Aldebaran.

State Of Emergency

If ET turns up at NASA's doorstep bearing that invitation, it is in for a surprise. Instead of getting a handshake from the head of NASA, it will be handcuffed by an FBI agent dressed in a Biosafety Level 4 suit. Instead of sleeping

in the Lincoln Bedroom at the White House, the alien will be whisked away to the Department of Agriculture's Animal Disease Center on Plum Island, off the coast of New York's Long Island. Here it will be poked and probed by doctors from the National Institutes of Health. A Department of Energy (DOE) Nuclear Emergency Search Team (NEST) will tow away its spacecraft.

Unfriendly as this welcome may seem, it is the chain of events that most likely will follow the visitor's arrival. Unique as the appearance of an alien-piloted spacecraft may be, the event incorporates elements of three situations familiar to federal emergency response workers: a plane crash, the release of

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radioactive material, and the capture of an animal suspected of harboring a contagious disease. Responsibilities in these situations are spelled out in Presidential Executive Orders.

Unless it is spewing exhaust, the craft would be assumed to be nuclear powered. This determination would put NEST technicians in charge of securing the craft and moving it to a DOE facility, most likely in New Mexico, where it would be in close proximity to the Sandia and Los Alamos nuclear laboratories and the White Sands Missile Range. International agreements also put NEST on call if the craft lands out of the United States, as happened in 1978 when a Soviet satellite leaking nuclear fuel landed in the Canadian wilderness.

NEST, however, would operate in the background. In a nuclear emergency, the FBI is put in charge of public safety, public health and public information. Those, at least, are the plans. How things might actually turn out is anyone's guess.

Skeptics often ask why UFO sightings seem to take place only in remote locations instead of on busy city streets. Perhaps ET knows what earthlings have in mind when it lands.

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