

OBSERVER/FAITH & REASON

JOE WOODARD
CALGARY HERALD

The Mars Express, launched last year by the European Space Agency, has generated convincing evidence of water on the Red Planet, mapping its south pole with an infrared camera.

NASA's Mars Odyssey also found evidence of large amounts of ice. But the European satellite has provided the clearest evidence that "Mars is a water planet" (in the words of the lead NASA scientist for Mars exploration).

The next inference, stated in news reports: If Mars once had surface water, it had the potential to support life (though probes since 1976's Viking have found no organic compounds).

The next inference, unstated in the news: If Mars once supported life, life is more likely elsewhere in the galaxy.

Next: If life is likely, intelligent extraterrestrial life is almost inevitable.

And finally, unstated but assumed: If there is intelligent life elsewhere in the universe, unaware of the Bible and its creation story, then the "God of the Book" is no Lord of the Universe.

The premise of pop astronomer Carl Sagan's 1997 blockbuster movie, *Contact*, starring Jodie Foster, was that the human needs and yearnings expressed in traditional religions will be satisfied by the superior intelligences that must have evolved elsewhere in a Godless universe. So, Sagan said, traditional religion is instinctively hostile to the possibility of extraterrestrial intelligence.

Religious astronomers and theologians reply that nothing in the possibility of extraterrestrial intelligence threatens traditional religion, however. And from a

Evidence of water found on Mars raises fascinating, difficult questions. If there are elements of life elsewhere, what are the chances mankind evolved from such forms? Are we alone in the universe?

religious perspective, the hope placed in ET intelligence seems like a new version of the old faith in salvation, gone awry.

"The facile optimism about finding life on Mars is driven by a naturalistic assumption that life is inevitable, wherever you find the right raw materials," says biologist Steve Meyers of the Discovery Institute in Seattle.

"It's like, if you found iron on Mars, you'd expect to find a Buick, because Buicks are made out of iron. But the raw material isn't the issue. The issue is the information needed, arranging all the material in just the right way."

In 1996, when a meteorite was found in Antarctica, possibly originating on Mars and possibly bearing organic molecules, journalists called theologian Richard Mouw of Southern California's Fuller Seminary, for his reaction to the announcement.

If the media expected to find the fundamentalist Christian discombobulated by the possibility of extra-terrestrial life, they were disappointed.

"Talking with one reporter, I said I found the whole thing quite fascinating, but it was difficult to find anything of special theological significance in what the scientists were saying," Mouw later related in a 1997 *Christianity Today* column.

"Nothing in my theology rules out the possibility of living organisms on other planets."

The reporter pushed further on the issue of extraterrestrial intelligence: Would Mouw be "bothered" by the thought that "humans are not the only thinking beings in the cosmos?"

Mouw's reaction was ultimately practical: "No. If such beings turn out to be unfallen, we would want to learn from them. And if they are fallen, we would have to devise strategies to evangelize them."

The reporter: "But for you Christians, who take the Bible as the true revelation, doesn't the idea of many worlds throw your theology into a tailspin?"

In reply, Mouw quoted the first line of the old time hymn, *How Great Thou Art*: "O Lord my God, when I in awesome wonder consider all the worlds thy hands have made..." He then replied that "creation is vast and complex. Nothing in revelation contradicts the possibility that God created intelligent life elsewhere, while the complexity of life here suggests that it won't exist elsewhere, unless God puts it there."

Christian astronomer John Byl of Langley, B.C.'s Trinity Western University argues nothing in science so far supports the idea that intelligent life is likely elsewhere in the universe.

"The earth is ideal for life. So given the laws of nature as we know them, life is so extremely improbable, the earth is likely the only place we'll ever find intelligence," Byl says.

"From a biblical perspective, 16th century Lutheran theologian Philip Melancthon noted that scripture

never mentions the creation of other men or life outside of Earth — except angels. But of course, God may have created other intelligent life and simply deemed it unnecessary to tell us."

Optimists who support the search for extraterrestrial intelligence suggest: many stars have planets; many of those planets will be suitable for life; life will in fact develop on some of them; and some of those life-bearing planets will develop intelligent life.

So, Byl says, even if the odds in each of those four steps are one-in-100, the large number of stars in our Milky Way galaxy alone — 300 billion — would yield 3,000 planets with intelligent life, some superior to our own.

However, Byl cautions: the odds are nowhere near that good. The discovery of nine "gas giants" (like Jupiter) in our galactic neighbourhood suggests the one-in-100 guess for planets may not be far off. But conditions on even "Earth-like" planets have to be "just right."

Discovery Institute's Jay Richards and NASA Astrobiology Institute's Guillermo Gonzalez have co-authored the book, *The Privileged Planet*. They detail at least 20 astronomical factors, all of which have to be "just right" for intelligent life to have developed on earth. Among such circumstances:

■ Earth's sun is not a typical star, but one of the nine per cent most massive, yet very stable and long-lived; it must be a singleton, not a twin or triplet;

■ The sun's peak emission is right on the visible part of the spectrum, the very, very thin band of electromagnetic radiation where both vision and photosynthesis can happen;

■ Earth is the right distance from its sun, so most of its water stays liquid;

■ Earth's atmosphere has just the right combination of gases to block out harmful radiations, but it opens like a window for visible light;

■ Earth's atmospheric package provides just the right amounts of just the right gases needed to support advanced life (unlike Venus), and almost none of the harmful gases;

■ Earth's moon is just the right size and distance to stabilize its axial tilt, giving it seasonal variations but not a wildly swinging climate (like Mars);

■ The moon has also stripped just enough of Earth's atmosphere, to prevent a sweltering greenhouse;

■ Jupiter is deftly placed and sized, so it not only balances Earth's orbit, but also acts as a debris magnet, keeping Earth from being pummeled;

■ Earth's sun is in the right spot in its galaxy — what Gonzalez called the "galactic habitable zone" in his *Scientific American* cover story October, 2001 — to have the heavy elements needed to form terrestrial planets. But it is not so close to the galactic centre that it suffers from radiation.

From a purely naturalistic perspective, even on a life-friendly planet, the odds of life emerging from non-life is "almost zero." Atheist astronomer Fred Hoyle found the probability of life so low — even on Earth — that he compared it to a hurricane sweeping through a junk yard and accidentally assembling a fully functioning Boeing 747.

Astrobiologist Michael Hart figured the odds of the evolution of primitive one-celled life at one-in-one hundred million trillion. Scientist Paul Davies, however, calculated the chance generation of a DNA molecule at one-in-104,000. So he concluded that another such molecule won't appear elsewhere in the visible universe in under ten billion years.

"There used to be something called the Copernican principle, that didn't have anything to do with Copernicus, but it stated that, whatever happens here must happen elsewhere, because the earth's not unique," said Richards.

"So 80 years ago, everybody expected there'd be Martians. But we don't think that way anymore. Now, we wonder if there's water there."

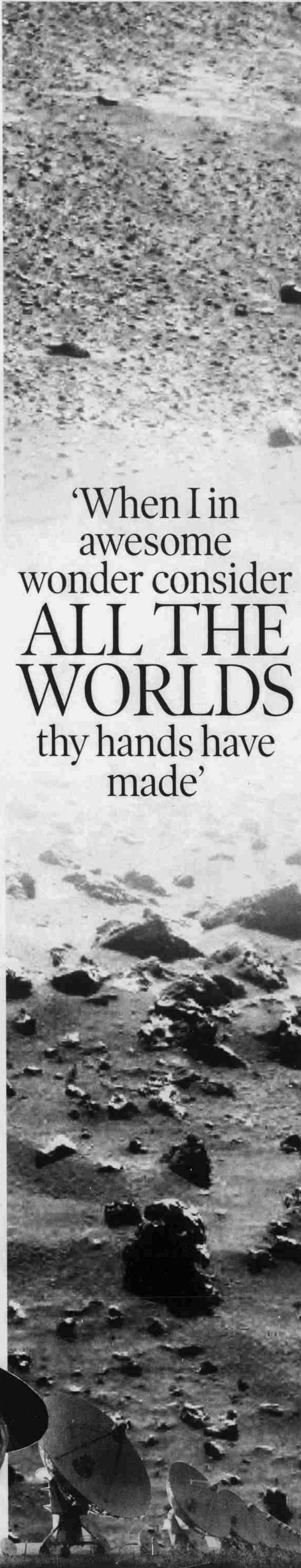
"But it's not, 'just add water'. Water's only a necessary condition for life, not a sufficient condition. You can get all 20 or 30 of the environmental conditions we know of, all of them one chance-in-ten, and life still might not happen, because there are a hundred we don't know."

"And even if you found all the necessary conditions, you still wouldn't get life, because the chain of necessary biochemical and biological events are so improbable, it just didn't happen."

Then Richards adds, laughing, "Not that I'm second-guessing God."

Given all the biological and astronomical hurdles to be leapt, in moving to complex and then intelligent life, the utter uniqueness of Earth as a home for intelligent life reinforces the conclusion that — as far as biologically based intelligence goes — we are alone in the universe. So astronomer Byl questions the motive behind the search for superior extraterrestrial intelligence.

"Given the scientific improbability of extraterrestrial in-



'When I in awesome wonder consider ALL THE WORLDS thy hands have made'

telligence, what's the motivation for looking?" he asks.

"Ironically, naturalistic astronomers like Carl Sagan are still looking upwards to the heavens for salvation."

Byl quotes Sagan's words (1979): "The translation of a radio message from the depths of space holds the greatest promise... among the first contents of such a message may be detailed descriptions for avoidance of technological disaster, for the passage through adolescence to maturity."

Likewise, Harvard astrophysicist A.G.W. Cameron wrote: "If we can communicate with some of these (advanced) societies, we can expect an enormous enrichment of our sciences and arts... also valuable lessons in the techniques of world government."

In the Royal Astronomical Society quarterly, astronomer Frank Tipler bluntly described a major motive for much of the search for extraterrestrial intelligence: "the expectation that we are going to be saved by some miraculous interstellar intervention" — a superior intelligence that will save us, but won't claim any moral authority over us.

Forty years ago, Christian theologian C.S. Lewis argued that, either way, the possibility of extraterrestrial intelligence will always be used as a stick for atheists to beat up faith in a Creator God. If life is found elsewhere, their argument will be that life is so easy, that no God is needed. And if human beings prove to be alone in a sea of trillions of stars, they will argue that life must be a total fluke.

University of Calgary religious studies professor Eliezer Segal says extraterrestrial intelligence isn't much of an issue with Judaism, because "we're not a universalist religion."

"We've got our job to do, and other nations have their jobs to do, and if there are other intelligent species elsewhere, then presumably they have their jobs to do," Segal says.

"Judaism in general isn't all that interested in theological speculation. There'd be far more interest in issues like, how do you establish times for prayer in space? Or in the Talmud, there's the question, if somebody was born with two heads, on which head would he where his phylactery?"

Mount Royal College professor Vettivelu Nallainayagan, a Hindu, says Hindu astrology is very much interested in the influence of the planets (including the sun and moon) on the human beings living on earth. But the fact that human beings have walked on the moon hasn't influenced that belief at all; were life found on Mars, its influence on Earth-bound humans would be presumed to be the same.

"We do believe in a God who is beyond (Brahmin). And the point of life in this world is to liberate yourself from (re-)birth, by your good deeds," Nallainayagan said. So, since the point for Hindus is to escape existence in this universe, "it doesn't make much difference whether there are other intelligences here or not."

Christian theologian John Stackhouse of Vancouver's Regent College thinks it possible that humanity is alone in the universe — so far as biologically based intelligence goes. But that does not mean humanity is alone.

In the Christian perspective, human kind had First Contact with extraterrestrial intelligence 2,000 years ago — direct contact with "the Supreme Intelligence," says Stackhouse. Contact with a lesser intelligence would be "interesting" but "relatively inconsequential" compared to that world-changing encounter.

"There is good reason to search for extraterrestrial intelligence," he says. "The good old scientific reason: to understand how God has created the universe and how to live in it better. But I don't think that makes the search for extraterrestrial intelligence a major priority."

Stackhouse suggests the possibility of alien intelligence does raise interesting theological possibilities. Extraterrestrials would not share the "sin of Adam," so if they are fallen, that would have been on the basis of some sin of their own ancestors.

If that's the case, Jesus of Nazareth's sacrifice on Earth, 2,000 years ago, wouldn't apply to them, because he wouldn't have been one of them.

If they are fallen, perhaps God has arranged their atonement in some way we don't understand: "We have some knowledge of other fallen intelligences, the fallen angels, and there seems to be no provision for their redemption. So the economy of salvation seems different there."

Stackhouse adds that Christians know of the three persons (or faces) of God's Trinity only via the incarnation of the Second Person, the "Son," as mankind's saviour. Theologians like Augustine of Hippo have described God the Father as "being," God the Son as "reason" and God the Holy Spirit as "love." But nothing in Scripture automatically rules out a fourth, fifth or sixth person in one God — persons who might take on the redemption of fallen extraterrestrials.

"I'm not saying I believe this," Stackhouse adds, "but some suggest it."

WOODARD@THEHERALD.CANWEST.COM

Reuters, NASA
At left, an image from the panoramic camera on the Mars Exploration Rover Opportunity after it touched down on Mars, Jan. 24.

Herald Archive, CanWest News Service
Below, Jodie Foster plays Ellie Arroway, a scientist listening for signals indicating life in outer space, in the movie *Contact*, based on the Carl Sagan novel.