



The Observer

June 2010 (#25)

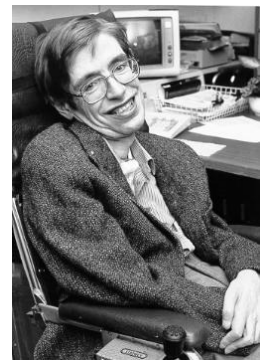
Schedule of public programs on last page!

Beware of Aliens!

Aliens have been in the news recently! MSNBC featured a piece on April 30 about the 50th anniversary of SETI (Search for Extra-Terrestrial Intelligence), and then there has been much to-do made over the speculations regarding aliens that Stephen Hawking makes on his new TV show.

And so please allow Otter Creek-South Harrison Observatory to provide a little perspective on all the aliens hoopla.

For much of history, astronomers did not believe that there could be life on other worlds. Why is that? It is because the extremely influential ancient Greek thinker Aristotle, who lived about 2400 years ago (roughly 350 BC) had argued pretty effectively that there could be no other worlds besides Earth. Prior to the telescope, the heavenly



Stephen Hawking has made news with his comments on aliens.



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SETI: 50 years of searching for ET

← Prev 1/8 Next → Next: 1974: Earthlings send message to aliens

msnbc.com By John Roach, contributor

Somewhere out there, alien civilizations might be communicating with each other. They might even be trying to contact us. Fifty years ago, this reasoning compelled astronomer Frank Drake to point a radio telescope at the stars and listen for chatter. He didn't hear E.T. calling us, calling home, or calling anywhere else during his four-month-long experiment at the National Radio Astronomy Observatory in Green Bank, W.Va., but the effort, known as SETI, the search for extraterrestrial intelligence, is still going strong. Click the "Next" arrow above to check out 50 years of the search.



updated 4:16 p.m. ET, Mon., April 26

The CHRISTIAN SCIENCE MONITOR



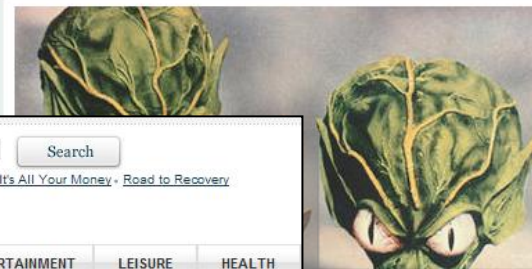
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Science All Science Topics

Stephen Hawking: Aliens may not come in peace

According to renowned British scientist Stephen Hawking, aliens could be more interested in exploiting our natural resources than sharing their technology with us.



Take us to your leader! According to the British physicist Stephen Hawking, aliens, if they exist, might be more likely to conquer humanity than befriend it.

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ARTICLE COMMENTS (158) Join the discussion!


Updated April 25, 2010

Don't Talk to Aliens, Warns Stephen Hawking

Sunday Times

Scientist suggests that aliens might simply raid Earth for its resources and then move on: "We only have to look at ourselves to see how intelligent life might develop into something we wouldn't want to meet."

PRINT EMAIL SHARE RECOMMEND (6)



bodies were not understood to be anything more than unearthly lights – our Earth was the only physical world that Aristotle knew to exist; things like Mars were just “wandering stars” – lights in the sky.

During the 13th century there was actually a dust-up over this idea in Europe. Aristotle’s ideas had been promoted to the Christian world by the great thinker Thomas Aquinas, and had become a source of controversy at the University of Paris in France. It was decided, by the powers that be of that time, that various ideas of Aristotle were heretical, including the idea that only one world existed! Why was this considered heretical? Because it was felt that God, being all-powerful, could make as many worlds as an all-powerful God so chose to make. Declaring that only one world could exist was to deny the power of God.

Nonetheless, while people acknowledged that God *could* have made other worlds, they still basically thought that God chose not to, and that Aristotle was right about there being only one world. After all, they still thought Mars and the heavenly bodies were just lights, so they still had no clear idea where other worlds might be. What people of that time were really thinking of is what we would call “other universes”.

After Copernicus & Galileo, however, astronomers realized that Earth is but one of many planets. Well, Earth & Mars both circle the sun. They both have atmospheres. They both have moons. They both rotate. So, since they share so many things in common, why would they not share having life? In fact, why wouldn’t the entire solar system be inhabited?

In the 17th century a very accomplished astronomer named Christian Huygens (the Huygens probe that was dropped into Saturn’s moon Titan is named for him) wrote in his book *Cosmotheoros*, that:

A Man that is of Copernicus’s Opinion, that this Earth of ours is a Planet, carry’d round and enlighten’d by the Sun, like the rest of them, cannot but sometimes have a fancy, that it’s not improbable that the rest of the Planets have their Dress and Furniture, nay and their Inhabitants too as well as this Earth of ours: Especially if he considers the later Discoveries made since Copernicus’s time...

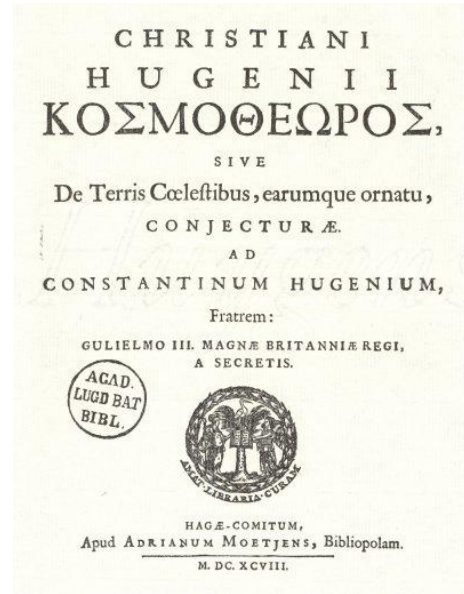
Now should we allow the Planets nothing but vast Deserts, lifeless and inanimate Stocks and Stones, and deprive them of all those

Creatures that more plainly speak their Divine Architect, we should sink them below the Earth in Beauty and Dignity; a thing that no Reason will permit, as I said before.

Huygen's whole treatise on the subject of life on other worlds is available on-line. It is interesting reading!

In the 18th century William Herchel, who discovered the planet Uranus and was the leading astronomer of the late 18th century, assumed that all planets had intelligent life. Jerome Lalande, director of the Paris observatory at around that time said that

The resemblance between the earth and the other planets is so striking, that if we allow the earth to have been formed for habitation, we cannot deny that the planets were made for the same purpose; for if there is, in the nature of things, a connection between the earth and the men who inhabit it, a similar connexion must exist between the planets and beings who inhabit them. We see six planets around the sun [this was before Uranus and Neptune were discovered], the earth is the third; they all move in elliptical orbits; they have all a rotatory motion like the earth, as well as spots, irregularities, mountains: some of them have satellites, the earth has one satellite: Jupiter is flattened like our world; in short there is every possible resemblance between the planets and the earth: is it, then, rational to suppose the existence of living and thinking beings is confined to the earth? From what is such a privilege derived but the groveling minds of persons who can never rise above the objects of their immediate sensations?

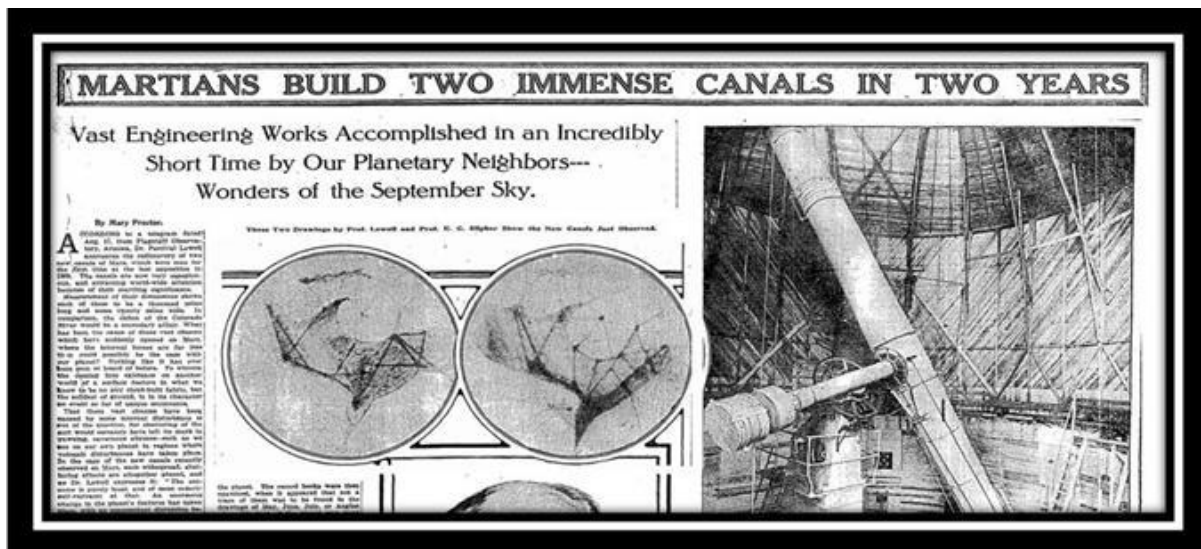


Christian Huygens wrote about life on other planets in the 17th century (top). A probe that landed on Saturn's moon Titan in 2005 (bottom) was named for Huygens.

In the late 19th and early 20th century we became so convinced that life existed on Mars that it was major news in major papers. The *Wall Street Journal* said in a front page story of December 28, 1907 that

The most extraordinary development [of 1907] has been the proof afforded by the astronomical observations of the year that conscious, intelligent life exists upon the planet Mars... There could be no more wonderful achievement than this, to establish the fact of life upon another planet. For there can be no doubt that from this point our knowledge of Mars must increase steadily through the coming years, and it is by no means an impossible stretch of the imagination to believe that as our mastery over electrical forces becomes more complete, we may be able before the present century ends to establish some sort of communication with the people of Mars. That a more complete knowledge of the planet Mars may possibly have a profound effect upon life on our own globe goes without question.

Likewise, on August 27, 1911 the *New York Times* ran this story about the technological abilities of Martians:



Yes, this is the *New York Times*, not the *Weekly World News*! Read the full story, available for free in the *Times* archives:

<http://query.nytimes.com/gst/abstract.html?res=9D04E2DE163CE633A25754C2A96E9C946096D6CF>

These statements were based on observations of Mars with powerful telescopes that seemed to reveal the presence of life on Mars, including

agricultural areas fed by massive, planet-wide irrigation systems (canals). This is not to say that all scientists agreed with this assessment. Some argued that Mars not only lacked intelligent life, but that it was totally uninhabitable!

In the years that followed it became clear that Mars was in fact uninhabitable, and so were the rest of the planets. By the time we were launching probes out into the solar system no one believed that Mars or any other planet was inhabited. Huygens, Lalande, Herschel – scientists knew them all to be wrong. There was no intelligent life in the solar system. Today we are looking hard even for *unintelligent* life in the solar system. Might there be bacterial life on Mars, or sea worms in possible oceans beneath the ice of Jupiter’s moon Europa? There might be (or there might not be), but such life sure is a far cry from what Huygens, Herschel, and Lalande had in mind.

But what of the rest of the universe? There are lots of stars!

That’s why SETI was launched 50 years ago. The initial thought was that we would pick up transmissions from stars not too far away, and we would pick them up fairly quickly. In the late 1990’s a project called SETI@HOME was launched in which people could lend computing power to the SETI effort via the web. That project has been going on for many multiples of its original intended life span. Nothing has been found (unless you buy the conspiracy theories that say the Men in Black from the government are hiding it all and wiping people’s memories).

But there is more to the story. The current best scientific estimate for the age of the universe is 14 billion years. That leaves a lot of time for civilizations far more ancient and advanced than ours to exist. Presumably some alien civilization out there could be really old, really powerful, having a major impact on their galactic environment that we could see from Earth with a telescope like the Hubble, or less – nothing like that has been detected. Furthermore, our current research on planets beyond our solar system is finding a LOT of planets out there, but not finding systems like our own that could harbor Earth-like planets. For a good recent article on this from NPR, check out “The Fruitless Search For Solar Systems Like Ours”, by Robert Krulwich at

http://public.npr.org/anon.npr-mp3/npr/atc/2010/04/20100401_atc_09.mp3?dl=1

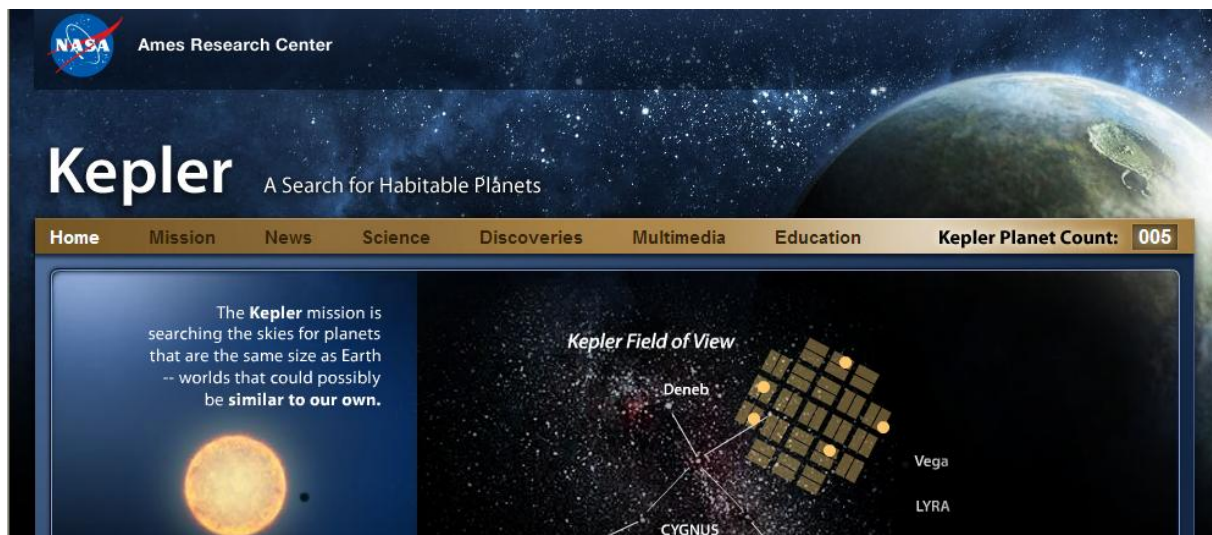
In short, astronomy's track record on the question of aliens just STINKS. It is a continuing story of assuming that we'll find other Earths out there, with intelligent inhabitants, and finding that we are wrong.



We might find something yet. SETI is like trying to hunt for hot pink M&M's in a giant, giant bag of them: You stick your hand in, pull out a handful, and find nothing but normal M&M's. You try again, and find no hot pink ones. You do this 20 times, and still find nothing. Does that tell you that there are NO hot pink M&M's in the bag? No. But it tells you something, does it not? Think of the universe as a very, very, very giant bag of M&M's.

So before you have a "WOW" moment in reading MSNBC and think that, golly gee, those scientists are going to be phoning ET before you know it (or worrying that those scientists will unintentionally summon invading hordes), it is worth looking at the track record so far. It would be nice if MSNBC actually reported on the history of this idea rather than what they did, but, they didn't. As for why Hawking is hawking aliens – who knows?

Incidentally, the Kepler mission will probably shed significant light on the existence of possible Earth-like planets. It will be interesting to see how much attention SETI gets on its 100th anniversary – because by then we should have a very good idea of just how common Earth-like planets are in the universe.



2010 Spring and Summer South Harrison Park Observatory Events

*** **ALL PROGRAMS ARE FREE!** ***

Nighttime programs:

Mar. 20 th	8:30 pm to 10:30 pm
April 24 th	8:30 pm to 10:30 pm NASA Night
May 15 th	9:00 pm to 11:00 pm
June 12 th	9:30 pm to 11:30 pm NASA Night
July 3 rd	9:30 pm to 11:30 pm
July 17 th	NASA Night Event @ Buffalo Trace Park
Aug. 28 th	9:00 pm to 11:00 pm

Daytime programs:

Mar. 6 th	11 am to 1 pm
April 3 rd	11 am to 1 pm
May 1 st	11 am to 1 pm
May 29 th	11 am to 1 pm
June 26 th	11 am to 1 pm
July 17 th	NASA Day Event @ Buffalo Trace Park
Aug. 14 th	11 am to 1 pm

All times are Eastern time zone.

All programs at South Harrison Park are open rain or shine.

Daytime programs allow you to safely view the Sun using solar filters.

Nighttime programs allow you to view the Moon, Stars, Planets, and more.

The facility is handicapped accessible and we feature a video display system for cloudy days and/or nights.

Contacts: Park Astronomer – Henry Sipes Home 270-828-6191
Cell 270-668-2103
Harrison County Park Office – 812-738-8236

Websites: <http://www.harrisoncoparks.com/Observatory.html>
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