

NOTES, NEWS & COMMENTS

A Planet Outside the Solar System?

A team of astronomers has discovered what may be the first planet ever observed outside the solar system. If the observation and their interpretation is verified, it would climax a centuries-old quest to find such a body.* The presence of planets has been inferred by some astronomers because of the wobble of certain stars in their path across the sky, but never before has a companion to a star actually been seen and believed to be a planet outside the solar system.

The team of astronomers was led by Dr Donald W. McCarthy, jr, of the University of Arizona, and included Professor Frank J. Low, also of the University of Arizona, and Dr Ronald G. Probst, of NOAO. Their discovery was announced jointly by the National Science Foundation (NSF), the University of Arizona, and the National Optical Astronomy Observatories (NOAO).

The research workers used the 158-inches (4-metres) Mayall Telescope at NOAO's Kitt Peak National Observatory last May and the 90-inches (2.3-metres) telescope at the University of Arizona's Steward Observatory in June and July. They employed a relatively new technique, called 'speckle interferometry', to detect the heat from the planet in the infrared region of the electromagnetic spectrum. This enabled them to overcome the blurring caused by turbulence in the Earth's atmosphere that ordinarily would hide the dim planet in the glare of the much brighter star. The planet orbits the intrinsically faint star Van Biesbroeck 8 (VB 8) in the Milky Way constellation Ophiuchus, about 21 light-years from Earth. The star was named after George Van Biesbroeck, a Belgium-born American astronomer who discovered it in 1961.

The astronomers said they think this newly-discovered planet is a gaseous object resembling Jupiter in appearance

* and revive hopes of some forms of life existing elsewhere than on and around our Earth, thereby enormously extending our environmental sphere-of-action and what we should strive to conserve.—Ed.

and substance. The planet has been calculated to be between 30 and 80 times as massive as Jupiter, the fifth planet from the Sun which has a mass of about one-thousandth that of the Sun. The planet's surface temperature is estimated to be about one-fifth of that of the surface of the Sun.

The existence of planets as large as this has been hypothesized by astronomers who coined the term 'brown dwarf' to designate them. The name brown dwarf indicates that these objects are much cooler than 'red dwarfs', which are the coolest stars known. The star VB 8 is roughly 10,000 times fainter than the faintest star visible with the naked eye. If observed in visible light—wavelengths to which the human eye responds—the planet would appear about 100,000 times fainter than the star which it orbits.

'The body identified as a planet is too dim and too cool to be a star,' Dr McCarthy said, stressing that more studies must be made to determine the main characteristics of the planet—such as its orbital period, its mass, and its chemical composition. The astronomers said they have eliminated the possibility that the planet is a background object unrelated to the star VB 8. 'For the present,' they said, 'we assume the new source [to be] a close physical companion to VB 8, and we designate it VB 8B.'

In a report submitted to *Astrophysical Journal Letters*, the astronomers said: 'We have detected *via* infrared speckle interferometry a faint, very cool source one arcsecond [960 million km] from (the star) VB 8.' The properties of the source—such as temperature, radius, and energy output—are consistent with a substellar mass companion, i.e. a planet. Both astrometric and astrophysical evidence support this interpretation.'

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Saga of the Sacred Earth

Recently we received from Indian Ambassador Ayilam P. Venkateswaran, whom we had visited late last year in Beijing, China (but which he is leaving to return to a major post in New Delhi), a message reading in part:

'While going through some old papers in the process of my packing up, I have come across one of the most impressive and impassioned pleas for environmental conservation, which I thought would interest you. It is [the enclosed] plea made by the Chief Seattle to US President Franklin Pierce, who had offered to buy a large tract of Red Indian land from the tribe. Perhaps you may even think of reprinting it in... *Environmental Conservation*, since there is no copyright involved considering that the plea was made 130 years ago, in 1854. But the plea is no less relevant today.'

'How can you buy or sell the sky, the warmth of the land? The idea is strange to us. If we do not own the freshness of the air and the sparkle of the water, how can you buy them?'

Every part of this Earth is sacred to my people. Every shining pine-needle, every sandy shore, every mist in the dark woods, every clearing and humming insect, is holy in the memory and experience of my people. The sap which courses through the trees carries the memories of the Red Man.

The White Man's dead forget the country of their birth when they go to walk among the stars. Our dead never forget this beautiful Earth, for it is the mother of the Red Man. We are part of the Earth and it is part of us. The perfumed flowers are our sisters: the deer, the horse, the great eagle, these are our brothers. The rocky crests, the juices in the meadows, the body heat of the pony, and Man—all belong to the same family.

So, when the Great Chief in Washington sends word that he wishes to buy our land, he asks much of us. The Great Chief sends word he will reserve us a place so that we can live comfortably to ourselves. He will be our father and we will be his children. So we will consider your offer to buy our land. But it will not be easy. For this land is sacred to us.

This shining water that moves in the streams and rivers is not just water but the blood of our ancestors. If we sell you land, you must remember that it is sacred, and you must teach your children that it is sacred and that each ghostly reflection in the clear water of the lakes tells of events and memories in the life of my people. The water's murmur is the voice of my father's father.

The rivers are our brothers; they quench our thirst. The rivers carry our canoes, and feed our children. If we sell you our land, you must remember and teach your children, that the rivers are our brothers, and yours: and you must henceforth give the rivers the kindness you would give any brother.

We know that the White Man does not understand our ways. One portion of land is the same to him as the next, for he is a stranger who comes in the night and takes from the land whatever he needs. The earth is not his brother, but his enemy, and when he has conquered it, he moves on. He leaves his father's graves behind, and he does not care. He kidnaps the earth from his children and he does not care. His father's grave and his children's birthright are forgotten. He treats his mother, the Earth, and his brother, the sky, as things to be bought, plundered, sold like sheep or bright beads. His appetite will devour the earth and leave behind only a desert.

I do not know. Our ways are different from your ways. The sight of your cities pains the eyes of the Red Man. But perhaps it is because the Red Man is a savage and does not understand.

There is no quiet place in the White Man's cities. No place to hear the unfurling of leaves in spring, or the rustle of an insect's wings. But perhaps it is because I am a savage and do not understand. The clatter only seems to insult the ears. And what is there to life if a man cannot hear the lonely cry of the whippoorwill or the arguments of the frogs around a pond at night? I am a Red Man and do not understand. The Indian prefers the soft sound of the wind darting over the face of a pond, and the smell of the wind itself, cleansed by a mid-day rain, or scented with the piñon pine.

The air is precious to the Red Man, for all things share the same breath—the beast, the tree, the man, they all share the same breath. The White Man does not seem to notice the air he breathes. Like a man dying for many days, he is numb to the stench. But if we sell you our land, you must remember that the air is precious to us, that the air shares its spirit with all the life it supports. The wind that gave our grandfather his first breath also receives his last sigh. And if we sell you our land, you must keep it apart and sacred, as a place where even the White Man can go to taste the wind that is sweetened by the meadow's flowers.

So we will consider your offer to buy our land. If we decide to accept, I will make one condition: the White Man must treat the beasts of this land as his brothers.

I am a savage and I do not understand any other way. I have seen a thousand rotting buffaloes on the prairie, left by the White Man who shot them from a passing train. I am a

savage and I do not understand how the smoking iron horse can be more important than the buffalo that we kill only to stay alive.

What is Man without the beasts? If all the beasts were gone, Man would die from a great loneliness of spirit. For whatever happens to the beasts, soon happens to Man. All things are connected.

You must teach your children that the ground beneath their feet is the ashes of our grandfather's. So that they will respect the land, tell your children that the earth is rich with the lives of our kin. Teach your children what we have taught our children, that the earth is our mother. Whatever befalls the earth befalls the sons of the earth. If men spit upon the ground, they spit upon themselves.

This we know: the earth does not belong to Man: Man belongs to the earth. This we know. All things are connected, like the blood which unites one family. All things are connected. Whatever befalls the earth, befalls the sons of the earth. Man did not weave the web of life: he is merely a strand in it. Whatever he does to the web, he does to himself.

Even the White Man, whose God walks and talks with him as friend to friend, cannot be exempt from the common destiny... We may be brothers after all. We shall see. One thing we know, which the White Man may one day discover—our God is the same God. You may think now that you own Him as you wish to won our land; but you cannot. He is the God of Man, and His compassion is equal for the Red Man and the White. This earth is precious to Him, and to harm the earth is to heap contempt on its Creator. The White too shall pass; perhaps sooner than all other tribes. Contaminate your bed, and you will one night suffocate in your own waste.

But in your perishing you will shine brightly, fired by the strength of the God who brought you to this land and for some special purpose gave you dominion over this land and over the Red Man. That destiny is a mystery to us, for we do not understand when the buffaloes are all slaughtered, the wild horses are tamed, the secret corners of the forest heavy with scent of many men, and the view of the ripe hills blotted by talking wires. Where is the thicket? Gone. Where is the eagle? Gone. The end of living and beginning of survival.'

[Communicated by]

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World Commission on Environment & Development

The World Commission on Environment and Development (WCED), established following a resolution adopted by the United Nations General Assembly in December 1983, is a 'new and independent body created to look ahead at critical environment and development problems and propose better ways and means for the world community to address them'. It held its inaugural meeting in Geneva, Switzerland, during 1–3 October 1984, and 'will make its recommendations for action to the General Assembly of the UN in 1987'. Despite the multiplicity of bodies already in the field (including our own World Council For The Biosphere and its twin International Society For Environmental Education), and other interests which often overlap and sometimes conflict with its initiative, the new Commission's work is to be conducted at such a level and in

such a manner that we feel it should be supported and helped in every possible way—to have real clout with decision-makers everywhere.

The Chairman of the Commission is Mrs Gro Harlem Brundtland, Leader of the Opposition, former Prime Minister, and a former Minister of Environment, of Norway. The Vice-Chairman is Dr Mansour Khalid, former Foreign Minister of Sudan. The Commissioners include prominent political figures and leaders concerned with environment and development. They were selected by the Chairman and Vice-Chairman, and will serve in a personal capacity. When the Commission is complete, its full voting members will number 22, comprising 5 from Asia, 5 from Africa, 4 from Latin America, 3 each from Western and Eastern Europe, and only 2 from North America—despite this last