



aliens and contact with aliens. It's been a very common theme in popular culture. So could you tell us a bit more about how discovering other forms of life, other forms of consciousness would in fact pull us up short, despite all the attention that's been paid to it so far?

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The discovery of intelligent life could displace how we human beings understand our place in the cosmos, in the history of the universe, and even in Christianity. Since its beginning, in its ongoing longing for knowledge and discovery, humankind experienced at least three major displacements. We could say that we were pulled up short in three major ways.

For centuries we thought that we were the center of the universe. This gave us security. Such a physical preeminence was associated with pride. We were proud of our place in the cosmos. With our rationality, we thought we were the best creatures, at the summit of any earthly hierarchy.

However, the study of stars and planets challenged our assumptions of grandeur. The Prussian Nicolaus Copernicus (1473-1543)—a Renaissance polymath, active as a mathematician and astronomer—formulated a model of the universe that placed the Sun rather than Earth at the center of the Solar system (heliocentric model). Hence, the Copernican revolution was the paradigm shift from the previous Ptolemaic model, proposed by Claudius Ptolemy (or Ptolemaeus), who lived in Egypt the second century of the Christian era. For fifteen centuries, the Ptolemaic model described the cosmos as having the Earth stationary at the center of the universe, but Copernicus displaced such centrality. While many resisted such displacement, others embraced it. Our value did not depend on our place in the universe.

But the displacements were not finished. After the first displacement—i.e., the Copernican revolution—a second displacement occurred. In the nineteenth century, the English naturalist, geologist, and biologist Charles Robert Darwin (1809-1882) studied multiple biological species in their own habitats and proposed that all species of life descended over time from common ancestors. Humankind was displaced again. This time regarding its own origin and identity. As in the case of the Copernican revolution, the Darwinian evolution encountered strenuous resistance and rejection. However, it is now widely accepted and considered a cornerstone of modern science.

Whether we reflect on the beginning of life in the universe or we wonder whether intelligent life might exist somewhere in space, human beings and believers could experience a third displacement, when the discovery of biological life and contact with intelligent beings will challenge our cosmos consciousness and our place in the universe.

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That's a very useful analogy to help me think this through with Copernicus and Darwin. It's clear that at both of those moments, ultimately, people all around the world had to confront the fact that we weren't as central as we thought that we were. We weren't the center of the universe, not even the center of the solar system, and we weren't the pinnacle of creation, but we had evolved from other creatures. At the time, as you say, it's a little hard for us to imagine now but those were dramatic reorientations of how humans had to think of themselves. So that's useful to imagine that the discovery of intelligent life elsewhere in the universe would force us to have a similar sort of decentering, a similar sort of disorientation. As I think about that, I'm trying to wrap my head around what the consequences would be. Can you tell us a bit more about the implications of such a discovery of extraterrestrial intelligence? How would we react to that one?

8:26

I agree with you that we have a hard time imagining the sense of loss of place and importance that our ancestors experienced in the first and second displacement, dealing with the Copernican revolution and with Darwinian evolution. They felt discarded and deprived. If I can use a couple of images, they felt lost, like when one loses one's bearings and does not know anymore where one is and where to go. With Copernicus, humankind lost a sense of its home as central. With Darwin, we lost our identity at the summit of all the species. But in each case now we can say that both the Copernican revolution and the Darwinian evolution gave us a new home and a new identity, grounded in a better understanding of our reality and our being. In both cases humankind experienced a new freedom: the freedom of a new home and of a new identity. Something similar could happen to believers. We would discover that maybe we have sisters and brothers we were not aware of. In his most recent document—the 2020 encyclical letter called *Fratelli Tutti* on fraternity and social friendship, Pope Francis invites the whole of humankind to rediscover our fraternity, our sisterhood and brotherhood. A cosmic fraternity could be unexpected, but so much welcome. To be pulled up short is not only a loss. It can imply unexpected gain as well.

Regarding the search for biological life in the universe, recently scientists discovered a Neptune-like exoplanet located 90 light-years from Earth (called TOI-1231 b) with an intriguing atmosphere that could contain water clouds. Exoplanets are planets located outside of our solar system. The discovery of it

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show how these encounters could change how humankind perceives itself here and now, and how we live together.

If we consider our past history, sadly we realize that humankind engaged in very problematic ways in encounters with those who were considered different. Most were interested in colonizing, conquering and oppressing violently. Together with the ordeal of colonization, racism tragically created incredible suffering. Learning from our past, encountering who is different should not lead us to recreate the social forms of life (eg, racism, violence, and oppression) that we experience now on Earth. We should be able to consider all living beings - on Earth and elsewhere in the universe - as members of a relational cosmic community. According to this relational approach, contact could be congenial rather than confrontational. Being pulled up short, we could become more human.

Moreover, thinking about discovering and encountering what and who is Other could lead humankind to examine itself, change our consciousness regarding who we are and who these Others are, and change our conduct. Encountering and experiencing the Other should help us to discover more our true self. By analogy, we discover who we are when we live in another country, speak another language, and experience a new culture.

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That's helpful. I wanted to note that when we first spoke about this, you mentioned those novels to me - the Mary Doria Russell novels - and I'm halfway through the new ones.

As a rigorous scholar of Christian ethics, socioecological ethicist, and enquiring scholar-activist, John Hart relies on personal experiences as well as on the critical analysis and assessment of credible and tested witness accounts. In his most recent book, he revisits the insightful contributions and approaches of significant authors and scholars of our past: from Maximus Confessor (580-662) to Nicholas of Cusa (1401-1464) and Francis of Assisi (1181-1226) as well as more recent theologians and scientists to examine "concrete data from scientists, social scientists and other credible witnesses" (11) integrated by important controls.



They further develop their emphasis on recognition, highlighting how vulnerability is the outcome. There is an increased vulnerability when we recognize or we are not recognized, and somehow the encounter with the other places us in terms of our own identity, in a situation where we experience greater vulnerability. For the Christian tradition, this increased vulnerability is not a negative dimension or outcome, but creates the possibility for a greater solidarity, for mercy, for compassion, for care, and for love. Somehow, we can find within the history of humankind, there are traces of the possibility of being optimistic toward the encounter with what is radically different, even when we are aware that this will expand our consciousness of our own vulnerability.

In terms of consequences for Christianity and the understanding of us as created in the image of God, recognizing that the divine, our God, might be the creator of other ways in which creatures are somehow expands this understanding of "created in the image of God," introducing multiple ways of experiencing God present in what is there - from the plants, to other forms of intelligence, from what we encounter on earth, to what might exist elsewhere. We could say that we discover a God who is open to the possibility of multiple ways in which the divine can be experienced. From my point of view, this expands further the understanding of the Creator and as some theologians have said, maybe Jesus is not only the savior of humankind, but the Savior of other creatures in ways that we do not know. So what we consider central to the experience of Christianity, the Incarnation, could have different ways of being experienced when we think about other beings, other forms of intelligence, other forms of consciousness that we have not encountered yet.

35:37

That's interesting. I have one more question for you. When you mentioned vulnerability and the ways in which vulnerability can be an opening, as well as an experience of threat, I wonder if you've thought about the ways in which it might matter whether it is humans who discover life elsewhere (for example, on one of the ongoing Mars missions or the radio telescope work that continues) or whether it would matter that it's extraterrestrial life that we find out, in fact, has discovered us.

36:18

One way in which I reflect on these interactions is to try to avoid ways in which we are bringing biological life where we are exploring. For example, NASA is very attentive to avoid any possibility of bringing forms of life to Mars or wherever we go, so that we are not polluting the environment.

that we will be able to find ways to visit without colonizing and being visited without being attacked. So that if there is a future in which there will be more explicit encounters, that would be to the benefit of both the extraterrestrial forms of intelligence and life and humankind.

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Well, thank you very much. This was very engaging. So thanks to Father Andrea Vicini. Thanks to Professor Kristina Wirtz. We really appreciate you being