

TRANSCRIPT

Langley, NASA:

Okay, Neil, we can see you coming down the ladder now.

Neil Armstrong:

I'm at the foot of the ladder. The LM footpads are only depressed in the surface about one or two inches
....

JOHN DICKSON EDITORIAL:

It's July 20th, 1969, and the world is holding its breath as astronaut Neil Armstrong is about to go where no one has gone before.

Neil Armstrong:

That's one small step for man, one giant leap for mankind.

JOHN DICKSON EDITORIAL:

Neil Armstrong's words, as he first set foot on the moon, were a declaration of hope in humanity. A belief that we had placed our foot on the first rung of a ladder that would take us further into the marvel of the universe. That hope still runs deep for those involved in the space industry today, and we'll be speaking to someone who's been as high as that ladder currently goes. But what will we find as we go further? More planets for us to colonize? Resources for us to use? Intelligent life? Will we find a crisis for religion, for Christianity in particular?

Faith in Christ was formulated at a time when Roman roads, not rockets, were considered a great innovation. Some would say that an ancient faith will not survive outer space. God's love for humanity, shown in the life, death and resurrection of a first century Jew, is too parochial, too small, to be relevant to a universe potentially brimming with sentient life. Outer space might end up being God's graveyard. Or will it?

I'm John Dickson and this is Undeceptions.

Undeceptions is brought to you by Zondervan Academics new book, *The Theology of Paul and His Letters*, by Douglas J. Moo. Every episode here at Undeceptions, we explore some aspect of life, faith, history, culture or ethics that's either much misunderstood or mostly forgotten. With the help of people who know what they're talking about, certainly today, we'll be trying to undeceive ourselves and let the truth out. And today we've got a giveaway to help promote the show.

Lovely listeners, go to Apple Podcasts, write a review of Undeceptions, and really, it can be negative, but I'd like it to positive, then send us a screenshot of what you wrote and we have a free hardcover copy of my new book, *Bullies and Saints*, for the five best written reviews. Producer Kaley is going to pick the winners and extra points for using the Oxford comma. Details in the show notes for this episode. Now back to the show.

Langley NASA:

Atlantis now in control of the countdown.

Firing chain is armed. Sound suppression water system activated. T minus 10, 9, 8, 7, 6.

JOHN DICKSON EDITORIAL

As of September, 2021, a total of 578 people from 41 countries have gone into space. One of this very special club is astronaut, Colonel Jeffrey Williams. He's flown four missions, orbited the earth nearly 3000 times, man, that's hard to take in, and he's done five space walks for a total of more than 30 hours just hanging out there in space. With 534 days in orbit, Williams held the American record for the most time spent in space, a record only surpassed in 2017 by his colleague, Peggy Whitson. Despite all that, Jeff says he never dreamt of becoming an astronaut.

INTERVIEW BEGINS

Jeffrey Williams:

No, I have to admit that I grew up on a farm in Northern Wisconsin and it probably never occurred to me. I enjoyed life. I have great childhood memories. I love the outdoors. I was taught carpentry from my grandfather. Of course, we were doing farm work as well so the ... I did have an interest in science and math early on, and that grew into an interest in engineering. But at the time I never considered even flying, even being a pilot, at that time. That came a little bit later after I left Wisconsin and entered the Military Academy at West Point.

JOHN DICKSON EDITORIAL

Founded in 1802, West Point is America's oldest military academy. It educates cadets for commissioning into the US Army.

Jeffrey Williams:

Once I got there, I got exposed to all kinds of things in the military, of course, to include flying. Many of my instructors were helicopter pilots that had just come back from the Vietnam War, this was 1976, and all of that was an inspiration to me.

JOHN DICKSON EDITORIAL

Jeff followed that inspiration to become, first an army pilot, and then eventually a test pilot. He was selected as a NASA astronaut in 1996 and flew his first mission to the International Space Station in the year 2000. And he remembers that first liftoff like it was yesterday.

Jeffrey Williams:

It was in May of 2000 on the Space Shuttle Atlantis. It was the third flight to the space station, as I said. We were a crew of seven. I was the only rookie on the crew. And one of the warnings that I got from my crew mates was things happen so fast, and you're so overly saturated with sensations, that it's very

difficult to take it all in. But having thought through that and having had an extensive career in flying and flying different aircraft in different ... having those different kinds of experiences, I think that that conditioned me to be able to take it in.

Langley, NASA:

3, 2, 1, zero and liftoff of Space Shuttle Atlantis on a mission to build, re-supply and to do research on the International Space Station.

Jeffrey Williams:

And there's not a single sensation. It's a continuum of sensations. You're leading up to the liftoff, and then the main engine starts six seconds before liftoff, and the whole thing rumbles and shakes. And then liftoff happens, and then the rumbling and shaking goes in order of magnitude greater. And then you watch the ground drop away. And I was able to see that. I was in the flight engineer's seat so I looked over my shoulder and watched the beach of Florida drop away, and then we were off to the races.

And then a few minutes later, we had started flying ... we flew the shuttle where we were heads down and then we rolled the heads up several minutes into the ascent into space so you got a great view of the East Coast. So, you could see it like you see a globe. See the different shapes of the coast lines of the East Coast. And we're above the clouds at that point so the sky was brilliantly blue, and then the blue faded to black, and you knew you were leaving the atmosphere and entering space, and the acceleration just continued, and in the little less than nine minutes, you're in orbit and the main engines cut off.

But now you're in weightlessness. You're now you're feeling weightlessness for the first time and it's sustained. It doesn't go away. It's not like a roller coaster where you get a couple seconds of feeling light in your seat or whatnot. You're a weightless and you're there, and it was not too long where I had to get out of my ... unstrap the belts and get out of my seat and start the process to get out of the space suit or do the activities that we had to do after launch. And I could already see out the window, at this point, but when I got out my seat, then I could see the full view and I got the glimpse of the earth for the first time. And I just remember, just in vivid detail, as if it was yesterday.

And since then, of course, spent a year and a half in space. And I spent a lot of time in the window, took a lot of pictures and it's never gotten old. It is the most amazing part of the whole thing is to see the globe of the earth from that vantage point and then take in all the detail over time. Of course, the adrenaline is flowing. It's like, "Wow, look at this." With all of the ... and I'm going to understate it. Right? But, "This is amazing," combined with, "I can't believe this is actually happening. After all these years of working toward it, here we are. This is unbelievable. But how amazing it is." And you feel this overwhelming sense of gratitude. At least that's what I felt.

JOHN DICKSON EDITORIAL

Space has a profound effect on the human mind. It always has. Director Mark and I once visited the deserts of Karkom in southern Israel, where there are these amazing 5,000-year-old rock paintings with human figures, arms raised upwards, in praise of the stars in the night sky. Do you remember that, Mark?

Mark:

I do. I do, but I didn't know what they were until you told me.

JOHN DICKSON EDITORIAL

The sheer immensity of just our galaxy in comparison to the tiny blue marble we call home is enough to set the mind spinning in wonder.

Deborah Haarsma:

Our galaxy is very large. It contains hundreds of billions of stars. So, our sun is far from the only star. Our sun is about halfway from the center of the galaxy to the edge, and it would take about 70,000 light years to travel from where we are to the center of the galaxy. So light travels very fast, but it still takes time. So, if you could travel at the speed of light, it would still take you 70,000 years just to get to the middle of the galaxy.

JOHN DICKSON EDITORIAL

That's Deborah Haarsma, former professor and chair of the Department of Physics and Astronomy at Calvin University. She did her doctorate in astrophysics at the Massachusetts Institute of Technology, MIT, and she's published her research on extra galactic astronomy and cosmology. Dr. Haarsma has studied large galaxies, galaxy clusters, the curvature of space and the expansion of the universe using telescopes around the world and telescopes in orbit. One of her areas of specialty is exoplanets. You know, exoplanets.

Deborah Haarsma:

So, an exoplanet is an extra solar planet. So, it's a planet that doesn't go around our sun. So, we know the planets in our solar system, Mercury, Venus, Earth, Mars, Jupiter, Saturn, all those, but in the nineties, we started discovering planets around other stars. For the past 20 years, there's been a lot of active research to discover more of these planets around other stars. And we've now discovered enough that we can do good estimates of how many planets there are, in total, in our galaxy.

We have detected them around a few thousand stars, but we now know that they're typical enough that there must be planets around billions of stars in our galaxy, maybe a hundred billion planets. They're very hard to detect and it takes very specialized equipment. So, the telescope observes the star more than the planet itself and they can do it in a couple different ways. A way that's worked, lately, is you look for planets to be passing just in front of their star. So, imagine looking at our solar system edge on, and the planets are going around the star and you can see the star, just get a little bit fainter when the planet is in front of it. And then the star gets bright again when the planet goes around the other side.

So, it takes very sensitive measurements to detect that change in brightness in the star. And you have to monitor it for a long time to see ... because you ... first you see a planet go past and then maybe you see a different planet go past and you want to watch them come past a few times to make sure you know what's going on, where their orbits are, but you can then tell how far they are from their star, how massive they are. And from that, we can learn some things about what those planets are like.

JOHN DICKSON EDITORIAL

And science, as well as science fiction, are very interested in the answer to that question.

MOVIE TAPE: *Interstellar*

We must confront the reality that nothing in our solar system can help us.

Now you need to tell me what your plan is to save the world.

We're not meant to save the world. We're meant to leave it. And this is the mission you were trained for.

I've got kids, Professor.

Get out there and save them.

JOHN DICKSON EDITORIAL

Christopher Nolan's blockbuster, *Interstellar*, built its plot on humanity's need to find an exoplanet we could make our new home. But it's not just the plot of science fiction. In 2016, physicist Stephen Hawking, said that humanity had 1000 years to leave earth and begin to spread among the stars or face extinction. The following year, he revised that figure to 100 years. And in this same time period, astronomers have located numerous bodies orbiting distant stars, but Deborah Haarsma points out, just because they're out there, doesn't mean they're Earth 2.0.

Deborah Haarsma:

And that's a really important distinction. A lot of the planets that were first discovered were very extreme. Gas giants larger than Jupiter or planets much closer to their star than Mercury and to our sun, and so very hot and inhospitable to live in. But we now know there are a large number of planets that are similar to Earth in that they have about the same mass as Earth, so walking around on them you'd have about the same gravity, and they're capable of supporting liquid water. So, they're not so close to their star as to boil all the water off or so far from their star that all the water would be frozen.

And those are the planets we're interested in because they're like us. And those planets, how many of them are there? I believe it's something like, on average, one planet per star out there is an Earth-like planet. They're quite common. So how does that play out? Well, it is ... when you're watching this tiny dot of a planet going around its star, the star is so bright, it is very hard to measure what's happening on the planet itself. But there are telescopes coming online that will help us measure the atmospheres of those planets and that will give us a hint of what's going on there.

You can look at the atmosphere of the planet and see if there's oxygen in it. This is just one way to study it. But on Earth, Earth's atmosphere has a good amount of oxygen, but that's produced from the life on earth. And if we detect oxygen in an atmosphere of another planet, that's a good indicator of life from what we know about how atmosphere ... chemistry works. So that's one way to do it, but it does take very sophisticated telescopes. There are, though, a large number of these planets and we're able to monitor thousands of them right now so we have quite a few to choose from in these studies.

JOHN DICKSON EDITORIAL

There are a few intermediate steps we have to take before we can find a home on another planet. Step one is the space station and Jeff Williams plays an ongoing going role in that. His career has taken him

from test pilot to astronaut and onto a staff position at NASA where he now integrates international partners, overseas training programs and assigns crew to the International Space Station.

Jeffrey Williams:

Yeah, I'm very grateful in the outworking of providence that I found myself in this place ... this time in history. The entire career really spanned the development, the building and the implementation of the International Space Station program. So, we launched the first element in 1998. I was very much in the ... by that time, I had my initial training done from '96 and I was very much involved in the development of the ... the final development of the space station elements.

And then my first flight was in 2000 when the station was in its infancy. There were only two modules there. It was before the first permanent expedition was launched by about six months or so. So, my first exposure to the space station in orbit was really before we put a permanent crew on it. So very early. The next time I came back was for six months and that was about halfway through the building of the space station. It was after the Columbia accident. The space shuttle was grounded. We had gone to a minimum crew. So, we were a crew of two. So, my crewmate was a Russian and, during those years, we had one Russian, one American on board just to sustain the station while we got the space shuttle flying again to resume assembly.

And we resumed the flying of the shuttle during that stay in 2006 and began assembling the station again. And then I went back in 2009 into the spring of 2010 and we essentially finished the assembly during that time. So, there I was in the first exposure right at the beginning and then halfway through the assembly and then at the end of the assembly. And then in 2016, it's in its full operational mode. All of the international partners are participating and involved. We got supply ships coming and going. The experimental load is significantly increased. So, I've been very blessed with having the span of my career, really cover the entire story of the International Space Station. And the international is key, a key element of that too, which you might get into that's been just as interesting and intriguing and fascinating as the technology of space flight itself.

JOHN DICKSON EDITORIAL

The space station is, of course, a political endeavor as well as a scientific one. It's part of a new space race, not to the moon, but to Mars. Dozens of unmanned orbiters, landers and rovers have been sent to Mars by the United States, the former Soviet Union, now Russia, Europe, India, and the United Arab Emirates. In May this year, right in the middle of our worldwide pandemic, China landed their Tianwen-1 rover on the surface of the red planet. It's part of a huge series of projects of the China National Space Administration.

In June, China launched the first stage of its Tiangong space station, which by 2022 is set to be the world's second long term home for humans in space. According to Jeff Williams, these orbital space stations have always been the key to humanity reaching out to other planets. In fact, back in the 1950s, it was NASA's ambition to build a space station first and then use that to get to the moon. But the Soviet Union got into orbit first in 1957. That's when the cosmonaut Yuri Gagarin famously remarked, "I looked and looked and looked, but I didn't see God." Well, that's the story, anyway. I'm not sure anyone actually

verified it. But the success of the Soviet Union is certainly what put pressure on President John F. Kennedy to pull a rabbit out of the hat or a rocket out of Cape Canaveral.

Jeffrey Williams:

He needed a short-term political victory, and the intelligence suggested that we would be neck and neck with putting together a space station, but we had a really good opportunity to win the development of our moon rocket with the Soviet Union, and get to the moon for the first time. To beat them to the moon. So that was the race to the moon, the space race of the sixties, which everybody's very familiar with. The intelligence was correct. We developed the Saturn V and all of the elements necessary to leading up to the moon launch. Of course, we had the tragedy of the Apollo 1 fire and lost that crew. That was a setback, but still the schedule made the end of the decade there, [inaudible 00:21:26] 1969.

In parallel with that, the Russians were developing their N1 moon rocket. They had a catastrophic explosion of that prototype, the first rocket on the launchpad. They gave up the race at that point and focused on space station so we won the race to the moon. And then after that, all the political support kind of went away. But out of that came, "Okay. Yeah, we're going to develop the space shuttle." The whole purpose of the space shuttle, and many people didn't realize it for many years, was to put up a space station. But we didn't get to the space station until ... the first federal flight was 1981. The space station began launching elements in 1998. Long time. And Space Station Freedom was in development in the eighties. Reagan announced it in '84. Couldn't get political support. Again, it didn't get the support it needed until the Soviet Union fell apart and then we brought them on as a partner.

But it went back to that original vision of getting a space station up. Now what's the purpose of the space station? The International Space Station, I say, has three primary products, I think. One is it's an orbiting laboratory. I think that's the obvious one to most people. So, we're doing lots of science and research across the spectrum of science. A big component of that is human research. We're learning what the environment does to the human body so we can develop countermeasures so that ... then we can go farther and safely, because when we send a crew out, we want them to return safe, and we have to develop countermeasures to be able to do that in a reliable way, in a sustained way and protect the crew members.

Reliability is a big problem. It's new technology. The technology has to work. It has to perform the way it's designed and it has to be reliable. It can't fail. And we have failures all the time on the space station, but it's designed to be able to supply replacement parts and then we fix things and keep them going. The space station is very difficult to supply. Even in earth orbit, 250 miles above the earth, launching rockets to get supply ships there. Well, it's going to be an order of magnitude more difficult than the moon and way beyond all of that in difficulty in Mars.

So, the space station is a platform where we can develop the technology. And primary example that I can give is life support systems. They have to perform well and they have to be reliable. You can't fail. If they fail, then the crew is in danger. So, the space station is the perfect platform to develop that new technology, to get the performance and the reliability that we need to go to the moon and eventually on the Mars.

JOHN DICKSON EDITORIAL

The moon, then Mars, and then beyond. Tech billionaire, Elon Musk, who owns SpaceX, is already planning a self-sustaining city-like colony on Mars by 2040. He reckons it's essential humans reach for Mars and beyond before we encounter some kind of extinction event.

Elon Musk:

There's likely to be another dark age, which it seems, my guess, is there probably will be at some point. I'm not predicting that we're about to enter a dark age, but that there's some probability that we will, particularly, if there's a third world war. Then we want to make sure that there's enough of us, of a seed of human civilization somewhere else, to bring civilization back and perhaps shorten the length of the dark ages.

JOHN DICKSON EDITORIAL

For some, then humans living on other planets isn't just a scientific dream, it's a practical necessity. As Musk puts it, we need to be laser-focused on becoming a multi-planet civilization. But here's the thing. What if we arrive and find we're not the first? Then the dilemmas will get very interesting. And one of them is, what does that mean for traditional religions like Christianity and their apparently singular focus on earth and its inhabitants? Whatever their practical problems, the spiritual problem is real. So, let's talk about that after the break.

SPONSOR BREAK: Zondervan

This episode of Undeceptions is brought to you by Zondervan's new book, *A Theology of Paul and His Letters*, by Douglas J. Moo. The Apostle Paul is one of history's most formative thinkers and writers, and many regard him as the true creator of Christianity, someone who took Christianity away from Jesus. I'm not sure that's right and I think this book will give you a great grounding in genuinely understanding the Apostle Paul. Doug Moo is the guy to speak to. He is a wonderful commentator on Paul's letters. I turn around on my bookshelf right here, and I have several of his books just sitting there and we are interviewing him for a whole episode, just coming up pretty soon. So, I'm pretty excited about that.

But this new book, *A Theology of Paul and His Letters*, is a landmark study of the Apostle's writings. And it brings Moos vast insight from over 30 years of studying, teaching and writing about Paul into a comprehensive guide that is set to be the go-to resource on Paul for years to come. It's not a beginner's guide. This is genuinely for the nerds, so hopefully lots of you. It's a real intensive look at the theology of Paul, letter by letter, exploring the key themes like justification, grace, the new perspective on Paul, which is actually pretty old now, and the necessary transformation Paul expected of true believers. This is a one stop shop on the Apostle Paul and it's available now at Amazon or just go to zondervan.com.

SPONSOR BREAK: Anglican Aid

Edina's father worked hard in a northern Tanzanian gold mine to earn enough money to send her to school. But in 2018, her father died in a tragic mine collapse and the task of providing enough money for Edina to go to school fell on her mom. Her mom sells bread and sweets at a local market stall in Bunda District in the Mara Region of Tanzania. But the income from the store is barely enough to feed the

family, let alone send Edina to school. And it's circumstances like these that stop girls all over Tanzania from getting an education.

Let's redress that. Anglican Aid has been supporting a secondary school for girls in Bunda since 2013, offering quality education regardless of economic circumstances. It's a happy and safe environment for girls to live and learn. And with the help of Anglican Aid, Adina was actually able to get back to school and continue her education at Bunda Girls Secondary School, despite everything her family had gone through. You can help girls like Adina to finish school by supporting the work of Anglican Aid. I know these guys personally. I trust them. So please go to anglicanaid.org.au. That's anglicanaid.org.au to support their wonderful work.

JOHN DICKSON EDITORIAL

Aliens. How might they present themselves? Assuming they don't just arrive on the Starship Enterprise, whatever that is.

TAPE: SPOCK

I prefer the concrete, the graspable, the provable.

You'd make a splendid computer, Mr. Spock.

That is very kind of you, Captain.

Deborah Haarsma:

We all think ... we want to find Spock. Right? Wouldn't it be fun to talk to Spock? That'd be great. But what's much more likely is that we're going to find bacteria. Single celled organisms. We know from the history of our planet, that single celled organisms arose very early in the history of our planet, not long after the planet cooled from its initial formation. And then it took billions of years before multi-cellular life arose. And then another many hundreds of millions of years before you get the kind of complex life that you'd be interested in. So, when we're looking at other stars, we kind of expect to first see this bacterial life. And we hope for something more interesting, but that's where we're starting.

JOHN DICKSON EDITORIAL

That might be where we're starting but some would argue that with trillions of stars in the heavens and billions of exoplanets exposed to similar conditions as those on earth, finding another intelligent species is a mathematical certainty. If nature obeys identical laws everywhere, then it follows that there must be other celestial cauldrons that have produced advanced life. Now, personally, I don't think anything exists by mere statistical likelihood. The Divine Will is what determines existence and non-existence, and that may well rule out life on other planets, or it may rule it in. But whether for mathematical reasons or metaphysical ones, some folks are pretty confident we will one day find someone or something out there to talk to.

Deborah Haarsma:

So first of all, it will be a slow conversation. That's another thing assumed in science fiction, that you can overcome all of the speed of light travel time. The nearest extraterrestrial planet is just over four light years away. So, light has to travel there and back. That's eight years from us sending a signal, maybe it's a radio signal, so radio is another form of light, it takes time to travel there, and then they have to come up with their answer and send it back to us. So, it's a very slow conversation. And then there's the translation issue. I don't know if you saw the movie Arrival. It was a great science fiction movie, and it had aliens coming to earth and lots of challenges of communication. It turned out they communicated in these visual patterns that did not follow linear time the way we think of it.

MOVIE TAPE: Arrival

Everything you do in here, I have to explain to a room full of men whose first and last question is, "How can this be used against us?"

Kangaroo.

What is that?

In 1770, Captain James Cook's ship ran aground off the coast of Australia and he led a party into the country and they met the Aboriginal people. One of the sailors pointed at the animals that hop around and put their babies in their pouch and he asked what they were and the Aborigine said, "Kangaroo." It wasn't until later that they learned that kangaroo means I don't understand.

INTERVIEW CONTINUES

Deborah Haarsma:

I really liked that, how they thought through the translation issues and really getting in the mindset of a completely other sort of creature. Another book that I've really liked is the books of Mary Doria Russell, and she describes the space journey of a few Jesuit scholars and a few others who go along with them and traveling to ... first detecting an intelligent signal from another planet, and then traveling there and meeting them, and seeing how God related to them, exploring some of those questions, and talking a lot about what God was doing in the lives of these people as their journeying there.

And that was so encouraging and fascinating to read because so much science fiction just assumes there is no religion. And for me, as a Christian, a religious person, it's disappointing that so much science fiction just assumes that the only religion might be some native tribe religion that's very primitive and that the world religions of today become obsolete somehow. And that doesn't fit with my faith at all.

JOHN DICKSON EDITORIAL

So how does the Christian faith cope with the idea of extra-terrestrial life? Imagine we do discover rational life out there, or imagine if it first discovers us. What could my faith say to that? Well, that sort of depends on who it is we meet and what they're like. Imagine they're a race of intelligent beings that's weaker than we are. If our own experience is anything to go on, it doesn't bode well for them. Human history is a sad story of the strong oppressing the weak. Babylon or Rome crushing other nations into pretended peace. Vikings, raping and pillaging throughout France and England. Guys, we have to do a

show on the Vikings and their conversion to Christianity. It's something I've been reading about. I love it. Or think of our modern privileged West, sourcing our luxuries at the expense of the poor.

So, here's the thing. Would it be any different if we discovered vulnerable life on some far-flung planet? My Bible tells me, and experience tells me, probably not. Light years aren't enough to separate us from our own human nature. C.S. Lewis once wrote, "We are not fit yet to visit other worlds. We have filled our own with massacre, torture, syphilis famine, dust bowls and with all that is hideous to ear or eye. Must we go on to infect new realms?" All right, but what if we meet an alien race that was actually stronger than we are and what if they did a quick survey of human history and decided that we don't deserve to belong to the United Federation of Planets? Thanks to director Mark for the Star Trek reference, yet again. They decide to leave us banished in the universe and destroy any of us who attempt to go near them.

Then I suppose we'll get our just desserts. We will have faced the just judgment of God in space. But there are more possibilities and I think Christianity can cope with them. too. What if we meet a race that has no moral faults and therefore has no need of the salvation Christians cherish. Personally, I think that would be fabulous. I would quote the teaching of Jesus. It's not the healthy who need a doctor, but the sick. Assuming we didn't infect them, we'd have heaps to learn from them. How do we resolve conflicts? How do we love others as ourselves? These aliens would be a living Sermon on the Mount and we'd be better for it. Alternatively, we might meet a race that was every bit as mixed as we are. An inscrutable combination of selfish and altruistic.

In that case, while some might see aliens, Christians would see brothers and sisters, fellow members of the league of the guilty. They may, on the one hand, already have their own history of God's intervention and redemption, but if not, the church would have work to do. Again, C.S. Lewis thought about this and wrote, "We might meet a species which, like us, needed redemption but had not been given it. But would this fundamentally be more of a difficulty than any Christians first meeting with a new tribe of indigenous people? It would be our duty to preach the gospel to them for if they are rational, capable of both sin and repentance, they are our brethren, whatever they look like."

And I'm sure the theologians would be quick to chime in that the New Testament does, in fact, speak of Christ redeeming the cosmos, not just humanity. In Colossians 1 we read, "For God was pleased to have his fullness dwell in Christ, and through him to reconcile to himself all things, whether things on earth or things in heaven by making peace through his blood shed on the cross." I think I accidentally just gave you a five-minute Jesus. So, you can press play now.

Deborah Haarsma:

I can tell you how I answer that as a Christian. So, the Bible does talk about the specialness of humanity, of God's love for us and care for us. But the Bible actually, on the one hand, is very provincial. It's all focused on one little spot in the Middle East. It doesn't address the rest of the planet and it's all focused on the descendants of one family, the descendants of Abraham, and so the Bible's very local already. But the Bible's also very cosmic. In its claims about God's sovereignty over all creation it, and even of Christ's sovereignty, of Jesus Christ being present at creation and having a role in creating all things.

The passages describing this use just very cosmic and overarching language that suggests anything in this universe, whether it was known to the people in the Middle East at the time of writing or not, like the

whole shebang is all under God's sovereignty. So maybe people think, "Well, this scientific discovery, it might invalidate Christianity, because Christianity is just about the Earth." But I don't think that's what the Bible is teaching. I think the Bible is pretty clear that God is sovereign over all.

So, when we discover life out there, as a Christian, I would believe that God created it and therefore I would respect it and care for it in appropriate ways, not seek its harm, and probably desire to communicate with it if it was interested in communicating back. I would see it as a fellow creature. Now how that fits with some other theological things is another level but at a basic level, life out there is things that we can celebrate and be curious about and look forward to discovering because it is all God's creation.

JOHN DICKSON EDITORIAL

Professor Haarsma agrees with the atheist, Carl Sagan, who once said that space, exploration leads directly to religious and philosophical questions. I think most things do, but especially space travel.

Deborah Haarsma:

Yes, I think that's very true. And so, for scientists, sometimes it's easy to just jump from the scientific to these broader implications without really thinking it through. And so, we need the help of theologians, philosophers and just the broader public to think through some of the implications of what it would mean to discover life elsewhere. And of course, we need the great scientific evidence and discoveries as well. So, we need a better partnership and the kind of polarization we see in our culture today that divides science from religion is really going to hamper questions like this, where you really want them to be coming together to get a better, more robust answer that will make sense for all of humanity.

JOHN DICKSON EDITORIAL

Colonel Williams also sees an unfortunate polarization of science and religion. He thinks it's, in part, motivated, not by the evidence of science, but by a desire to exclude God. The science itself only really bolsters his sense that there is a mind, personal intention, behind the universe.

Jeffrey Williams:

There is a cause, there's a first cause for everything we see. And when we get into the details, we see the intelligence in the logic, in the ordering in things ... in everything we see. I use mathematics as an illustration to demonstrate order. I use music as an illustration to demonstrate order. I use physics. The fact that we can launch a rocket from a place on the earth and we know precisely the moment we need to launch so that then nine minutes later, we're going 17,500 miles an hour, and hours or a couple days later, we're rendezvousing with another spacecraft going 17,500 miles an hour. And we dock going about a couple inches per second or so at that relative speed. We can only do that because of the order in God's creation.

Well, all of that, and I'm not even getting into the biology of life and all of that, I mean, we could go on forever and ever, but all of it screams of a first cause. An intelligent cause. So that's God. And you see headlines over the years, occasionally, that the possible evidence of life discovered on Mars or possible evidence of life discovered on a rock found in Antarctica, which is a meteorite that came from Mars. And

these are all ... one theory, hypothesis upon another, upon another, upon another. And it's all motivated because we have to show that we're here by chance to rule God off the stage.

JOHN DICKSON EDITORIAL

Colonel Williams point isn't that we can find God hidden in some far corner of space. That's the error of logic in the statement I mentioned earlier often attributed to the Russian cosmonaut Yuri Gagarin. "I looked and looked and looked, but I didn't see God." There's reason to think he didn't actually say that or even think it. He was apparently a believer of some kind, but the Kremlin did use his orbit in its propaganda against religion. I've seen a poster from the time that depicted Gagarin in space with the bold words written underneath [foreign language 00:43:13]. There is no God. We'll put that poster in the show notes.

Anyway, the whole concept is just dumb. If you found a god in space, it just wouldn't be the god that classical philosophy and religion have been talking about for all these millennia. God is not a super being within time and space, like Thor or Ra or Hercules. God is the reason for time and space. God is like the author of a story, not a character in the story. God is the architect of the house, not a magic wardrobe hidden in the attic. Colonel Williams is saying, rightly, I reckon, that it's the order, the mathematics, the comprehensibility of the material universe that point to the glorious author and architect of everything. Space exploration should inspire our awe toward God, but it won't bring us any closer to seeing God.

TAPE: APOLLO 8

Contact right. Okay. Engine stopped. Houston, Tranquility Base here. The Eagle has landed.

Roger.

JOHN DICKSON EDITORIAL

Edwin Buzz Aldrin, the second man to walk on the moon, took communion in outer space. He said, "I wondered if it might be possible to take communion on the moon symbolizing the thought that God was revealing himself there too, as man reached out into the universe. For there are many of us in the NASA program," he went on, "who do trust that what we are doing is part of God's eternal plan for man." And on his journey from the moon to earth, Buzz read allowed the words of Psalm 8. "When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained. What is man that thou art mindful of him? And the son of man that thou visitest him?" Or a reading of Genesis 1 from Apollo 8.

TAPE: APOLLO 8

We are now approaching lunar sunrise, and for all the people back on earth, the crew of Apollo 8 has a message that we would like to send you. In the beginning, God created the heaven and the earth and the earth was without form and void and darkness was upon the face of the deep, and the spirit of God moved upon the face of the waters, and God said, "Let there be light," and there was light. And God saw the light, that it was good and God divided the light from the darkness.

INTERVIEW CONTINUES

Jeffrey Williams:

Both my wife and I came to faith in the late 1987, early '98 timeframe. And it was a profound transformation, a profound change in perspective of our life, philosophy of life, with a growing focus to prioritize our life to serve Christ and to faithfully live out our lives within our family, within our marriage, of course, raising our kids, but also vocations. Whatever opportunity ... of course I was serving in the army at the time, still with all these goals and aspirations. And you might think that, well then, at that point, your goals and aspirations shift. A lot of people think, "Oh, okay, I got to go off now and serve in the church and do that full time and serve in the mission field."

But my goals and aspirations didn't change, but I think the motivation for those goals and aspirations changed significantly. So, I entered into the opportunity with NASA with a very strong and growing sense of calling. If you're informed with the record of the creator's work in creation from the Bible and you believe it to be true, and I do, then you see really what you see through all of life, but particularly you see that view of the earth through that lens, through the lens of scripture. You can explain all of the history of civilization, all the technology and engineering through that lens. The other aspect is space flight, human space flight, is a very humbling thing.

We are very dependent on things working. That's a good thing. That's a proper thing. That's an appropriate thing because it's so hard to do this. And because lives are at stake, it inherently keeps us corporately pretty humble as we approach these things. And occasionally we're humbled. We were humbled with the Challenger accident. We were humbled with the Columbia accident and we were humbled, even before that, with the Apollo 1 fire. And we've had close calls throughout the history of the program, and those are humbling experiences. It brings us back to our senses that we realize our dependency upon many things. Ultimately, we're dependent upon the grace of God.

JOHN DICKSON EDITORIAL

Dependence on the grace of God. It's a wonderful discovery, whether here on earth or in outer space.

JOHN DICKSON WRAP UP

If you like what we're doing, spread the word by picking up an Undeceptions t-shirt from the store or leave a review over at Apple Podcasts. Remember the best written reviews, whether they're positive or negative, get a free copy of Bullies and Saints. And if you really like what we're doing, please consider donating through the website. Every little bit helps. Just in the last few days, I can see that listeners have sent us \$65, \$10, \$970, my goodness, thank you, \$29 and so on. Thanks to every one of you.

I don't know if it sounds like it, but each episode of Undeceptions costs roughly \$3,000 to produce and, by the way, I don't personally take a cent. And we're really hoping to break even over the next few seasons. We're on track, but there's a bit of a way to go. So please head to undeceptions.com and click donate. And while you're there, send us a question. Even if it's just to ask, "How on earth does this thing cost \$3,000 an episode?" And I'll try answer it later in the season.

Next episode, we're giving you a crash course in the almost 500 years between the end of the Old Testament and the beginning of the New. Some have called this period silent, at least spiritually speaking, but it's so full of action and reflection that we found it hard to keep to our time limit, whatever that is. This is when you find the likes of Alexander the Great, the Maccabean Revolt, the origin story of the Pharisees and Sadducees and the rise of the synagogue, the precursor to church. And our guest reckons, if you are not across what happened in this inter-Testamental period, you're going to miss quite a bit in the New Testament. But don't worry, we've got you covered. That's up next.

CREDITS

Undeceptions is hosted by me, John Dickson, produced by Kaley Payne and directed by Mark Spock Hadley. Editing by Richard Hamwi. Special thanks to our series sponsor, Zondervan, for making this Undeception possible. Undeceptions is the flagship podcast of undeceptions.com, letting the truth out. An Undeceptions podcast.

OUTTAKE

John Dickson:

So how does the Christian faith cope with the idea of extra ... So how does the Christian faith cope with the idea of extraterrestrial, extraterrestrial, extraterrestrial?

Mark:

You could just say alien.

John Dickson:

No. Extraterrestrial. Terrestrial.

Mark:

Terrestrial.

John Dickson:

So how does the Christian faith cope with the idea of extraterrestrial life?

Mark:

Yeah.

Kaley:

Extra ... I can't say it.

Mark:

Extraterrestrial.

John Dickson:

Yeah. Just because it's your favorite word?

Mark:

Yeah, yeah, yeah. I use it at least three times a day.