

CREATOR

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NUMBER 2

EYES ON PLUTO

For Your righteousness, O God, reaches to the heavens, You who have done great things; O God, who is like You? (Psalm 71:19).

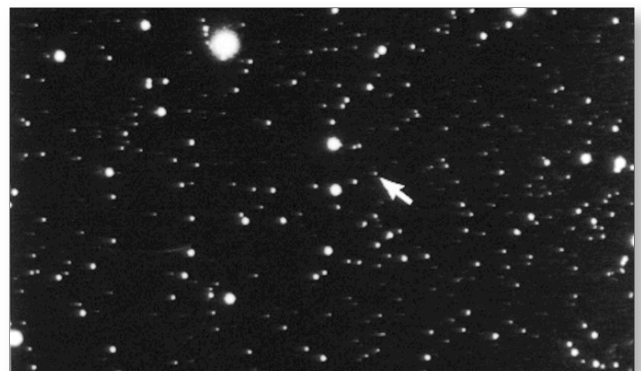
OUR ALL-SEEING GOD

Have you ever lost something you prized very much? I suppose that most folks have at one time or another. You check every tabletop and every room, but despite your best, most concentrated efforts, you simply cannot find the thing you misplaced. All the while, God knows exactly where it is. Sometimes, I imagine, He allows us to search in vain, so that we might turn to Him and ask for help.

Our vision and our knowledge are very limited compared to God's; after all, we cannot normally peer through solid objects or see great distances as He can. He perfectly perceives all things at all times with infinite clarity. There is nothing in the universe hidden from God's sight. He does not, for instance, need to strain His eyes to view far-off Pluto. We, on the other hand, must send a spacecraft to Pluto if we expect to get a glimpse of this most remote world.

WHAT CLYDE SAW!

Over the past several hundred years, Jesus has helped us to look into the far reaches of His universe and experience the wonders of His creation. In 1930—through the humble and tenacious efforts of Clyde Tombaugh—a 24-year-old young man from Streator, Illinois—a new planet was revealed to mankind. He had been hired in 1929 by the Lowell Observatory in Flagstaff, Arizona to search for Planet X,¹ the mysterious planet predicted to be beyond the orbit of Neptune. Mr. Tombaugh used a 13-inch telescope to methodically survey the heavens. He faithfully took photographs—each exposed to the night sky for an hour or more in order to pick up faint pinpoints of light. Clyde then spent hours each day examining and comparing



¹ Despite intense efforts, Planet X has never been found.

Photograph taken by Clyde Tombaugh in 1930—arrow points to Pluto

photos from different nights. He was looking for the movement of nonstellar objects among a myriad of stars. Each of his photos contained 50,000 to 900,000 stars, so we can only imagine the herculean concentration Clyde Tombaugh must have possessed to detect any small shift in the position of these celestial bodies. Finally, on February 18, 1930, after ten months of intense effort, he noticed a slight movement of a distant object while examining two plates—one from January 23 and the other from January 29. There it was! A tiny, previously unknown planet moving against a backdrop of fixed stars. Pluto had been discovered; it was officially named on March 24 of that same year.

STRAINING TO GET A PEEK

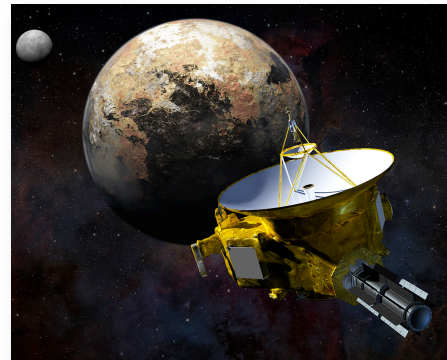
The astronomer strains, like a near-sighted student, to see the outer planets, stars, and galaxies of the universe. Powerful Earth-based telescopes have become the “corrective lenses” that permit scientists to peer deep into the universe. Yet, when we point our best telescopes at a world as small and far away as Pluto, we get only a tiny, fuzzy image.

Lord willing, in July of this year (2015), our Creator, Jesus Christ, will permit us to get a closeup of this world, something we’ve longed to do for the past 85 years. Never have we gotten a good look at this dwarf and distant planet . . . but it’s not for a lack of trying. A few years back, the Hubble Space Telescope (HST) focused its gaze at length upon Pluto. The light that Hubble gathered from Pluto was so faint² that it took 20 computers operating continuously over four years to produce a blurred image of this tiny planet.

² The light coming from Pluto was “equivalent in brightness to a candle seen from a distance of 300 miles (480 km).” Alan Stern and Jacqueline Mitton, *Pluto and Charon: Ice Worlds on the Ragged Edge of the Solar System*, (Wiley-VCH: Weinheim, 2005).

“NEW HORIZONS”

In order to get a good look at Pluto we *must* send a spacecraft there. This has been the hope of engineers and astronomers since the late 1980s. Many Pluto missions were proposed over the course of the ensuing years and just as many were canceled by NASA for various reasons. These cancelations often centered around financial constraints and political realities. Finally, in 2003, a planetary mission dubbed “New Horizons” was approved by NASA, and a half-ton spacecraft was built.



Artist's drawing of *New Horizons* approaching Pluto

New Horizons is about the size of a piano—small compared to other planetary probes, such as, Voyager 1 and 2, Galileo, and Cassini. Yet, her miniaturized instruments have all the sophistication of a larger spacecraft. The diminutive size seems to be in keeping with the petite planet she will be visiting. *New Horizons* was launched into space on January 19, 2006 atop a powerful 20-story-tall Atlas V rocket, and set a record for the fastest manmade object ever to leave Earth’s orbit with a velocity of 36,373 mph (58,536 km/h). Thirteen months later, she received a gravity boost as *New Horizons* flew by the massive planet Jupiter, increasing her speed 9,000 mph (14,000 km/h). While in the Jovian system,³ the space probe was able

³ The Jovian system consists of Jupiter and its 67 confirmed moons.

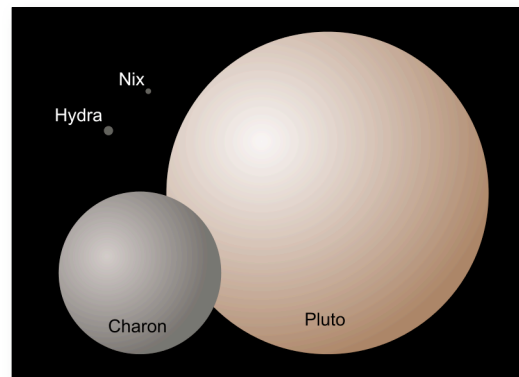
to try out her cameras and instruments.

Now, after three billion miles (five billion km) and nine years, *New Horizons* is ready for its July 14 encounter with Pluto. Using cleverly designed scientific investigations, we have learned much about the original ninth planet over the past 85 years. Yet, the information we will gather from Pluto this summer will outstrip everything we now know about this icy, distant world! This is an extremely exciting time for space exploration, for it is unlikely that we will again visit Pluto in our lifetime.

WHAT DO WE KNOW?

What will Pluto reveal to us about the greatness of its Creator, Jesus Christ? Whether most folks realize it or not, that's the big question. So, let's review what we already know about Pluto. Eighty-five years of intense study by Earth-based scientists has gleaned much:

- Pluto is 1,500 miles (2,400 km) across.
- Pluto is so small and distant from Earth that it is like trying to view a walnut from 30 miles (48 km) away.
- Seven moons in our Solar System exceed Pluto in size (including our own moon). If its surface was laid flat, it would be about the same size as Russia.
- Although considered a dwarf planet, five moons have been discovered orbiting Pluto (date of discovery in parenthesis)—Charon (1978), Nix (2005), Hydra (2005), Kerberos (2011), and Styx (2012). These moons orbit Pluto along *very precise* paths, revealing the utter genius of our Maker.
- Pluto's largest moon, Charon, is half the diameter of its parent planet. If you stood on the surface of Pluto, Charon would appear about four to seven times bigger than our own moon does from Earth.



Relative sizes of Pluto and its three largest moons

- One side of Pluto and one side of Charon always face each other.⁴
- A 150-pound person would weigh only 10 pounds on Pluto.
- The surface of Pluto is partly covered by ice, but this ice is unlike anything found on Earth. It is believed that frozen nitrogen, mixed with small amounts of carbon monoxide and methane ice, blankets large areas of this miniature world.



This drawing shows what Pluto's surface might be like—Pluto's moon Charon is near the horizon, while the Sun appears as a large star.

- Its thin atmosphere expands outward some 190 miles (300 km) from the surface as Pluto's orbit brings it closer to the Sun.

⁴ Charon was discovered in 1978 by astronomer James Christy. He named Pluto's largest moon after his wife Charlene (combining her name with the "on" of proton). The name was accepted by the IAU because by chance Charon also happens to be a name associated with the underworld of Greek mythology. This was not Christy's original reason for choosing this name, and Charon's connection to the underworld probably forced him to do some fast explaining to his wife!

- Pluto is the coldest planet (as far as we know). The average surface temperature on Pluto is -385° F (-235° C). The coldest temperature ever recorded on Earth is -128° F (-89° C) at the Soviet Vostok Station in Antarctica.
- Cold and “warm” regions on Pluto may help generate strong winds near its surface.
- A day on Pluto lasts 6.4 Earth days, so the Sun rises and sets about once a week.
- Pluto orbits the Sun once every 248 Earth years.
- Like Venus and Uranus, Pluto spins around its axis in the opposite direction of Earth’s rotation around its axis, so the Sun rises in the west on Pluto.
- The Sun is at least 1,000 times dimmer on Pluto than on Earth, placing Pluto into a perpetual “dusk.”
- Pluto is thought to be composed of 65% rock and 35% ice, making its composition similar to that of a comet.
- Pluto is so far away that radio signals from the *New Horizons* probe take four and a half hours to reach Earth.
- Pluto is tipped on its side 120° , much like the planet Uranus, which is tilted 90° .
- Some astronomers classify Pluto and Charon as a double planet system (rather than a planet and moon).

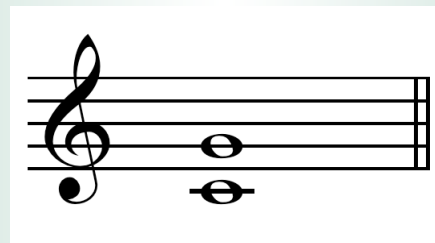
A PERFECT FIFTH

To our astonishment, Pluto is in an almost perfect 3:2 orbital resonance with the planet Neptune. What does this mean? For every three times Neptune orbits the Sun, Pluto orbits twice. Which also means that Neptune and Pluto can *never* crash into each other despite the fact that their orbits cross paths. Who other than our Lord Jesus could orchestrate such precision? Commenting on

this 3:2 orbital synchrony between Neptune and Pluto, Alan Stern—principal investigator for the *New Horizons* mission—remarks, “What wonderful machinery! No Swiss watch could be so fine.”⁵

In music theory, a 3:2 harmony is known as a *perfect fifth*. Could this 3:2 synchrony between the orbits of Neptune and Pluto represent a type of divine performance or “celestial dance.” If so, then something truly astounding jumps from the pages of history. The perfect fifth frequently shows up in *sacred Church hymns* of the past, especially during the Medieval period prior to 1500. Might Pluto and Neptune be singing their own type of “sacred music”—a performance that magnifies the creativity of Christ—repeating itself every 500 years?

A Perfect Fifth



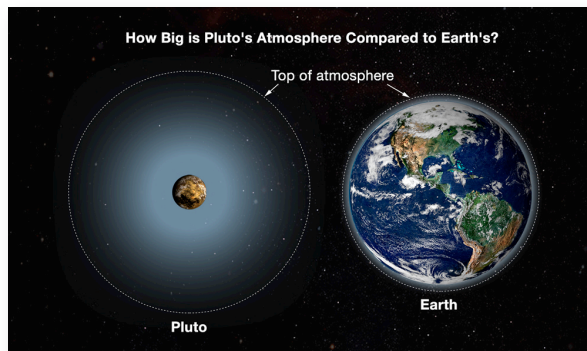
“In music theory, a perfect fifth is the musical interval corresponding to a pair of pitches with a frequency ratio of 3:2, or very nearly so.” Wikipedia

Sing, O heavens, for the LORD has done it; shout, O depths of the earth; break forth into singing, O mountains, O forest, and every tree in it! For the LORD has redeemed Jacob, and will be glorified in Israel (Isaiah 44:23 ESV).

⁵ Alan Stern and Jacqueline Mitton, *Pluto and Charon: Ice Worlds on the Ragged Edge of the Solar System*, (Wiley-VCH: Weinheim, 2005).

LIVING ON PLUTO

If you lived on Pluto, night would last 76 hours (more than three Earth days). Considering how cold Pluto is, this extended darkness would make life there intolerable. But even if you could endure such long nights, there would be no oxygen to breathe. Pluto's tenuous atmosphere consists largely of nitrogen with a wee bit of carbon monoxide and methane gases



Even though Pluto is a small planet, its atmosphere extends outward from the surface a great distance.

(both poisonous) mixed in. It is thought that Pluto may also be covered in highly volatile chemicals, such as ethane and acetylene. This is indeed an extremely harsh, alien, and inhospitable world. Though fascinating from a scientific point of view, Pluto also reminds us how wonderfully warm and wet and comfortable Earth is compared to the other planets. Here on Earth, our Creator, Jesus Christ, cares for people through all the living things He provides for our nurture and enjoyment.

WHAT GOD ALREADY KNOWS

God is already at Pluto (Ephesians 4:10) waiting, as it were, for us to arrive. And when we do, I hope we will ask ourselves, “Do we see Christ’s glory in what He has made here? What does Pluto teach about God’s character? And what does it reveal about ourselves?”

God does not “see” Pluto from a distance, as we do. He is present at Pluto every bit as much as He is here on Earth, sustaining each world by His powerful word (Hebrews 1:3).

Jesus knows what is happening in every star and every atom in the universe because, as God, He is everywhere present and active at all times. Theologians call this attribute of God’s character His *omnipresence* (*omni-* is the Latin prefix that means “all” or “every”). God is also *omniscient* (*om - NISH - unt*), which means that *He knows all things*. It is His omniscience that describes Christ’s ability, as the Second Person of the Trinity, to see—past, present, and future. Christ’s omnipresence and His omniscience are perfectly united to one another. Being everywhere present in time and space, Jesus knows all that takes place in the universe.

Divine omniscience is both terrifying and comforting. Our Lord *sees all* the sins we commit (Jeremiah 32:19). And if we love Jesus, He *intimately feels* the pain of each and every struggle we face, day by day! So, please allow the reality of Christ’s infinite knowledge to move you away from wickedness and to bring peace to your heart. He sees your doubts, fears, and anxiety, and He cares for you (1 Peter 5:7).⁶

PLUTO AND GOD’S JUDGMENT

Is it a coincidence that the ninth planet was given the name Pluto? “Pluto” is the pagan term for the ruler of the underworld—a dark, foreboding place of eternal judgment. God’s control over all of human history—His absolute *sovereignty*—argues that Pluto was not named by accident. The IAU (International Astronomical Union) stipulates that all planets and moons in our Solar System must be designated by a Greek or Roman mythological character. Interestingly, it

⁶ “He sees you . . . as much as if there were nobody else in the world for Him to look at.” C.H. Spurgeon

was an 11-year-old schoolgirl from Oxford, England who first suggested the name Pluto, and it stuck with the scientific community. The Plutonian system—including Pluto’s five moons—is as follows:

Pluto—Roman “god” of the underworld

Charon—the boatman who ferried the dead across the river Styx to face Judgment

Nix—(Nyx in Greek) “goddess” of darkness

Hydra—(Greek) a many headed serpent

Kerberos—a dog that guarded Hades or Hell

Styx—the river leading to the underworld

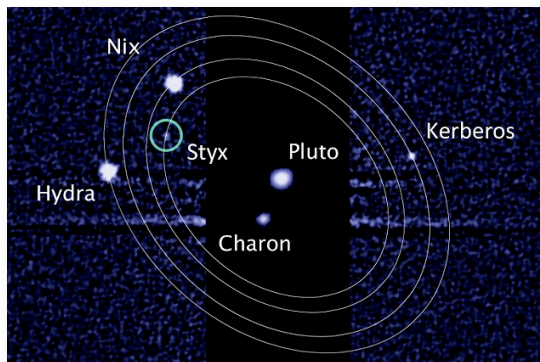


Photo taken of Pluto and its five moons on July 7, 2012.

When I think about these names, I get shivers down my back. Though they represent *fictional* places and characters, they also point to *the reality of Hell*. Might the naming of the Plutonian system be our sovereign Lord’s not-so-subtle reminder that, like *New Horizons’* encounter with Pluto, our encounter with His Judgment Day is fast approaching? Pluto is a place of “outer darkness”—it receives only 0.1% of the sunlight that falls on Earth. Even if someone could live there, surely its inhospitable environment would prove utterly miserable for any inhabitant.

With Christ’s mercy pulsing through our veins, let us fervently pray that God would use the *New Horizons* encounter with Pluto to spur on others to seriously consider His coming judgment. After all, our Creator does not take pleasure in the death of the wicked

(Ezekiel 33:11). And may July 14 be a day of celebration for those of us who know Christ, because Jesus *is coming soon* “to judge the earth. He will judge the world in righteousness and the peoples in His faithfulness” (Psalm 96:11-13). All creation rejoices in this (vs. 11-12); let us rejoice with creation!

*You caused judgment to be heard from heaven;
The earth feared and was still when God arose to
judgment, to save all the humble of the earth.*

Psalms 76:8-9

CHRIST’S GREAT LOVE

If Pluto speaks to “outer darkness,” (Matthew 8:12), and mankind is at the brink of God’s judgment, how do we then escape the terror of Hell and the fiery lake of eternal destruction (Revelation 20:10-15)? We need to believe that, as God, Jesus created all things (Colossians 1:15-17) and, as a man, He died a horrible death on a cross to redeem His people from sin’s slavery. His blood paid the infinite debt (due to sin’s infinite offense) owed to His infinitely holy Father. Jesus also rose from the grave by the unlimited power of His being and, because of His great love, lives forevermore to intercede before His Father on behalf of His own (Hebrews 7:25). If you are His, then please be comforted that, unlike us, Jesus *never loses anything*. Everyone who belongs to Him (John 10:28) will be saved from His wrath.

We beg you, please believe in Christ and repent of your sins, so that you might be rescued from eternal judgment and outer darkness. “Lord Jesus, please lead the one who reads this to trust in You. Amen.”

*. . . there is salvation in no one else; for there is
no other name under heaven that has been given
among men by which we must be saved.*

Acts 4:12

SEEING CHRIST'S FACE

At Pluto, what excellencies of Christ will we see? As the Master Carpenter of the universe, everything He has created radiates something of His glory. I am convinced that Pluto will simultaneously reveal God's matchless beauty and awful terror if we have eyes to see. Beauty to the one who adores Him, and terror to the one who does not.

But when we get to Pluto, will we recognize the wonder of God's character imprinted upon this distant world? Or will mankind take pride in its own discovery? I dearly hope it is not the latter! How can we brag before God about a world He made and knows inside and out? Should we not rather thank Him for the privilege of the experience?

In Psalm 80, Asaph beseeches the Lord to make His face once more to shine upon Israel. But does God really ever turn His eyes from His own people? Is it not we who divert our eyes from the beauty of Christ and become enthralled by the lesser beauties and allurements of this fallen world? We, like Israel, greatly dishonor God when we find the things of society more interesting and more satisfying than Jesus. To our shame, we fix our eyes on what is common rather than He who is *infinitely precious*.

"O Lord Jesus, we are guilty of being fickle. So often, we allow ourselves to be satisfied by something in our lives apart from You. Please forgive us and cause our eyes to be fully fixed on You—much like Mary, who riveted her attention upon You even as the others hurried around her (Luke 10:38-42). We are weak, and easily tempted. Show us Your beauty revealed at Pluto . . . and, yes, 'the fear of the Lord.' Give us a fresh view of Your priceless attributes reflected in this small world and its moons. Help us, as the prophet

urges, to 'Lift up [our] eyes on high and see' Your goodness and greatness! All for Father's glory and in Your precious name, Amen."

THE TRUE FACE OF PLUTO

What does Pluto look like? And its moons, how do they appear? Lord willing, the information and the images of Pluto now available will radically improve soon after we print this issue of **CREATOR**. But if we are to get this out to you before *New Horizons* arrives at Pluto on July 14, and stimulate in you a desire to observe this historic event, then it is necessary for us to present this issue to you incomplete.

So, we would like to ask for your help. Lord willing, in the coming weeks and months there will be many more images of this dwarf planet and its moons released to the public. Would you print out a select few and paste them into the blank boxes on the back page? Then you can take pride in helping display Christ's glory for others to see (Jeremiah 9:24). And would you then share this issue of **CREATOR** with your friends and family once you have completed its publication? Thank you so much!

Where can I go from Your Spirit? Or where can I
flee from Your presence? If I ascend to heaven,
You are there; If I make my bed in Sheol, behold,
You are there. If I take the wings of the dawn,
If I dwell in the remotest part of the sea,
Even there Your hand will lead me,
And Your right hand will lay hold of me.
If I say, "Surely the darkness will overwhelm me,
And the light around me will be night,"
Even the darkness is not dark to You,
And the night is as bright as the day.
Darkness and light are alike to You.

Psalm 139:7-12

Put your own
image here

Closeup image of Pluto from the *New Horizons* spacecraft

Put your own
image here

Image of Charon from the *New Horizons* spacecraft

Put your own
image here

Image of Nix from the *New Horizons* spacecraft

Put your own
image here

Image of Hydra from the *New Horizons* spacecraft

Put your own
image here

Image of Kerberos from the *New Horizons* spacecraft


Put your own
image here

Image of Styx from the *New Horizons* spacecraft

You can find photos of Pluto and its moons at
the following web sites:

<http://pluto.jhuapl.edu/>

http://www.nasa.gov/mission_pages/newhorizons/main/

For nothing is hidden, except to be revealed;
nor has anything been secret, but that it
would come to light (Mark 4:22). 



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