**Light of the Darkness**

**You change the night into day;**

 **and you bring forth the light before the darkness is over.**

***(Job 17:12)***

**Even though I walk through the darkest valley,**

**I fear no evil; for you are with me;**

**your rod and your staff – they comfort me.**

***(Psalm 23:4)***

**The darkness and the light are both alike to thee.**

***(Psalm 139:12)***

**The people who walked in darkness have seen a great light;**

**those who dwelt in the land of the shadow of death,**

**upon them has the light shined.**

***(Isaiah 9:2)***

**If then your whole body is full of light,**

**with no part of it in darkness,**

**it will be as full of light as when a lamp gives you light with its rays.**

***(St. Luke 11:36)***

**And the same light shines in darkness,**

**And the darkness does not overcome it.**

***(St. John 1:5)***

**For it is God who said, “Let light shine out of darkness,”**

**Who has shone in our hearts to give the light of knowledge**

 **of the glory of God in the face of Christ.**

**And, we have this treasure in earthen vessels.**

***(2 Corinthians 4:6-7)***

**It takes the human eyes an hour to adapt completely to seeing in the dark. Once adapted, however, the eyes are about 100,000 times more sensitive to light than they are in bright sunlight. *(David Louis, in Fascinating Facts)***

**During the first coast-to-coast airmail flight in 1921, Jack Knight flew the North Platte, Nebraska to Omaha to Chicago legs at night through snow and fog with navigational aid from farmers and postal workers who lit bonfires along the route. Previously, airmail letters were flown only during daylight hours and were offloaded on railcars for nighttime transit. *(American Profile magazine)***

**Animal rights groups in Canada are urging owners of high-rise buildings in Toronto to dim their lights at night to reduce the thousands of bird deaths caused each year by collisions with illuminated skyscrapers. The Toronto Wildlife Center and the Fatal Light Awareness Program said that 89 species of birds scraped off downtown Toronto sidewalks during the 2005 migratory season included thrashes, pigeons, blue jays, sparrows, woodpeckers, chickadees and hummingbirds. The groups cautioned that birds continue to fly directly into windows, crushing their skulls. Toronto Councillor Glenn De Baeremaeker has introduced a motion to encourage the use of bird-friendly glass, restrict “vanity” lighting and require additional light switches in buildings. *(Steve Newman, in Boulder Daily Camera)***

**Bioluminescence is more common among animals than it is among plants. There are some forty orders of animals, each of which has at least one species, or member, that produces light. Most of them are simple creatures, like earthworms, insects, and jellyfishes. The fishes are the only luminescent animals advanced enough to have backbones. No amphibians, reptiles, birds, or mammals light up. *(Francine Jacobs, in Nature’s Light, p. 10)***

**Among the plants, only the bacteria and the fungi, in addition to the dinoflagellates, produce light. Bacteria are thought to be the tiniest luminescent organisms. Some measure 1/20,000 of an inch and can be seen separately only under a microscope. Millions of luminescent bacteria must be present for their glow to be seen. The light does not flicker. It shines steadily all the time, night and day. *(Francine Jacobs, in Nature’s Light, p. 57)***

**The fire beetle may have changed the history of the New World. In 1634, when the English were about to land at night on the island of Cuba, they saw many lights. Mistakenly, they believed them to be torches held by Spanish forces already on the island. Deciding that they were greatly outnumbered, the English withdrew and sailed on. What they probably observed were the glowing lights of fire beetles. *(Francine Jacobs, in Nature's Light, p. 24)***

**The baya bird of India doesn't like the dark, evidently. With bits of moist clay it attaches fireflies to its nest. Am told the baya's nest at night looks like a street lamp*. (L. M. Boyd)***

**The Australians use camels to carry goods over dry barren land. When the camels journey down roads, to avoid accidents with vehicles approaching from the rear, they have lights attached to their tails called “tail lights.” (The Diagram Group, in Funky, Freaky Facts, p. 184)**

**Zion Narrows canyon in Utah is so narrow and deep that even in bright daylight stars are visible from the canyon bottom. *(The World Almanac of the USA, p. 304)***

**Scientists exploring the Caribbean Sea have discovered visible plant life growing abundantly at a depth of 884 feet. Specimens of the new plant that were retrieved and brought to the surface were found to carry out photosynthesis -- the vital process through which plants transform sunlight into energy and food -- under very dim light conditions. *(Rocky Mountain News)***

**In Waitomo Cave in New Zealand, in the deepest darkest parts of the cave, there are millions of tiny twinkling blue-green stars, a phenomenon that comes from the pulsing lights of the larvae of thousands of tiny gnats. *(Barbara Seuling)***

**Light pollution caused by city lights is now so prevalent that a whole third of humanity cannot see the bright smear of the Milky Way in the night sky, including 80 percent of Americans and 60 percent of Europeans. *(CNN.com, as it appeared in The Week magazine, June 24, 2016)***

**A call from a comet: Several months after shutting down because it landed in the shade, the European Space Agency's robotic lander Philae has "woken up" and phoned home. Philae was dropped onto the surface of a comet known as 67P/Churyumov-Gerasimenko by the agency's Rosetta orbiter last November. A bumpy landing caused Philae to bounce unpredictably before settling in a shady ditch. The lander's position kept sunlight from reaching its solar panels, and after transmitting data for 57 hours, the probe fell silent -- until this week. As comet 67P streaks closer to the sun, the lander's solar panels are capturing enough radiation to coax it out of hibernation. Philae has already sent back more than 300 packets of data, and 8,000 more are expected to follow, reports The New York Times. Had the Rosetta mission gone exactly as planned, Philae's solar panels would have overheated and shut down weeks ago. Thanks to its shady resting spot, however, the lander will be operational for the next few months, as Comet 67P approaches the sun and begins spewing dust and gases that will provide clues to the origin of the solar system. "The silver lining is that by not waking up until now, we're actually at a much more interesting time in the comet's life," says ESA senior science advisor Mark McCaughrean. "We're now seeing this beast burst into life." *(The Week magazine, July 3, 2015)***

**During World War II, Japanese soldiers used the remains of crabs so they could read maps at night without attracting attention. Tiny crabs that produce their own biological lights as the result of enzyme action were dried out and ground into a powder. When water was added to the powder held in the soldiers’ hands, a faint blue light was produced. *(Isaac Asimov’s Book of Facts, p. 259)***

**Crocodile: Embedded in his eyes are thousands of tiny crystals that collect all possible light, give him amazing sight underwater, even at night. *(Gordon Gaskill, in The Living World of Nature, p. 180)***

**Of those critters that live in the deepest ocean waters, nine out of 10 glow in the dark. So says a marine scientist*. (L. M. Boyd)***

**In depths where light does not penetrate, sea anemones, sponges, coral shrimps, prawns, and squids can produce their own light. *(Reader’s Digest: Strange Stories, Amazing Facts, p. 96)***

**The trickiest shot in the movie “Field of Dreams” was the ending, which showed hundreds of cars driving to the field. Phil Alden Robinson, the writer-director of the movie, had fifteen hundred locals drive their cars along the road, but because the long line moved so slowly, the shot wasn’t working. For the final take, Robinson flew with a cameraman in a helicopter, and he sent a message to the local radio station that was broadcasting instructions to the drivers out of Lansing’s farmhouse. He had all the drivers put their cars in park but flash their high beams on and off, which perfectly created the illusion of motion. *(Joe Garner, in Now Showing, p. 123)***

**Why fight in darkness and fear when you can turn on the lights? *(Christopher S. Bowlin)***

**Fireflies really have few natural enemies. If they get caught in a spider’s web, the spider will free them. Bats and night flying birds will not eat them. *(Ann Adams, in National Enquirer)***

**Some fish light up with a luminescence when they swim, but remain dark when still. An underwater photographer says schools of them hang motionless so they won’t be seen. But when spooked, they streak the depths with sudden light, creating a sort of deep sea fireworks. *(L. M. Boyd)***

 **When Benjamin Franklin wanted to introduce street lighting to the people of colonial Philadelphia, he did not lobby politicians, he did not publish editorials, he did not argue with those who disagreed with him. Instead, he simply hung a brilliant lantern on a long bracket in front of his own house. Every evening, as dusk approached, he faithfully lit the wick. People out in the dark night could see Franklin's streetlight from blocks away and were grateful to walk in its friendly glow. Soon Franklin's neighbors started putting lanterns on brackets in front of their own homes, and it wasn't long before the entire city was illuminated each night with street lamps. *(Richard & Mary-Alice Jafolla, in The Quest, p. 58)***

**Brightest galaxy discovered: Scientists have discovered the most luminous known galaxy in the universe, with "a monster quasar" at its center. This unimaginably brilliant galaxy -- shining brighter than 300 trillion suns -- is apparently powered by a super-massive black hole that voraciously sucks in gas and superheats it to millions of degrees, creating a beacon of infrared light. NASA's Wide-field Infrared Survey Explorer (WISE) spacecraft detected the distant galaxy some 12.5 billion light-years from Earth. Black holes are commonly found at the core of galaxies; massive ones radiating a lot of energy are called quasars. "The newly found quasar is a true behemoth -- billions of times the mass of the sun. It's also very old, dating back to the early days of the universe. Scientists theorize the black hole started out unusually large and went on a sustained binge of consuming surrounding matter that reached or even exceeded theoretical limits on how much it could swallow. As a result, the study's co-author Andrew Blain tells Smithsonian.com, the black hole grew at enormous speed and radiated huge amounts of light. "It's like winning a hot dog-eating contest lasting hundreds of millions of years," Blain says.. *(The Week magazine, June 12, 2015)***

**Billy notices the moon during the walk with his Mom and says to her: “God has His flashlight turned on to show us the way.” *(Bil Keane, in The Family Circus comic strip)***

**Goldfish will often turn white if left in a darkened room. *(Paul Stirling Hagerman, in It’s a Weird World, p. 20)***

**Go out into the darkness and put thine hand into the hand of God. That shall be to thee better than light and safer than a known way. *(M. L. Haskins)***

**Holiday Inn’s original “Great Sign” was a marvel of modern promotion. When Kemmons Wilson opened his first hotel, he wanted a symbol that would lure weary travelers from the highway. The winking Vegas-style lights and exploding gold star served as a beacon that promised clean, affordable, family-friendly rooms*. (Ryan Toepfer, in Tidbits)***

**It Came Upon A Midnight Clear: The hymn was written in 1849, a time preceding the Civil War when there was much tension over the question of slavery, the industrial revolution in the North and the frantic gold rush in California. The final verse looks forward optimistically to a time when all people will enjoy the peace of which the angels sang. *(Kenneth W. Osbeck, in Amazing Grace*)**

**There is not enough darkness in all the world to put out the light of one small candle: This inscription was found on a small new gravestone after a devastating air raid on Britain in World War II. In moments of discouragement, defeat or even despair, there are always certain things to cling to. Little things, usually: remembered laughter, the face of a sleeping child, a tree in the wind -- in fact, any reminder of something deeply felt or dearly loved. No man is so poor as not to have many of these small candles. When they are lighted, darkness goes away -- and a touch of wonder remains. *(Arthur Gordon, in A Touch of Wonder)***

**A man lost in the woods in Corvallis, Oregon, was rescued last week thanks to the glowing screen of his iPod. Pini Nou, 25, was on a mushroom picking outing when he lost his way. After darkness fell, he used his cell phone to call authorities, describing the landscape as best he could. Lacking a flashlight, Nou used his music player for light. At about 1 a.m., rescuers saw the light from the iPod and made their way toward it. The underbrush was so thick, it took them more than 20 minutes to reach Nou once they saw the glow. *(The Week magazine, December 1, 2006)***

**The name for the Halloween pumpkin comes from an old story that the Irish brought with them to America. The story is about a stingy old man named Jack. He was so stingy that when he died, he could not get into heaven. He was left in darkness. So Jack put a glowing piece of coal in a hollowed-out turnip. And he traveled with his “jack-o-lantern” as he looked for a resting place. *(Betty Debnam, in Rocky Mountain News)***

**As a boy Robert Louis Stevenson was intrigued by the work of the old lamplighter who went about with a ladder and a torch, setting the street lights ablaze for the night. One evening in Edinburgh, Scotland, as young Robert stood watching with childish fascination, his parents heard him exclaim, “Look, look! There is a man out there punching holes in the darkness.” *(S.C.U.C.A. Regional Reporter)***

**Dwight L. Moody tells the story of a blind man in a large city sitting at a street corner with a lantern beside him. A passerby noticed the man and inquired why he had a lantern, since he was blind and the light of it was the same as the darkness. The blind man simply replied, “So that no one may stumble over me.” (Glenn Van Ekeren, in Speaker's Sourcebook II, p. 133)
The lantern fish has a glowing spot on the front of its head that acts like a miner’s lamp when the fish is swimming in dark waters. The “lamp” is so powerful that it can shed light for a distance as great as two feet. Experiments have shown that when confined to an aquarium, the lanternfish can project enough light to allow a person to read a book in an otherwise totally darkened room. *(David Louis, in Fascinating Facts, p. 54)***

**In Waitomo Cave in New Zealand, in the deepest darkest parts of the cave, there are millions of tiny twinkling blue-green stars, a phenomenon that comes from the pulsing lights of the larvae of thousands of tiny gnats*. (Barbara Seuling)***

**The last living vestige of a bygone era is gone: The keeper of a Brooklyn lighthouse, who stood watch over New York's gateway to the Atlantic Ocean for 43 years, has died. Frank Schubert, 88, was the last of the Coast Guard's civilian lighthouse keepers in the United States, said Petty Officer Mike Hvozda. Schubert's work earned him many fans, including President George H. W. Bush, who invited him for a White House visit. Night after night, year after year, Schubert ensured that the ocean traffic at the nation's busiest port found safe passage around the pointy end of Brooklyn. He was responsible for maintaining the grounds, light and fog signal at the 80-foot-tall lighthouse. Over the course of his career, Schubert was credited with saving the lives of 15 sailors. He survived hurricanes and towering waves, keeping the lighthouse beacon flashing through surf and storm and howling gale. Even after the lighthouse became automated by the late 1980s, Schubert stayed on as an ambassador of goodwill and a reminder of maritime history. Schubert was first assigned to a lighthouse off his native Staten Island at age 22, when the Coast Guard took over the U.S. Lighthouse Service in the late 1930s. Since its opening in 1890, only five other men have served at the Coney Island lighthouse -- none longer than Schubert. *(Larry McShane, in The Denver Post, December 14, 2003)***

**Lighthouses don't go running all over an island looking for boats to save; they just stand there shining. *(Anne Lamott)***

**Lighthouses are designed to provide a reference point so ships at sea can better navigate around dangerous shorelines. They have been used by seafaring cultures for thousands of years. The earliest forms of lighthouses were simply bonfires which burned on hilltops above the sea. As crude as these early beacons were, they still provided the same valuable service expected of the modern lighthouses in use today. *(Jeff Harris, in Shortcuts)***

**The massive scaffolding required to reach the top of the 65-foot ceiling of the Sistine Chapel blocked the light from the chapel’s windows. As a result, Michelangelo did all of the painting by lamplight. *(mentalfloss.com)***

**I'm on the island of Vieques, off Puerto Rico, on a seemingly "far-fetched quest: to swim in a celestial sea," said Leigh Ann Henion in The Washington Post. My hope is to achieve this in Mosquito Bay, one of the world's last ecosystems where single-cell microscopic organisms known as dinoflagellates "create halos of light around whatever disturbs their nightly flotation." The effect is known as marine bioluminescence, and wherever it occurs, it "appears to mirror stars in the night sky." No other site in the world, however, "hosts the phenomenon with more regularity than the southern coast of Vieques." *(The Week magazine, October 7, 2011)***

**WARNING LIGHT: Nocturnal millipedes in the genus Motyxia glow in the dark. But why? Being blind, they're not lighting up to impress one another. Scientists collected 164 millipedes from Giant Sequoia National Monument in California and painted half of them to conceal their light. They also created 300 clay millipedes, half painted with a luminescent pigment. They left the millipedes out overnight and found "carnage" the next day, says University of Arizona entomologist Paul Marek. Dark millipedes, whether real or fake, were attacked by rodents more than twice as often as their glowing counterparts. The greenish blue light appears to serve as a defense mechanism, warning predators away, like a skull and crossbones: These millipedes produce a cyanide toxin that predators do well to avoid. *(Smithsonian magazine)***

**Giant mirrors will this year bring winter sunshine for the first time to a Norwegian town nestled deep in a valley. Rjukan, around 100 miles west of Oslo, is usually shrouded in the shadow of surrounding hills from September through March, But this year, the town installed three mirrors known as heliostats on an overlooking ridge, to reflect beams of sunlight into the town's center. "It is really special to stand in the light down on the square," said Steinar Bergsland, the town's mayor. "This is for the pale little children of Ryukan." *(The Week magazine, November 8, 2013)***

Snouts of needlefish are long, sharply pointed spears. Sort of like swordfish, only smaller. They leap toward light. In New Guinea, fishermen with lanterns on their boats are afraid of needlefish. They ought to be, for these light-leapers stab to death about 20 fishermen a year. (L. M. Boyd)

 **Rotting potatoes sometimes glow. On rare occasions, says an expert, in phosphorescence, fire departments have been called out by people who’ve thought their root cellars were aflame. *(L. M. Boyd)***

**The universe’s brightest spot: At the edge of the observable universe, European astronomers have detected the brightest object ever seen. It’s a quasar, which is a galaxy that emits astonishing amounts of energy as it is eaten by a black hole, and it lies about 13 billion light-years away. Formed in the universe’s infancy, the quasar emits as much light as 63 trillion suns. Scientists believe the quasar is so bright because the black hole swallowing it is super-massive – the size of 2 billion suns. But they can’t explain how the early universe could have supported a black hole that large, since they’re believed to develop over hundreds of millions of years. “It is like finding a 6-foot-tall child in kindergarten,” University of Michigan astrophysicist Marta Volonteri tells Science News. The finding suggests that black holes may grow much faster – and require much less matter to form – than previously thought. Since the quasar is 170 million years older than any found before, it may hold crucial clues about how the early universe evolved. “The existence of this quasar,” says Chris Willott, a researcher at the Canadian Astronomy Data Center, “will be giving some theorists sleepless nights.” *(The Week magazine, July 22, 2011)***

**Three thousand feet below the sea's surface, its waters are pitch black. Not even a tiny bit of the sun's light can penetrate down more than half a mile. Sea creatures that live at depths below 3,000 feet have been found to be blind or to possess their own phosphorescent "lighting system." *(Denver P. Tarle, in Treasury of Trivia, p. 191)***

**Good week for: Wolves, after a group of scientists in Uruguay announced that they had successfully modified the genetic makeup of a group of sheep to make them glow in the dark. *(The Week magazine, May 10, 2013)***

**The night sky may appear to be full of stars, but actually only about 3,000 stars are visible to the naked eye. They can be seen without a telescope because they are either extremely luminous or relatively close to Earth. The closest star to Earth, not counting the sun, is Alpha Centauri, which is at a distance of 4.3 light years, or 25 trillion miles. *(Isaac Asimov's Book of Facts, p. 442)***

**If life didn’t at times present us with some dark moments, then we would never get to enjoy one of God’s brightest creations: the stars. *(David J. Seibert)*
A million people on foot and in boats of all kinds, flocked to New York Harbor for the dedication of the Statue of Liberty on October 28, 1886. Her light, said President Grover Cleveland, shall pierce through the darkness of ignorance and man’s oppression. The 151-foot-tall statue, a gift of friendship from France, will welcome immigrants to these shores for generations*. (Ben Block, in Smithsonian magazine)***

**The Statue of Liberty was used as a lighthouse in the late 1800s. *(Jeff Harris, in Shortcuts)***

**Suddenly there was a great burst of light through the Darkness. The light spread out and where it touched the Darkness, the Darkness disappeared. The light spread until the patch of Dark Thing had vanished, and there was only a gentle shining, and through the shining came the stars, clear and pure. A glimpse of the cosmic battle between light and darkness, and the triumph of light. *(Madeleine L’Engle, in A Wrinkle in Time)***

**A super-duper supernova: Astronomers have been flabbergasted by an exploding star 100 times more powerful than any supernova ever recorded -- an explosion so bright it outshines the rest of its galaxy, says The Washington Post. The supernova of the enormous star, in a galaxy 240 million light-years away, is challenging existing understandings of how stars die. At the end of their life span, stars this large -- it's at least 100 times the size of our sun -- generally collapse inward, leaving behind a black hole or a cold, dense remnant called a neutron star. But this star detonated like a massive hydrogen bomb, spewing so much energy and matter that astronomers have been watching the star explode continuously since last year. "Discoveries don't get more exciting that this for a theorist," says astronomer Mario Livio. "The suggestion is that we may be seeing a new type of explosion mechanism, never seen before." One reason scientists are intrigued is that a similar, massive star in our own galaxy, Eta Carinae, is approaching the end of its own life. If it were to explode in the same way as the more distant supernova, the explosion could also be "the best star show in the history of civilization," Livio said. The supernova would be one-tenth as bright as a full moon, and light up the night sky for months on end. *(The Week magazine, May 25, 2007)***

**We cannot hold a torch to light another’s path without brightening our own. *(Ben Sweetland)***

**I’m going to turn on the light, and we’ll be two people in a room looking at each other and wondering why on earth we were afraid of the dark. *(Gale Wilhelm)***

**One can see the stars during the day from the bottom of a well. *(David Louis, in Fascinating Facts, p. 117)***

**There is something intriguing about driving by lighted windows at night. Behind the fall of the curtains, you catch a glimpse of patterned wallpaper, a flash of a winding staircase; a mother tucks her children into bed, or someone bends to poke up a fire, and embers swirl and spray. Even the poorest of rooms emits a romantic warmth because you are out in the darkness looking in. The scene is lost forever as you pass by, like a theatergoer who cannot stay to see the play. *(Mary E. Potter, in Reader's Digest)***

**Doctors in the 1860's, during the American Civil War, reported that their patients' wounds would sometimes show a dull light in the dark. This sight was considered a good sign, the luminescent wounds seemed to heal better and faster than those that were not. The luminous bacteria were not harmful. They helped remove dead tissues that otherwise might have provided food for disease-causing germs. *(Francine Jacobs, in Nature's Light, p. 59)***

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