

## *World of Topicals:*

# Astronomy In Stamps

By John H. Tanner

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When a person becomes deeply involved in two hobbies which have nothing in common, he can consider himself lucky indeed if he succeeds in a union of the two. I have been successful to some extent along this line, and look forward to many years of enjoyment with my two favorite hobbies: stamp collecting and amateur astronomy.



*Poland Sc. NB23*

The idea for a topical collection of stamps on the subject astronomy first clicked when a stamp issued during the German occupation of Poland came to my hand more by accident than anything else. The broad plain face of the Polish churchman, Nikolaus Copernicus, peered up at me.

Suddenly the realization came that there must be other stamps honoring famous astronomers, and perhaps even a few of the stellar wonders of our universe. Immediately the search was on, and it brought surprising results. To date, 49 stamps from fifteen different countries have been gathered together, and I am confident that the next few years will see many more added to the list as interest in the science of astronomy grows. A trip to the moon can no longer be considered science fiction or an Orson Welles fantasy, and first flight to the moon covers may be eagerly sought after by airmail specialists and others within a scant ten or twenty years (see page 10). If this is thought to be sheer speculation, it will be wise to recall that just fifty years ago Wilbur and Orville Wright achieved success in an experiment thought by many to be completely ridiculous.

Nikolaus Copernicus lived 400 years ago in a town famous in those times, called Torun. He was a fortunate fellow, having been born in a family of comfortable circumstances,

and after an extensive education in Italy, he was taken under an uncle's wing, who was a bishop in the powerful Polish branch of the Church of Rome. This uncle made Copernicus a canon of the church. It was a job with simple duties and an ample income, and he spent what appeared to be a long and uneventful life in the service of the church.

Somewhere, however, possibly during his stay in Italy, Copernicus acquired an interest in astronomy, and actually spent more time studying that than anything else. According to the astronomy of that day, which was controlled by the church along with practically everything else, the earth was the center of the Universe. This doctrine had stood unchanged for a thousand years, and to question the point was an act of heresy punishable by death at the stake. Thus, when Copernicus in his studies began to see not only the fallacy of this belief but also the faint glimmerings of the truth, he kept his own council. He worked quietly on what he called his theory of the revolutions over a period of almost forty years.

Finally when he was a very old man, a friend persuaded him to have the results of his work published. Not until he was on his death-bed was a copy of this monumental book placed in his hands. Needless to say the book was banned by the church and was not generally accepted for over a hundred years. Yet, so conclusive was his proof that the earth moved and the sun stood still, no power was strong enough to resist it. Thus, this obscure Polish clergyman did more to change the course of mankind and his understanding of the universe than any Pope or Genghis Khan or emperor has ever done.

Galileo, the famous Italian astronomer and teacher, is honored on a beautiful set of four stamps issued by his



*Italy Sc. 419-22*



*Guinea-Bissau 2008 souvenir sheet, not Scott-listed, honors (clock-wise from top left): Copernicus, Galileo, Lippershey, Nostradamus, Newton, Kepler*

homeland, even though the final years of his life found him persecuted and accused of heresy. The story really begins when as a brilliant teacher of the sciences, Galileo received word of an amazing discovery by one Jan Lippershey (see Guinea-Bissau sheet, above), a Dutch spectacle maker, who had accidentally placed two lenses together in such a manner as to make objects far away seem closer.

Galileo promptly discovered the principle for himself and constructed his first crude telescope. He naturally turned it towards the heavens, and almost at once began to make startling discoveries. He found that the moon was covered with mountains and craters and what appeared to him to be seas. He saw dark spots on the surface of the sun, and watched three tiny moons in their stately sweep around their mother planet, Jupiter.

Through Galileo's magic tube which he had named the telescope, the planet Venus went through phases like our own moon, and he concealed this knowledge in an anagram which he sent to a famous contemporary astronomer, Johannes Kepler of Austria.

The anagram, when translated, reads thus: The Goddess of Love imitates the form of Luna. Saturn and its ring system through Galileo's small telescope looked very

much like a dumbbell or a ball with ears attached, thus, the most spectacular object of all escaped him. However, armed with these other wonderful revelations, Galileo quickly became world famous, and he gave many lectures inviting famous people, including important churchmen, to look thru his magic tube. Many refused to look at all, and others would not believe what they saw, claiming that the thing was an instrument of the devil.

Soon his teachings, which among other things placed the sun and not the earth at the center of the universe, came to the attention of the Pope. In deference to his widespread fame the Pope called him into audience and gently asked him to refrain from his heretical lectures. Galileo paid little heed to this warning, and soon found himself again in trouble with the Church. This time he was thrown in prison and threatened with burning at the stake. Finally, to secure his release, he publicly renounced his beliefs as false, and soon after died, a broken and discredited man.

Denmark has honored both of its famous astronomers on her postage stamps. Tycho Brahe was born a nobleman, and broke an ancient custom of his people by obtaining an education and becoming a professional astronomer. People of noble birth in those times were supposed to be above the sordid business of securing an education. However, Brahe eventually won



*Denmark Sc. 300*

the favor of the king, who gave him a subsidy for life, and made him Astronomer Royal of the land. Brahe made charts of the heavens with amazing accuracy, despite the fact that he had nothing but the crudest of instruments to work with. The principle of the telescope was not to be discovered until many years later. It was Brahe who first sighted the brilliant Nove or temporary star that flamed forth in the year 1572 to outshine everything in the heavens except the sun and moon for a few short months to fade away into oblivion. It became known as Tycho's Star and created a great deal of speculation as to the cause

of such explosive changes in the brightness of some of the fixed stars. In fact, this mystery remains unsolved today.

Ole Romer is the other astronomer honored on the stamps of Denmark. His chief claim to fame is his discovery that light has a finite speed; that is, requires a definite interval of time to travel from one point or object to another. This was quite a feat when it is realized that light travels at the breathtaking speed of 186,000 miles per second.



*Denmark Sc. 293*

That light has a finite speed was suspected by many, including Galileo prior to Romer, but none had been successful in their experiments. In fact, by their very lack of success, many concluded that light must indeed be an instantaneous thing, pervading all space in an instant.

Romer stumbled upon the answer while making a study of three of the moons of Jupiter. He found that he could set up a time table of future eclipses for these moons since they passed behind Jupiter on every revolution. However, after a few weeks, Romer discovered that something was wrong with his time table. The predicted times for eclipse were not in agreement with his observations. As time went on the error grew worse and then finally lessened. It must have been a wonderful feeling when he finally realized that the earth itself, in its orbit or path around the sun was the cause of the trouble. For as the earth revolved about the sun, the distance between the earth and Jupiter, with her family of moons, varied also. Needless to say, Romer, with this clue to the truth, was soon able to show that as the gap between earth and Jupiter widened, light required extra time to span it, and thus must have a finite speed. His calculation for the speed of light was very close to the best accepted figure today.

Slovakia, a German protectorate, issued in 1939 a striking set of four stamps commemorating the twentieth anniversary of the death of General Milan Stefanik. His tomb is shown with a comet hanging ominously above it,

no doubt as a symbol of death. In fact, since man's beginning comets have been considered omens of death, famine, pestilence or war; and this cloak of fear still lingers in some far corners of the world.



Slovakia 34



Brit. Antarctic Terr. Sc. 129

It was Edmund Halley, an Englishman, who did more to dispel these superstitions than any other man by his successful prediction of the return of the comet of 1758. Halley had devoted a good many years of study to comets in an attempt to discover their origin. And it was during an examination of the information he had compiled on a number of them, that he noted that several bore a remarkable similarity to one another. His records revealed that these comets had been sighted in the years 1531, 1607, and 1682, or roughly seventy-five years apart. This was enough to convince him that these several comets were actually one, and he promptly forecast another return for the year 1758.

Even though Halley did not live to see it, the comet appeared right on schedule. Halley's Comet, as it is now called, has returned twice, once in 1835 and again in 1910, and is due for a reap-



Great Britain, 1985 Halley's Comet, Sc. 1133-36

pearance in 1985. Thus, Halley took the comets from the realm of the dread unknown and placed them where they belonged, as minor members of the solar family.

Several countries have issued stamps in honor of their observatories. The Pic du Midi observatory located high in the mountains of southern France has just recently been completed, and is honored by a special stamp showing the buildings that comprise the observatory and weather station. It is interesting to note that it was atop Pic du Midi, where the sky is exceptionally clear, that a Frenchman by the name of Lyot back in 1930 conducted his first experiments on an instrument that would create an artificial eclipse of the sun; and he was finally successful in mapping the outline of the sun's corona.



France Sc. 673



Japan 478

Japan in 1949 honored the Mizusawa telescope on its postage, revealing it to be a special kind of telescope used in the keeping of Star Time, the most precise time we have.

Korea issued in 1946, and again in 1948, two rather crude stamps honoring the observatory at Kyongju. The observatory

looks more like a farm silo than anything else, and is no doubt capable of only the crudest work. Indeed, there is little similarity, except in purpose, between this ancient



Korea Sc. 69, 94



U.S. 966

observatory and the giant eye that peers into outer space from Palomar Mountain, U.S.A. The Palomar telescope, by far the largest in the world, and honored by a special stamp in 1948, is even now engaged in research to reveal new facts concerning this mysterious universe of ours.



*Mexico 774-776*



*Mexico C123-C125*

In 1942, on the occasion of the Astrophysic Congress at Tonanzintla, Mexico issued a set of six stamps that are thus far unequalled for sheer beauty in the field of astronomy on postage. Five of them are actual photographs of deep sky wonders, while the other (Sc. C123) deals with a rather technical star diagram. One of the five (C123) shows the Horsehead Nebula in the constellation Orion. This nebula is really a cloud similar to clouds here on earth, except that it is located in interstellar space; the void between the stars.

The famous Ring Nebula (Sc. C124) is beautifully shown on another of the stamps as a circle of faint light illuminated by a bright star located at its center. A spiral galaxy, which is actually an island universe composed of millions of stars like our own sun, shines forth on another of the stamps (Sc. 776). This galaxy is so far away that its distance is not reckoned in miles but in light years; a light year being that distance traveled by light in one year at the rate of 186,000 miles per second.

Even so, these island universes are hundreds and thousands of light years away. The sun in full eclipse is the subject of another of the stamps (Sc. 775). Few people



really know what the sun is, and to state that it is simply an atomic fire may not help much. This is nevertheless the truth with most of the elements present here on earth, existing there in a different form. Clouds of hydrogen, calcium, and even iron, float above its surface, which is heated to a temperature of 10,000 degrees. And it is safe to assume that the interior is composed of the basic building blocks of the universe, the fragments of atoms known as electrons and protons.

This is raw energy such as is released with the explosion of an atomic bomb. No other form of energy could have kept the sun burning at such a rate for so many millions of years. In fact, had the sun been composed of pure coal and oxygen it would have burned itself to cinder in a scant thousand years.



*Brazil 94*

Constellations on stamps seems to have been popular primarily with the countries of South America, Brazil, Argentina, and Chile have each issued one or more stamps honoring the beautiful and prominent in southern skies,



*Brazil 104*

Crux, or Southern Cross. Brazil was first in 1887 with a single stamp and again 1890 with a set of ten to honor this constellation. Chile and Argentina followed later.



*Chile C48*

The Italian colony of Cyrenaica in 1933 issued a set of two airmails, with the Big and Little Dipper prominently displayed. Of course, it is common knowledge that the Pole Star, which is situated at the tip of the Little Dipper, has been used as an aid to navigation for hundreds of years.



*Cyrenaica C18*

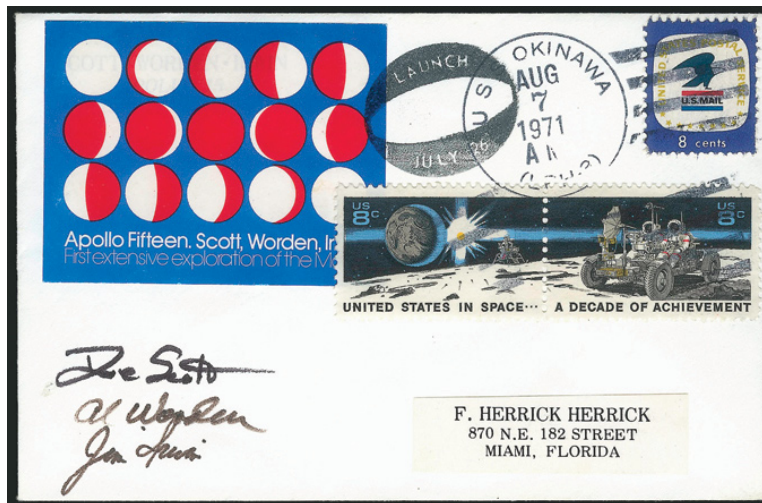


Japan 552

The 1952 U.P.U. issue of Japan shows a stylized version of the constellation Southern Cross on the lower value and a true representation of the Big Dipper on the higher value.



Japan 553



The author was early on his timing, suggesting in 1953 that it might be just 10-20 years for moon landing covers, but he was correct that they would be a sought after collectible. This is one of 144 covers carried to the moon on the 1971 Apollo 15 mission (16 of which were damaged or destroyed). The stamps (Sc. 1396 and 1435a) are tied by a "U.S.S. Okinawa (LPH-3) Aug 7, 1971 AM" datestamp on the cover, which also bears a label cachet showing phases of the moon and "Launch July 26, 1971" duplex cancel, also with a red "Recovery Aug. 7, 1971" circular datestamp on the reverse. It is signed by the three astronauts, David Scott, Al Worden and James Irwin.