PEOPLE MENTIONED IN A WEEK

THE PEOPLE OF A WEEK: GALILEO GALILEI

A WEEK: The anecdotes of modern astronomy affect me in the same way as do those faint revelations of the Real which are vouchsafed to men from time to time, or rather from eternity to eternity. When I remember the history of that faint light in our firmament, which we call Venus, which ancient men regarded, and which most modern men still regard, as a bright spark attached to a hollow sphere revolving about our earth, but which we have discovered to be ***another world***, in itself, — how Copernicus, reasoning long and patiently about the matter, predicted confidently concerning it, before yet the telescope had been invented, that if ever men came to see it more clearly than they did then, they would discover that it had phases like our moon, and that within a century after his death the telescope was invented, and that prediction verified, by Galileo, — I am not without hope that we may, even here and now obtain some accurate information concerning that OTHER WORLD which the instinct of mankind has so long predicted. Indeed, all that we call science, as well as all that we call poetry, is a particle of such information, accurate as far as it goes, though it be but to the confines of the truth. If we can reason so accurately, and with such wonderful confirmation of our reasoning, respecting so-called material objects and events infinitely removed beyond the range of our natural vision, so that the mind hesitates to trust its calculations even when they are confirmed by observation, why may not our speculations penetrate as far into the immaterial starry system, of which the former is but the outward and visible type? Surely, we are provided with senses as well fitted to penetrate the spaces of the real, the substantial, the eternal, as these outward are to penetrate the material universe. Veias, Menu, Zoroaster, Socrates, Christ, Shakespeare, Swedenborg, — these are some of our astronomers.

ASTRONOMY
NICOLAS COPERNICUS
GALILEO GALILEI
VENUS

THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

1564

February 15, Tuesday (1563, Old Style): Galileo Galilei was born in Pisa, Italy as the 1st child of Vincenzo Galilei and Giulia Ammannati. (He wouldn't actually ever drop anything such as metal balls, to our knowledge, off the top of the town's famous leaning tower, although it is perfectly possible that as a child he may have spit off the top.)[1]

1590

As a thought experiment, Galileo Galilei described the behavior of freely falling bodies.

1599

Sanctorius set up his medical practice in Venice, Italy, where he would rub elbows with the likes of Galileo Galilei.

1604

Galileo Galilei produced a compelling theoretical description of the behavior of freely falling bodies. They all fall at the same rate regardless of their mass because they obey a law, the law of uniformly accelerated motion.

1. "Crosseyed people look funny." — This wasn't just Susan B. Anthony, and Francis Ellingwood Abbot, and Abraham Lincoln, and Jean-Paul Sartre, and Galileo Galilei, and Ben Turpin and Marty Feldman. Actually, this is a very general problem, with approximately one person out of every 25 to 50 suffering from some degree of strabismus (termed crossed eyes, lazy eye, turned eye, squint, double vision, floating, wandering, wayward, drifting, truant eyes, wall eyes described as having "one eye in York and the other in Cork"). Strabismus that is congenital, or develops in infancy, can create a brain condition known as amblyopia, in which to some degree the input from an eye are ignored although it is still capable of sight — or at least privileges inputs from the other eye. An article entitled "Was Rembrandt stereoblind?," outlining research by Professor Margaret Livingstone of Harvard University and colleagues, was published in the September 14, 2004, issue of the _New England Journal of Medicine_. Rembrandt, a prolific painter of self-portraits, producing almost 100 if we include some 20 etchings. Researchers who computer-mapped the direction of his gaze in 36 of these self-depictions discovered that in 35 of the 36 he was depicting himself as having a unilateral strabismus (when one eye looks straight ahead while the other deviates sideways). He would have been, in the popular terminology, considered "crosseyed." This would have impacted depth perception and may very well offer important information in regard to his painting style.

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THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

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PEOPLE MENTIONED IN A WEEK

1609

Early in the year, Thomas Hariot purchased a "Dutch trunke" (telescope, invented in the previous year), and turned it toward the skies. This was one of the first uses of the new instrument for astronomy. He is now credited as having made himself the very 1st astronomer to draw an astronomical object as viewed through this new device.

As Johannes Kepler was publishing his COMMENTARIES ON THE MOTIONS OF MARS, made up entirely out of

naked-eye observations of positions in the sky, the first telescopes were being turned skyward in efforts to determine more about these strange wanderers among the fixed stars than their relative positions and movements. Galileo Galilei of the Republic of Venice was hearing rumors out of Holland of a new device by which "visible objects, though very distant from the eye of the observer, were seen distinctly as if nearby." He constructed his own version of Hans Lippershey's telescope of 1608, with a converging objective lens and a diverging eye lens, and began to point it generally upward.

HISTORY OF OPTICS

The Venetian senate examined Galileo's device. It would prove useful for early longitude observations, by observing occultation and emergence of the moons of Jupiter.

CARTOGRAPHY

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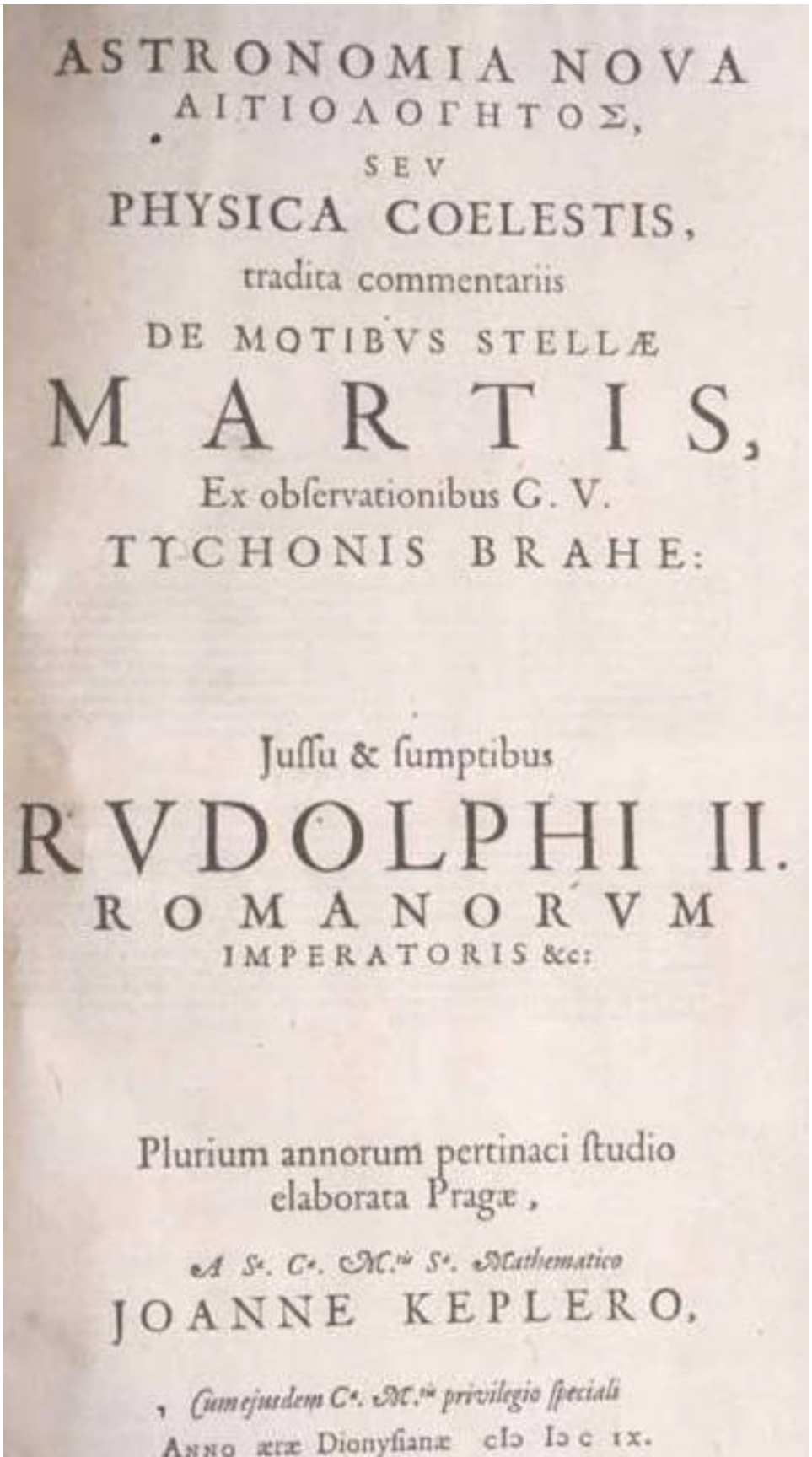
THE PEOPLE OF A WEEK: **GALILEO GALILEI**

PEOPLE MENTIONED IN A WEEK



ASTRONOMIA NOVA
AITIOΛOΓHTOΣ,
SEV
PHYSICA COELESTIS,
tradita commentariis
DE MOTIBVS STELLÆ
MARTIS,
Ex obſervationibus G. V.
TYCHONIS BRAHE:

Juſſu & ſumptibus
RVDOLPHI II.
ROMANORVM
IMPERATORIS &c:

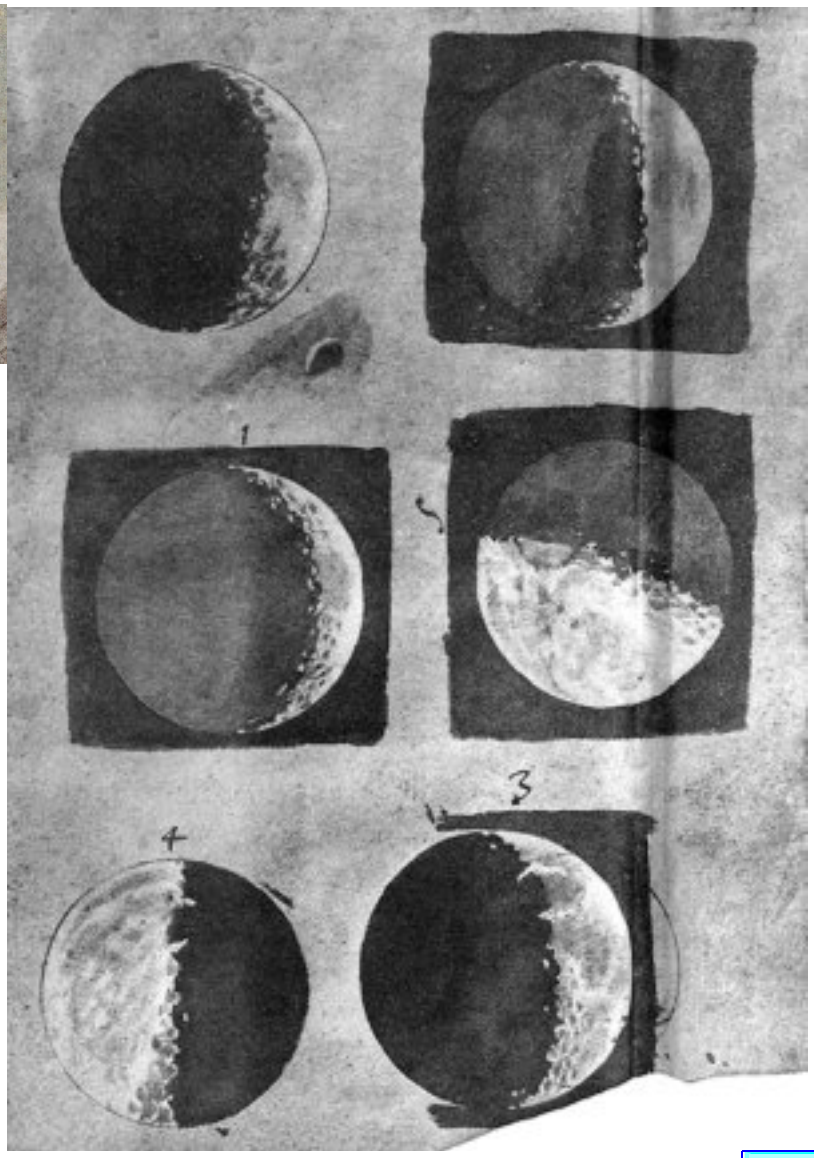
Plurium annorum pertinaci ſtudio
elaborata Pragæ,

A S^a. C^a. M.^ta S^a. Mathematico
JOANNE KEPLERO,

Cum ejusdem C^a. M.^ta privilegio ſpeciali
ANNO æræ Dionyſianæ CIↃ IↃC IX.

THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK



ASTRONOMY

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THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

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ASTRONOMY
NICOLAS COPERNICUS
GALILEO GALILEI
VENUS

THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

November: Galileo Galilei turned his latest device, capable of 20X magnification, skyward. Was it this new device

which enabled him, in this year, to observe changing spots on the face of the sun and thus disprove the contention of the Aristotelians of his day that that heavenly body is unchangingly free of "imperfection"? (Independently, from Holland, Johann Fabricus was making this same observation in this same year.)

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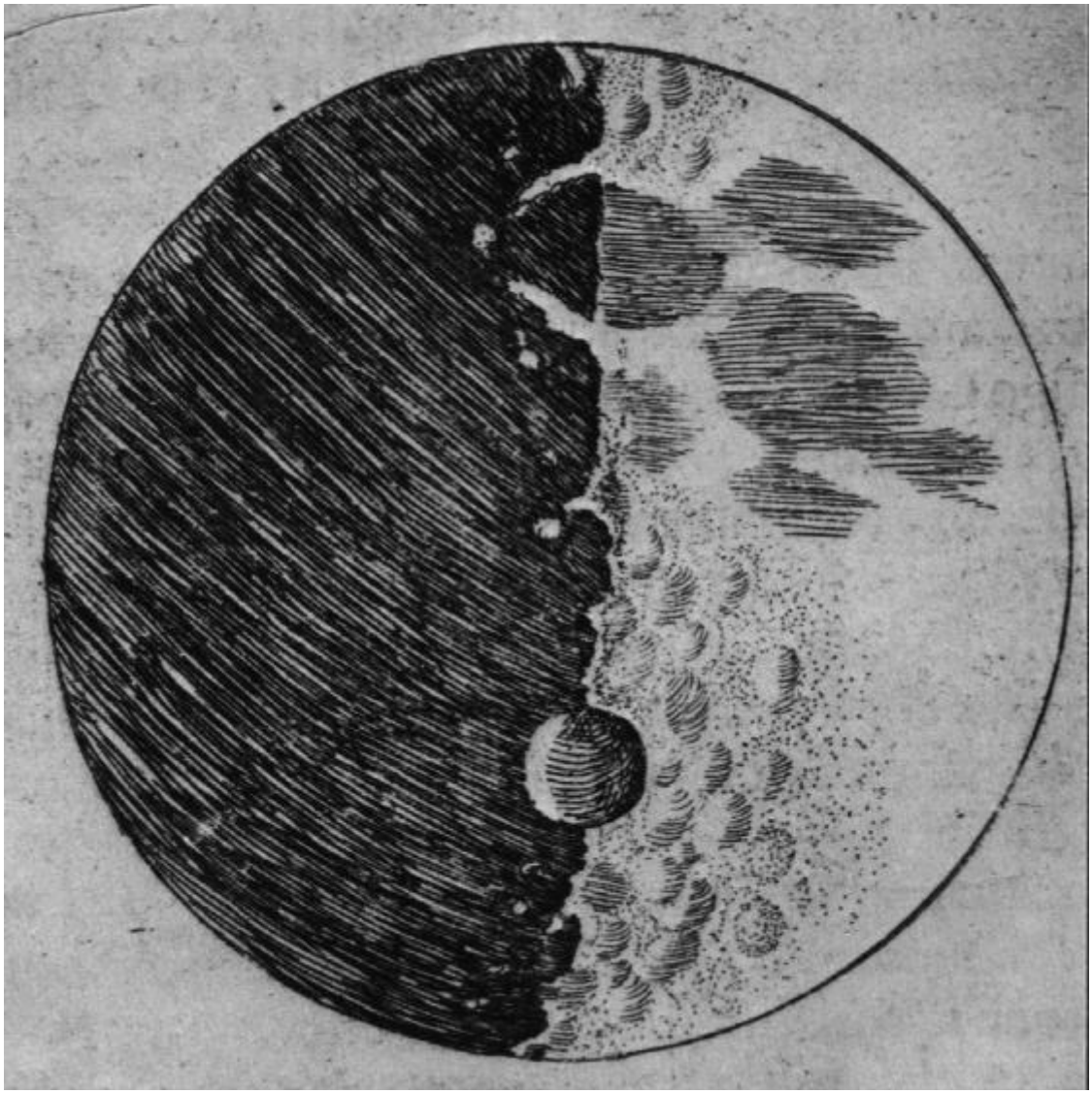
THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

December 3, Sunday (Old Style): Galileo Galilei turned his latest device, capable of 20X magnification, upon this planet's moon, and it being a clear night, here is what he was able to make out:



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1611

Sanctorius was appointed to the chair of theoretical medicine at the University of Padua, where he would teach until retirement in 1624. He would develop or help Galileo Galilei, Giofrancesco Sagredo, and fra Paolo Sarpi to develop a number of scientific instruments, among them a wind gauge, a water current meter, the *pulsilogium*, and an early version of thermometer, known as the *thermoscope*, possessing a numerical scale.[2] By an experiment that involved suspending himself in an enormous balance in order to weigh his solid and liquid intake against his excretion, he would find that by far the greatest part of a person's intake of food and drink is lost from his or her body not through urine and feces but through what he came to term our *perspiratio insensibilis* (in the "Conclusion" chapter, as below, "insensible perspiration"). His treatise *DE STATICA MEDICINA* (CONCERNING STATIC MEDICINE)[3] would render him so famous that he would even be alluded to by Waldo Emerson:

> The physician Sanctorius spent his life in a pair of scales, weighing his food.

2. Middleton, W.E.K. A HISTORY OF THE THERMOMETER AND ITS USE IN METEOROLOGY. Baltimore MD: Johns Hopkins UP, 1966
3. Castiglione, Arturo. "The Life and Work of Santorio Santorio (1561-1636)," tr. Emilie Recht. Medical Life 38 (1931):729-785

In the 20th Century, Professor Walter Roy Harding would comment that despite even having reviewed Ronald Earl Clapper's analysis of the editing of the *ms* drafts of WALDEN, he has never grasped the meaning of Henry Thoreau's Transcendentalist remark "In view of the future or possible, we should live quite laxly and undefined in front, our outlines dim and misty on that side; as our shadows reveal an insensible perspiration toward the sun":

> WALDEN: It is a ridiculous demand which England and America make, that you shall speak so that they can understand you. Neither men nor toad-stools grow so. As if that were important, and there were not enough to understand you without them. As if Nature could support but one order of understandings, could not sustain birds as well as quadrupeds, flying as well as creeping things, and *hush* and *who*, which Bright can understand, were the best English. As if there were safety in stupidity alone. I fear chiefly lest my expression may not be *extra-vagant* enough, may not wander far enough beyond the narrow limits of my daily experience, so as to be adequate to the truth of which I have been convinced. *Extra vagance!* it depends on how you are yarded. The migrating buffalo, which seeks new pastures in another latitude, is not extravagant like the cow which kicks over the pail, leaps the cow-yard fence, and runs after her calf, in milking time. I desire to speak somewhere *without* bounds; like a man in a waking moment, to men in their waking moments; for I am convinced that I cannot exaggerate enough even to lay the foundation of a true expression. Who that has heard a strain of music feared then lest he should speak extravagantly any more forever? In view of the future or possible, we should live quite laxly and undefined in front, our outlines dim and misty on that side; as our shadows reveal an insensible perspiration toward the sun. The volatile truth of our words should continually betray the inadequacy of the residual statement. Their truth is instantly *translated*; its literal monument alone remains. The words which express our faith and piety are not definite; yet they are significant and fragrant like frankincense to superior natures.

To me, however, this remark "In view of the future or possible, we should live quite laxly and undefined in front, our outlines dim and misty on that side; as our shadows reveal an insensible perspiration toward the sun" seems a straightforward description of the kind of openendedness that is required of the Transcendentalist, that is the kind of openness and expectation that is needed if one is to hope ever to transcend what has gone before, and what one has become, one's "residual." –But one would hesitate to suggest that someone who had worked with the materials of the Transcendentalists for all his life, as Walter Roy Harding had, yet had never in his life acquired even a basic grasp of what the fundamental attitude of transcending amounted to, an attitude that distinguishes every real transcendentalist! He was as bad as the Emerson who presumed that Sanctorius would have spent his entire lifetime sitting on the scales of one of his experiments, like a fakir on a bed of nails: "The physician Sanctorius spent his life in a pair of scales, weighing his food."[4]

4. What I am saying here is that equivalently, Emerson's analysis of Sanctorius and Harding's analysis of Transcendentalism are surprisingly superficial.

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THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

Galileo Galilei took with him on his trip to Rome in this year a little box containing fragments of a rock which had recently been discovered by the alchemists of Bologna, which he had been exposing to the sunlight at his home in Firenze. We now know this mineral as barium sulfide, but what it was termed in those days was "the solar sponge." When this natural philosopher (scientist) took his colleagues into a dark room and opened the box, they could perceive a cold light emanating from the rock, a light which had been stored there for the length of time which it had taken to journey from Firenze to Roma. Florentine light in Rome! Galileo used this to demonstrate to them the wrongness of the Aristotelian understanding that light was a συμβεβεκος accident or quality of a transparent medium. No — light was a thing, it could be carried from place to place in a box.

I'll bet you didn't know that Galileo did stuff like that.

Johannes Kepler, in his *DIOPTRICE*, presented an explanation of the principles involved in the convergent-lens/divergent-lens microscopes and telescopes. In the same treatise, he suggested that a telescope could be constructed using a converging objective in conjunction with a converging eye lens, that would later become known as "the astronomical telescope," inverting the image, and described a combination of lenses that would later become known as "the telephoto lens." He described total internal reflection but was unable to discover a satisfactory relationship between the angle of incidence and the angle of refraction.

HISTORY OF OPTICS

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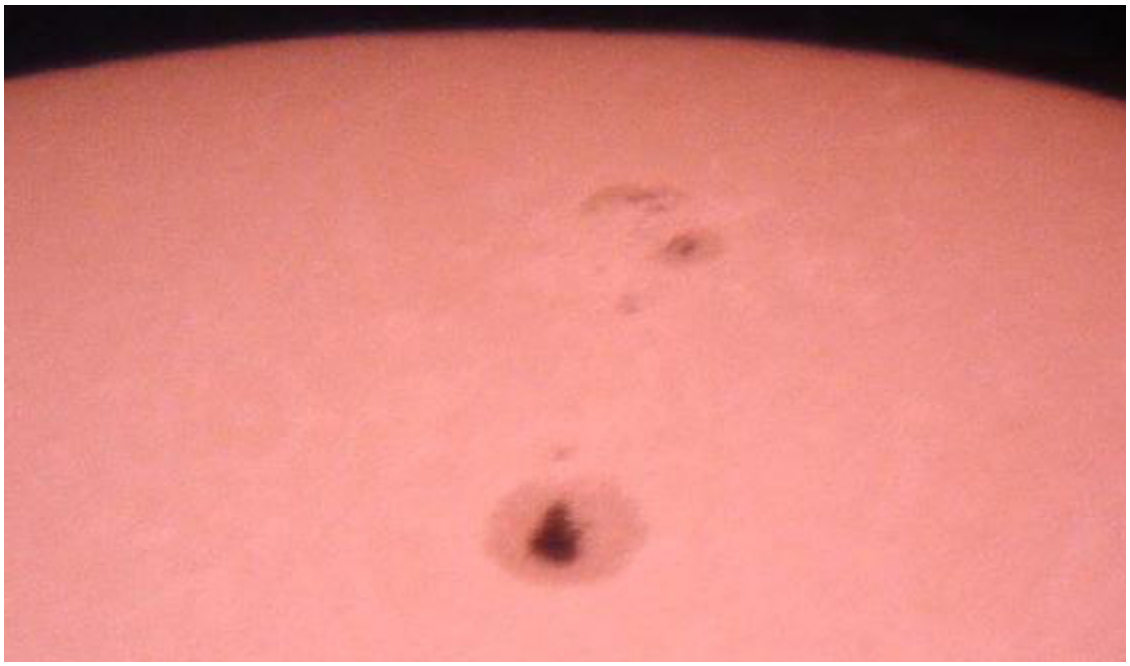
THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

1612

Galileo Galilei went to Rome, where he joined the Accademia dei Lincei. After for some months pointing out sunspots to astronomers in Rome, he provided a correct explanation for the observation.

SKY EVENT



1615

In Italy, Galileo Galilei faced the Inquisition for the initial time. Meanwhile, in Weil, Germany, the mother Katharina Kepler was being denounced as a witch. Hers would turn out to be the longest witchcraft trial in German history — her own sons Heinrich and Christopher would be offering testimony against her. Her son Johannes would manage to save her from the stake only to find himself accused as an accomplice in her witchcraft (between 1615 and 1629, in Weil, a town of not more than 1,000, a total of 38 women would burn).

1619

The term "Aurora Borealis" was coined by Galileo Galilei to suggest the resemblance of the Northern Lights to an early dawn in the northern sky.

ASTRONOMY

Galileo was supposing incorrectly that the phenomenon was caused by sunlight reflecting from the high atmosphere. I will illustrate the mystery he was musing about with a painting made in 1865 by Frederic Edwin Church:

According to the article "Aurora and Airglow" in VAN NOSTRAND'S SCIENTIFIC ENCYCLOPEDIA:

> The auroral zones are defined as the regions of maximum occurrence. They are roughly circular [and centered on the geomagnetic poles] with a radius of approximately 23 degrees of latitude. The northern auroral zone reaches its lowest geographic latitude over eastern Canada; the southern, over the ocean south of Australia. At times of geomagnetic disturbance, the aurora appears at lower latitudes and in very great magnetic storms may be observed in the tropics. The frequency of occurrence of aurorae at lower latitudes correlates with the cycle of solar activity.

1621

December 3, Monday (Old Style): Galileo Galilei experimented with his new telescope.

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PEOPLE MENTIONED IN A WEEK

1624

Galileo Galilei experimented with a microscope.

1632

Inquisitorial denunciation of Galileo Galilei. Part of his plea bargain would be agreeing to recite penitential psalms weekly.

1633

The Inquisition arrested Galileo Galilei for intimating that the earth was moving around the sun. He was to remain under house arrest until his death (the Papacy would not acknowledge itself to have been in error until 1992 — however, to speak up for them, they never required him to wear one of those chafing house-arrest anklets).

1642

January 8, Saturday (1641 Old Style; Wednesday, 1642 New Style, i.e. Gregorian): Galileo Galilei died in Arcetri, near Florence, almost a year prior to the premature birth of Isaac Newton in Grantham, England.

1841

Sir David Brewster FRS's THE MARTYRS OF SCIENCE, OR THE LIVES OF GALILEO, TYCHO BRAHE, AND KEPLER.[5]

5. It is interesting that at one time Tycho Brahe and Johannes Kepler were considered to be similarly "martyrs of science" — since we now know that Kepler used the occasion of Brahe's mysterious and painful death in order to obtain access to his closely held records of astronomical observations, and since we suspect that if these events had happened in today's, say, Texas, Kepler would almost certainly be executed by lethal injection on the suspicion that he poisoned Brahe.

THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

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"It's all now you see. Yesterday won't be over until tomorrow and tomorrow began ten thousand years ago."

– Remark by character "Garin Stevens" in William Faulkner's INTRUDER IN THE DUST

Prepared: December 21, 2013

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THE PEOPLE OF A WEEK: GALILEO GALILEI

PEOPLE MENTIONED IN A WEEK

ARRGH AUTOMATED RESEARCH REPORT

GENERATION HOTLINE

This stuff presumably looks to you as if it were generated by a human. Such is not the case. Instead, someone has requested that we pull it out of the hat of a pirate who has grown out of the shoulder of our pet parrot "Laura" (as above). What these chronological lists are: they are research reports compiled by ARRGH algorithms out of a database of modules which we term the Kouroo Contexture (this is data mining). To respond to such a request for information we merely push a button.

Commonly, the first output of the algorithm has obvious deficiencies and we need to go back into the modules stored in the contexture and do a minor amount of tweaking, and then we need to punch that button again and recompile the chronology — but there is nothing here that remotely resembles the ordinary "writerly" process you know and love. As the contents of this originating contexture improve, and as the programming improves, and as funding becomes available (to date no funding whatever has been needed in the creation of this facility, the entire operation being run out of pocket change) we expect a diminished need to do such tweaking and recompiling, and we fully expect to achieve a simulation of a generous and untiring robotic research librarian. Onward and upward in this brave new world.

First come first serve. There is no charge.
Place requests with <kouroo@kouroo.info>. Arrgh.

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