

Euler, and Lagrange against Kepler, Leibniz, et al. There is no provision in empiricism for a principled kind of change in a pre-fixed system.

So, Aristotle's system requires that once the Creator, were He perfect, had acted perfectly in the act of Creation, He could never change, by His own will, what He had once set into motion. Hence, the fraudulent astronomy of the Roman imperial ideologue Claudius Ptolemy.

As a matter of illustration, consider the typical gnostic religious nut of the U.S.A. today. He avows that "God has predetermined 'the coming of the end days' " to some definite date allegedly built into some "Biblical prophecy." God is not permitted to make up His own mind, and, perhaps, change that date! "Neither man, nor God will ever be permitted to change anything from a predetermined, fixed order of things" in what religious fanatics prescribe as the rectilinear universe. "Please

Zeus! Neither God nor man's free will can change anything to alter the predetermined order of things."

Philo objected, as do I.

The issue which I have just outlined here, is almost the same as that argument made by the empiricists D'Alembert, Euler, Lagrange, et al. against Leibniz—*almost*.

Enter, Paolo Sarpi

From Diocletian until the Fifteenth-Century European Renaissance, the prevalent imperial orders in Europe prescribed a relatively fixed order of affairs in the life of the ordinary persons, an order in which the ruling social strata, imitating the gods of Olympus, played their capricious pranks on the masses of a subject people who were assigned to maintain an essential monotony in the form of their life-long practice.

That was changed in a radical way by the great reforms of

Box 9

What Galileo Avoided

In 1609, Kepler published the *New Astronomy*, a revolutionary work that for the first time used celestial physics as the basis for the ordering of the Solar System. Up to this point, since the hoax of Ptolemy's geocentric model, all astronomy was based on the Aristotelian idea that cause (i.e., Truth) was unknowable. The only thing that could be attained, according to Aristotle, at best was "mathematical" approximations of what you see. This is what later became known as empiricism.

This "mathematical" idea of a universe in which there is no truth, best suits the oligarchy. Everyone must know his or her place, and change is impossible.

Kepler's work was a revolution in the way mankind relates to the universe, determining the way in which man acts, which the oligarchy feared the most. Kepler was a thinker in the tradition of Plato, and makes clear the self-conscious process he went through to make his discoveries. Contrary to Aristotle's method, he uses the method of Plato, by looking with the mind, to the discovery of true cause, behind the shadows of sense perception. He doesn't give you a five-page book with bullet points and mathematical formulas of the finished product; he takes you through every subjective step

of his discovery. In doing this, he develops the Principle of Universal Gravitation, as an Idea. No one has ever "seen" the Solar System, not even our astronauts. It is through a subjective creative process that one develops a "picture" in the mind, of what is really going on out there. This is the basis of science and being human. This also determines the way mankind relates to nature and each other. Because Kepler's discoveries were a revolution in science, the oligarchy promoted the money-hungry opportunist Galileo Galilei, who cared nothing for the truth.

In 1596, Kepler published the first of his great works, the *Mysterium Cosmographicum*, where he makes his first breakthrough in making a Platonic hypothesis based on the physical causes determining the ordering of the Solar System. In a very enthusiastic and human way, Kepler sends out copies to all of his peers, as well as Galileo. In 1597, Galileo finally responded in a letter:

Galileo to Kepler:

"Like you, I accepted the Copernican position several years ago and discovered from thence the causes of many natural effects which are doubtless inexplicable

by the current theories. I have written up many of my reasons and refutations on the subject, but I have not dared until now to bring them into the open, being warned by the fortunes of Copernicus himself, our master, who procured immortal fame among a few, but stepped down among the great crowd (for the foolish are numerous), only to be derided and dishonored. I would dare publish my thoughts if there were many like you; but, since there are not, I shall forebear."

Kepler to Galileo:

"I could only have wished that you, who have so profound an insight, would choose another way. You advise us, by your personal example, and in discreetly veiled fashion, to retreat before the general ignorance and not to expose ourselves or heedlessly to oppose the violent attacks of the mob of scholars (and in this, you follow Plato and Pythagoras, our true masters). But after a tremendous task has been begun in our time, first by Copernicus, and then by many very learned mathematicians, and when the assertion that the Earth moves can no longer be considered something new, would it not be much better to pull the wagon to its goal by our joint efforts, now that we have got it under way, and gradually, with powerful voices, to shout down the common herd, which really does not weigh the arguments very carefully? Thus, perhaps by cleverness, we may

Europe's Fifteenth-Century Renaissance. Brunelleschi and Nicholas of Cusa, and such among his avowed followers as Luca Pacioli and Leonardo da Vinci, in the unleashing of modern experimental physical science, changed history radically. Despite the efforts of a resurgent Venice to suppress the development of science and the nation-state by means of the religious warfare of 1492-1648, progress led by France and England unleashed an unstoppable flourishing of scientific, technological, and related economic and social progress.

In this setting, where the military and related potentials of national cultures and their factions must adapt to the increase in military and related power introduced by the combination of scientific progress and the upgrading of the intellectual and moral quality of the general population, the old faction of Venice was gradually forced to make way for the rising new faction led by Paolo Sarpi, the founder of empiricism. Sarpi's

faction was as opposed to the science of the Pythagoreans, Plato, Cusa, Leonardo da Vinci, and Kepler as the old faction of the Venetian oligarchy, but Sarpi was not prepared to be so stubbornly opposed to the products of science, as to lose the wars thereby.

So, the military-strategic and related changes in the order of modern military and related affairs persuaded Sarpi's new party of Venice to loosen the barriers to acceptance of some degree of scientific-technological progress. Sarpi house-lackey Galileo's awkward plagiarizing of the work of Kepler, on the issue of the motion of the planets about the Sun, was typical of the new spirit of empiricism unleashed by Sarpi's revival of the precedents of the medieval William of Ockham. In effect, in Sarpi's bedroom, the Olympian Zeus unbuttoned himself. (See **Box 9**.)

Thus, under empiricism, change was tolerated within lim-

bring it to a knowledge of the truth. With your arguments you would at the same time help your comrades who endure so many unjust judgments, for they would obtain either comfort from your agreement or protection from your influential position. It is not only your Italians who cannot believe that they move if they do not feel it, but we in Germany also do not, by any means, endear ourselves with this idea. Yet there are ways by which we protect ourselves against these difficulties."

He continues: "Be of good cheer, Galileo, and come out publicly. If I judge correctly, there are only a few of the distinguished mathematicians of Europe who would part company with us, so great is the power of truth. If Italy seems a less favorable place for your publication, and if you look for difficulties there, perhaps Germany will allow us this freedom."

Here it is clear that Kepler sees some good in Galileo, but Galileo is more concerned with himself and his own personal gain, rather than lifting the veil of ignorance off the minds of his fellow human being.

In 1609, Kepler a copy of his *New Astronomy* to Galileo, wanting to know what he thought of it; Galileo didn't reply. That same year, under the benefaction of Paolo Sarpi, Galileo was brought to demonstrate the telescope (a rare device at the time) to the government of Venice. His pay was greatly increased for doing this, and Paolo Sarpi heavily promoted his work, under the Venetian oligarchy.

This was done in reaction to Kepler's scientific revolution, to keep mankind from discovering the method of Plato.

Typical of his method, Galileo based his later work on observations made with a telescope, not by looking for causes (you can't do it with just your eyes), but for a way to explain what he saw.

In 1632, Galileo published *A Dialogue Concerning the Two Chief World Systems*, where he attempts to argue against the already discredited Aristotle; instead he actually *revives* the method of Aristotle by arguing against Kepler, in saying that one cannot know the true causes. In the opening section he states:

"To this end I have taken the Copernican side in the discourse, proceeding as with a pure mathematical hypothesis and striving by every artifice to represent it as superior to supposing the Earth motionless, not, indeed absolutely, but as against the arguments of some professed Peripatetics."

He goes on: "First, I shall try to show that all experiments practicable upon the Earth are insufficient measures for proving its mobility, since they are indifferently adaptable to an Earth in motion or at rest. I hope in so doing to reveal many observations unknown to the ancients. Secondly, the celestial phenomena will be examined, strengthening the Copernican hypothesis until it might seem that this must triumph absolutely. . . . In the third place, I shall propose an ingenious specu-

lation. It happens that long ago I said that the unsolved problem of the ocean tides might receive some light from assuming the motion of the Earth. . . ."

This dialogue clearly came years after Kepler had made his discoveries. Galileo's use of the motion of the tides as his "proof" that the Earth moves, is sophistry. Galileo states that three different forces can move water in a vase; one, when you blow on the water; two, when you place something in the water; and three, when you move the vase itself, and therefore the tides move because the Earth moves. He spends a fourth of the dialogue working through his "proof," even though Kepler had already made clear ten years prior to this "proof," that the tides come from the relationship of the gravitational pull of the Moon and the Sun.

So why is Galileo held to be the father of modern science? When everything he stated was false, and when Kepler clearly, on record, used a method which made breakthroughs in science, that are still in use today, long before Galileo published anything? It's clear that if you have a method to know true history, you will understand. The policy of the oligarchic model of empire is to prevent true discovery, and if discoveries are made, move to destroy the method, and then, the individual who produced those discoveries. Galileo may have let the Earth move, but he avoided the universal principle, which that motion expressed.

—Chris Landry