Oh What Tangled Webs We Weave

The Personal Lives and Philosophies of Copernicus, Kepler, Galileo, Newton and Einstein

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The rejection of God and the Catholic Church are not in a vacuum, and that applies to science as much as it does to any other philosophy or discipline. The world's materialistic conclusions concerning the origins and function of the cosmos invariably affect the kind of lives its scientists lead, and consequently, their biographies are often a sordid tale of pride, immorality and occultism. After forcefully releasing themselves from the motherly hand of the Church, scientists subsequently made themselves into icons of intellect and stamina that were bigger than life; 'men of renown' who took on an almost god-like quality, similar to the 'giants' who lived just prior to the Great Flood, and who also became the epitome of corruption (Genesis 6:4-5). Although these scientists are consistently revered in textbooks as the titans of humanity, history often

tells quite a different story. The personal lives of those who vied for its advancement was often at odds with convention, even by today's standards.

Nicolaus Copernicus

Copernicus' personal life is not as well known as that of others who followed him, but we do know several disturbing things about him. One is that Copernicus kept a mistress. When she was discovered, Copernicus refused to dismiss her when confronted by his diocesan bishop. His close associate, Rheticus, who was more or less Copernicus' public relations man, was a homosexual and found himself being run out of town on numerous occasions. Ultimately, Copernicus double-crossed him, an event that eventually led Rheticus to sever ties with him completely.

In regard to his cosmology, Copernicus consistently appealed to the "harmony" of his system, but it was a harmony ennobled by a sun that he personified, and, some say, deified, way beyond what we now know as its ability to convert helium into hydrogen. Copernicus writes:

In the middle of all sits Sun enthroned. In this most beautiful temple could we place this luminary in any better position from which he can illuminate the whole at once? He is rightly called the Lamp, the Mind, the Ruler of the Universe: Hermes Trismegistus names him the Visible God, Sophocles' Electra calls him the All-seeing. So the Sun sits as upon a royal throne ruling his children the planets which circle round him. The Earth has the Moon at her service. As Aristotle says, in his *On Animals*, the Moon has the closest relationship with the Earth. Meanwhile the Earth conceives by the Sun, and becomes pregnant with an annual rebirth (*De Revolutionibus, Of the Order of the Heavenly Bodies* 10).

Karl Popper shows the origin of these cultic ideas:

Copernicus studied in Bologna under the Platonist Novara; and Copernicus' idea of placing the sun rather than the earth in the center of the universe was not the result of new observations but of a *new interpretation* of old and well-known facts in the light of semi-religious Platonic and Neo-Platonic ideas. The crucial idea can be traced back to the sixth book of Plato's Republic, where we can read that the sun plays the same role in the realm of visible things as does the idea of the good in the realm of ideas. Now the idea of the good is the highest in the hierarchy of Platonic ideas. Accordingly the sun, which endows visible things with their visibility, vitality, growth and progress, is the highest in the hierarchy of the visible things in nature…Now if the sun was to be given pride of place, if the sun merited a divine status…then it was hardly possible for it to revolve about the earth. The only fitting place for so exalted a star was the center of the universe. So the earth was bound to revolve about the sun. This Platonic idea, then, forms the historical background of the Copernican revolution. It does not start with

observations, but with a religious or mythological idea (*Conjectures and Refutations: The Growth of Scientific Knowledge* , p. 187).

Popper couches his critique of Copernicus in rather polite terms, but essentially he is saying that Copernicus' brainchild had all the earmarks of originating from pagan sun-worship. As Wolfgang Smith notes:

…in the Renaissance movement championed by Marsiglio Ficino, the doctrine came alive again, but in a somewhat altered form; one might say that what Ficino instituted was indeed a religion, a kind of neo-paganism. Copernicus himself was profoundly influenced by this movement, as can be clearly seen from numerous passages in the *De Revolutionibus* (*The Wisdom of Ancient Cosmology* , p. 174).

Upon reading Copernicus' *De Revolutionibus*, one is struck by the preponderance of philosophical and humanistic arguments that he brings to his aid. As J. D. Bernal notes: "[Copernicus'] reasons for his revolutionary change were essentially philosophic and aesthetic," and in a later edition he is more convinced that the "reasons were mystical rather than scientific" (*Science in History*, 1st edition, London, Watts, 1954; 2nd edition, 1965). Overall, Copernicus presents about five-dozen arguments, at least half of which are solely philosophical in nature. Although the other half of his argumentation depends more on mechanics, these also have philosophical appendages to them (e.g., his view that the universe is infinite and therefore cannot have a center). Very few of his arguments are based on his own personal observations, since Copernicus merely reworked the observations of his Greek predecessors. In fact, Copernicus concludes that because the Greeks did not detail their cosmological models more thoroughly, history (and God) have called upon him to provide the long-awaited documentation of true cosmology.

Perhaps this is the reason another disturbing aspect in Copernicus' approach to cosmology is that, being a canon of the Catholic Church and one who rubbed shoulders with high-placed Cardinals, in addition to being invited to audiences with the reigning pope, Copernicus, one might expect, Copernicus would have been a high churchman in his own right, with regular recourse to the Church Fathers, especially since he knew that a good number of them wrote definitive works on cosmology and cosmogony, and of whom it was common knowledge that their consensus on important issues was the Church's most formidable weapon against erroneous ideas, even as Robert Bellarmine had taught Galileo. But one will search in vain for any patristic references in *De Revolutionibus*, or any of Copernicus' other works. After prefacing his remarks to Pope Leo X with a castigation of those who "…although wholly ignorant of mathematics…shamelessly distorting the sense of some passage in Holy Writ to suit their own purpose," the only time Copernicus crosses the threshold into the patristic witness for Leo's

sake is a disdainful remark about Lactantius, choosing him as his target because, as he asserts:

For it is not unknown that Lactantius, otherwise a distinguished writer but hardly a mathematician, speaks in an utterly childish fashion concerning the shape of the Earth, when he laughs at those who have affirmed that the earth has the form of a globe."

Consequently, as a lot, the Fathers are made to appear as ignorant partisans against the goals of science and not worthy of comment on so important a subject. The reality is that Lanctantius was the only Father who held to the idea of a non-spherical Earth. Every other Father who wrote at length on cosmological issues stated his belief, based on Scripture and science, that the Earth was a sphere. But one would never know these essential facts from the biased Copernicus. Instead, Copernicus rests his lot with the Greek philosophers and astronomers, the very individuals against which the Church Fathers exercised most of their critiques in the areas of cosmology and cosmogony. *De Revolutionibus* is saturated with nothing but praise for the Greek cosmologists, more particularly:

I found in Cicero that Hicetas [of Syracuse, fifth century B.C.] had realized that the Earth moved. Afterwards I found in Plutarch that certain others had held the like opinion. I think fit here to add Plutarch's own words, to make them accessible to all: "The rest hold the Earth to be stationary, but Philolaus the Pythagorean says that she moves around the [central] fire on an oblique circle like the Sun and Moon. Heraclides of Pontus and Ecphantus the Pythagorean also make the Earth to move, not indeed through space but by rotating round her own center as a wheel on an axle from West to East.

In the text of De Revolutionibus he continues:

It is the vault of Heaven that contains all things, and why should not motion be attributed rather to the contained than to the container, to the located than the locater? The latter view was certainly that of Heraclides and Ecphantus the Pythagorean and Hicetas of Syracuse (according to Cicero). All of them made the Earth rotate in the midst of the Universe…That the Earth, besides rotating, wanders with several motions and is indeed a Planet, is a view attributed to Philolaus the Pythagorean, no mean mathematician, and one whom Plato is said to have sought out in Italy."

We see that, despite the fact that the Greeks have varying views on the cosmos, Copernicus is enamored with their approach to cosmology, and especially with their mathematics. The appeal to "mathematics" or "mathematical harmonies" will become a common thread running through most of modern cosmology, from Copernicus to Kepler through Einstein and Quantum Mechanics, whether or not the scientists advocating them can substantiate the math with physical proof.

Johannes Kepler

Kepler was heavily influenced by the occult, as was his mother, and the latter's endeavor may have led to her trial as a witch (*Kepler's Witch*, James A. Connor, Harper Collins, 2004, pp. 275-307. *The Sleepwalkers*, pp. 389-393). Following his Neo-platonic philosophy, Kepler's main motivation for bringing the sun into the center of the planetary system, as had Copernicus before him, was that he considered it worthy of symbolic deification. In one passage he describes the sun as: "Who alone appears, by virtue of his dignity and power, suited…and worthy to become the home of God himself, not to say the first mover" (*On the Motion of Mars* , Prague, 1609, Chapter 4).

Much more disturbing, however, is another facet to Kepler's life that has been hidden from the eyes of the world for the last four hundred years. Although most historians were aware of Kepler's nefarious inclinations wherein jealousy and ambition ruled his motives, few were prepared for what recent forensic evidence has revealed. Whereas most scholars had thought Kepler's employer, the renowned Tycho de Brahe, died of a urinary tract infection, an exhumation and chemical analysis of his hair shows lethal levels of mercury poisoning just hours before his death (Joshua Gilder and Anne-Lee Gilder, *Heavenly Intrigue: Johannes Kepler, Tycho Brahe, and the Murder Behind one of History's Greatest Scientific Discoveries* , New York: Doubleday, 2004, pp. 145, 206-234). Kepler, already steeped in the Copernican theory that he freely wielded in his Lutheran circles with little reproach, desperately needed Brahe's forty-years worth of planet- and star-charting to bring his " *Mysterium Cosmographicum* " visions to fruition. As Kepler describes it:

For among the most powerful causes of visiting Tycho was this also, that I might learn the truer proportions of the deviations [of the planets] from him, by which I might examine both my *Cosmic Mystery* and *The Harmony of the World* . For these a priori speculations ought not to impinge on clear experience: but with it be reconciled.

How valuable were these charts and data? Without them Kepler would have been just another seventeenth-century astronomer struggling to make a living by reading astrological horoscopes, for he would have had little upon which to base his theory regarding the motions of the planets. Modern telescopic observation reveals that, without ever using a telescope, Brahe's data of fixed stars was consistently accurate to within 1 minute of arc or better. His observations of planetary positions were reliable to about 4 minutes of arc, which was more than twice the accuracy produced by the best observers of antiquity. In fact, it was Tycho's express desire to use his precise measurements to uncover the errors in Copernicus' solar system. This data was absolutely priceless, and Kepler, who revered Tycho and called him *The Phoenix of Astronomy*,

would eventually pay, the evidence shows, the ultimate price to obtain it. Brahe knew of Kepler's intention to acquire the charts, but he wouldn't budge, since he was the staunchest anti-Copernican of his day. Tycho's very first letter to Kepler outlined his express desire that his forty-years of painstaking work be used to promote the geocentric system, and he had more than a suspicion that Kepler was planning just the opposite. In the words of one author:

Kepler knew that in Tycho's possession were the raw observations that he, as "architect," longed to assemble into a coherent picture of planetary motion. And Tycho knew that the gifted Kepler had the mathematical wherewithal to prove the validity of the Tychonic [geocentric] system of the heavens. But Kepler was a confirmed Copernican; Tycho's model had no appeal to him, and he had no intention of polishing this flawed edifice to the great man's ego (Alan W. Hirshfeld, *Parallax: The Race to Measure the Universe*, New York: W. H. Freeman and Co, 2001, pp. 92-93).

As the plot thickens, Kepler's diary records the following:

Let all keep silence and hark to Tycho who has devoted thirty-five years to his observations… For Tycho alone do I wait; he shall explain to me the order and arrangement of the orbits… Then I hope I shall one day, if God keeps me alive, erect a wonderful edifice.

"Brahe may discourage me from Copernicus (or even from the five perfect solids) but rather I think about striking Tycho himself with a sword…I think thus about Tycho: he abounds in riches, which like most rich people he does not rightly use. Therefore great effort has to be given that we may wrest his riches away from him. We will have to go begging, of course, so that he may sincerely spread his observations around" (Letter to Michael Maestlin, February 16 1599, *Gesa mmelte Werke*
, vol. xiii, p. 289).

Scheming to come into Brahe's company, Kepler finally met him for the first time on February 4, 1600. Tycho put Kepler to work crunching numbers in the hopes of "turning his Tychonic system from a rough schematic diagram of the heavens into an accurate model from which exact predictions of planetary motion could be made….the Tychonic system – which Kepler, as a Copernican, disdained." As Kepler describes the toil: "I would have brought my discussion about the *Harmony of the World* long ago to an end except that the Astronomy of Tycho occupied me so totally that I almost was insane."

Eighteen months later, Brahe, although the epitome of perfect health, suddenly died. All the evidence points to Kepler as the perpetrator. After several of Kepler's plots to confiscate Brahe's records were foiled, the ultimate plot was hatched. Kepler, having become familiar with Brahe's alchemical laboratory, knew the precise dosage of mercuric chloride solution that would

initiate the onset of Brahe's demise. PIXE analysis [particle-induced X-ray emission] has confirmed the presence of the lethal levels of residual mercury and calcium, the latter originating from the milk that was used to camouflage the poison – a favorite medium in those times.

With his usual knack for introspective understatements, Kepler tells his diary: "I confess that when Tycho died, I quickly took advantage of the absence, or lack of circumspection, of the heirs, by taking the observations under my care, or perhaps usurping them…" The rest is history, as they say, but it is filled with enough intrigue to make even Agatha Christie envious of the story line.

Galileo Galilei

Galileo followed right on the heels of Kepler. Like Kepler, he had an eccentric and irascible personality, at least up until his conversion to the geocentric cosmology revealed in his 1641 letter to Tommaso Rinuccini, one year before his death. But whereas Kepler was more reserved, the unconverted Galileo was the quintessential know-it-all, always and everywhere trying to outshine everyone who crossed his path. As Koestler puts it: "Galileo had a rare gift of provoking enmity; not the affection alternating with rage which Tycho aroused, but the cold, unrelenting hostility which genius plus arrogance minus humility creates among mediocrities" (*T he Sleepwalkers*
, p. 373). He would ignore the overtures of his colleagues but steal secrets behind their back. Kepler was alerted to this fact as one of his admirers wrote to him and said: "Galileo has your book and teaches your discoveries as his own…" but which Kepler, for reasons of his own, allowed to transpire without litigation. In fact, Kepler sought Galileo's written correspondence on many occasions. On one occasion he sent Galileo his magnum opus,
Mysterium Cosmographicum
, hoping for a review, but Galileo ignored all but two inquiries, and those two responses were separated by thirteen years. The second response was prompted by nothing less than a threat from Kepler to expose Galileo as a fraud unless he produced the evidence of his telescope sightings about which he had been continually bragging.

Among his other braggadocios, Galileo claimed to have invented the telescope, but Kepler and his colleagues knew it was available twenty years earlier from one of Galileo's countrymen, Giovanni Della Porta. Records also show that spectacle-maker Johann Lippershey possessed a license to make telescopes by the mid-1580s. By April 1609 one could buy a telescope from shops in Paris, the same year that Galileo published that he was the first to see the moons of Jupiter, an event in history which is also in doubt since there is evidence that other sighters preceded Galileo, and that his brand of telescope was so small and clumsy it would have been hard to see Jupiter itself, let alone its moons (Ernst Zinner, *Entstehung und Ausbreitung der Copernicanischen Lehre* (Erlangen, 1943), p. 345). When Kepler pressed him to send the telescope so that his claims could be verified, Galileo gave him the typical 'the-dog-ate-it' excuse, claiming that he had "lent it to the

Grand Duke for exhibition." In his usual lack of gratitude, Galileo rarely mentions Kepler's name in his books, and even those occasions are with the intent to refute him. It is no surprise that Galileo rejected Kepler's three laws of planetary motion as well as his discoveries in optics. Not surprisingly, the unconverted Galileo thought he had a better idea.

To one of his other rivals Galileo stated: "You cannot help it, Mr. Sarsi, that it was granted to me alone to discover all the new phenomena in the sky and nothing to anybody else. This is the truth which neither malice nor envy can suppress" (Taken from Galileo's 1623 book titled

Il Saggiatore (The Assayer). The book starts with a tirade against all who tried to rob Galileo "of the glory of his discoveries.". His self-appointed monopoly on the sky is probably why Galileo also claimed to be the first to discover sunspots, but it was well known that the Jesuits Johannes Farricius and Fr. Scheiner and his assistant Cysat had found the spots earlier, both of whom had published their findings.

Galileo's deceit reached new heights in his confrontations with the Holy Office of the Catholic Church from 1616-1633. Prior to this, Galileo had made known his views of heliocentrism privately in a 1597 letter to Kepler, yet in a remarkable display of duplicity, in the intervening years between 1597 and up until 1613, he had been teaching against Copernicanism quite vigorously, complete with charts and graphs. A 1606 manuscript of his musings still survives today. Galileo was in a constant whirlwind: saying one thing and doing another, and doing one thing and saying another.

Suffice it to say, after giving him every grace and favor to treat Copernicanism as a hypothesis, not fact, Galileo refused, claiming he had proof when, indeed, he had none at all. The Church hierarchy simply could not put up with his roguery any longer. His former confidant, Cardinal Barberini, later became Urban VIII, and, as pope, made it a point to condemn Galileo for lack of proof. Urban upheld the 1616 Sacred Congregation's verdict against Copernicanism, and after obtaining Galileo's renunciation in 1633, sent notice of the condemnation to all the inquisitors and papal nuncios of Europe, making it an official proclamation of the Vatican and the papacy. As Dorothy Stimson reports, "Pope Urban had no intention of concealing Galileo's abjuration and sentence. Instead, he ordered copies of both to be sent to all inquisitors and papal nuncios that they might notify all their clergy and especially all the professors of mathematics and philosophy within their districts…" (*The Gradual Acceptance of the Copernican Theory of the Universe*, New York, The Baker and Taylor Company, 1917, pp. 67-68).

Having fathered two illegitimate daughters with his long-time mistress (whom he eventually abandoned), the unconverted Galileo was hardly the example of a devout Catholic. Although Galileo took the girls with him to Florence, he soon found caring for them annoying and decided to send them to an impoverished convent. Because of this “irrepressible egotism” that led him to abandon them, at least one of the girls held an animosity toward him the rest of his life. It was the other daughter who, having become a nun, was chosen to read to Galileo the daily Psalms imposed upon him in his exile as penance by Pope Urban VIII.

All things considered, the unconverted Galileo was probably one of history’s better examples of a sophist and propagandist. Although his image is one of an empiricist who made no claims apart from experiment, scientifically speaking the pre-1641 Galileo was a bottom-feeder who often gloried in credit where no credit was due. Arthur Koestler, helps reveal the man behind the image:

The personality of Galileo, as it emerges from works of popular science, has even less relation to historic fact than Canon Koppernigk’s…[H]e appears…in rationalist mythography as the Maid of Orleans of Science, the St. George who slew the dragon of the Inquisition. It is, therefore, hardly surprising that the fame of this outstanding genius rests mostly on discoveries he never made, and on feats he never performed. Contrary to statements in even recent outlines of science, Galileo did not invent the telescope; nor the microscope; nor the thermometer; nor the pendulum clock. He did not discover the law of inertia; nor the parallelogram of forces or motions; not the sun spots. He made no contribution to theoretical astronomy; he did not throw down weights from the leaning tower of Pisa and did not prove the truth of the Copernican system. He was not tortured by the Inquisition, did not languish in its dungeons, did not say ‘eppur si muove’; and he was not a martyr of science (*The Sleepwalkers*, p. 358).

Koestler adds, however, that Galileo discovered that a pendulum swings at constant frequency, regardless of amplitude, and that he invented the pulsilogium, a timing device for taking pulses, and the thermoscope, a forerunner of the thermometer (pp. 359-360). Regarding the experiment on falling bodies, I. Bernard Cohen states that Galileo’s conclusion “only shows how firmly he had made up his mind before hand, for the rough conditions of the experiment would never have yielded an exact law” (*Lives in Science*, New York: Simon and Schuster, 1957, p. 14). Some admirers even revise Galileo’s words to conform to the empiricist image. Broad and Wade point out Alexandre Koyré’s discovery that an author added the phrase “by experiment” to Galileo’s original wording: “Nevertheless, I have discovered
by experiment
some properties of it which are worth knowing and which have not hitherto been observed or demonstrated” (“Traduttore-Traditore. A Propos de Copernic et de Galilée,” Isis, 34, 209-210, 1943;
Metaphysics and Measurement: Essays in Scientific Revolution
, Harvard University Press, Cambridge, 1968). They continue: “With Galileo, the desire to make his ideas prevail apparently led him to repost experiments that could not have been performed exactly as described…The Renaissance saw the flowering of Western experimental science,

but in Galileo, the propensity to manipulate fact was the worm in the bud” (
Betrayers of the Truth
, p. 27).

The most egregious fact about the pre-1641 Galileo is that at the time he was vigorously defending Copernicanism before the Holy Office in 1633, he knew even then the system didn’t work and that he had no substantial proof for it. Since he rejected Kepler’s elliptical orbits (although he used Kepler’s material whenever it was to his advantage, and claimed it as his own), and refused any compromise with the Jesuits who were going over to Brahe’s geocentric model, he was stuck with Copernicus’ forty-eight epicycles, yet he advertised the model as one that bypassed the earlier mechanical problems “with one single motion of the earth.” It is obvious that either Galileo was lying or he never read Copernicus’ book, which is one of the reasons Koestler refers to Copernicus’ work as “The book that nobody read.” Calling his bluff, Robert Bellarmine stated quite clearly to Galileo that the Church would not even consider changing its position on the cosmos unless Galileo could provide proof of his claims. In one of his more audacious moves, Galileo tried to prove his case by a strange concoction of theory and conjecture on the nature of tidal action. Having rejected as “occultish” Kepler’s explanation that the combination of the sun’s and moon’s gravity caused the daily tides, Galileo, even knowing that his own explanation could not be physically possible, nevertheless, to save his prestige, tried to convince the Catholic prelates that tides were caused by the tilt of the earth’s axis and the earth’s monthly changes in orbital velocity. In addition, his theory addressed only a 24-hour tidal cycle, but even sailors knew, and reported to the common folk, that the tides alternated every 12 hours. Galileo then tried to explain the discrepancy by postulating that the ocean floor varied in depth. No wonder Koestler concludes his remarks with:

There can be no doubt that Galileo’s theory of the tides was based on unconscious self-deception…. making the complexities of Copernicus appear deceptively simple, was part of a deliberate strategy, based on Galileo’s contempt for the intelligence of his contemporaries. We have seen that scholars have always been prone to manias and obsessions, and inclined to cheat about details; but impostures like Galileo’s are rare in the annals of science.

As noted earlier, however, Galileo finally came to his senses after his chastisement from Pope Urban VIII. Without any hint that he is speaking under duress or to save himself from further condemnation, Galileo writes his letter to Tommaso Rinuccini denouncing Copernicanism in the most explicit terms.

Isaac Newton

Although he is much deserved of scientific credit for at least providing mathematical formulas of motion that, within the margin of error are quite accurate, his personal life was little to be admired. Kepler’s jealousy of Brahe was just slightly worse in comparison to Newton’s avarice that led him to confiscate the work of his contemporaries and credit it to himself. Astronomer John Flamsteed was the owner of voluminous notes charting the moon’s movement and the

positions of the stars, notes Newton desperately needed to bring the moon within his gravitational theory for the publishing of his famous *Philosophiae Naturalis Principia Mathematica* . A bitter feud resulted between the two men wherein Newton, using his influence with government officials, forced Flamsteed's hand. Not only did Newton surreptitiously wrest Flamsteed of his painstaking work, he did the same to Stephen Gray and Robert Hooke. In 1674 Hooke published the Inverse Square Law for the force of gravity in his book
An Attempt to Prove the Motion of the Earth by Observation
. Newton then tried to claim it as his own, feigning that he had thought about it many years earlier but only decided to publish it in his own book thirteen years later. As Ellen Tan Drake notes:

Newton, however, claimed to have arrived at his universal law of gravitation at his country home in Woolsthorpe during the plague years 1665 or 1666 (it is not clear which), during his *annas mirabilis*
(this "marvelous year" when the legendary apple fell). This date, of course, would clearly predate Hooke's expression of the law except that there is clear proof that as late as 1675, Newton still thought that the planets and Sun were kept apart by "some secret principle of unsociableness in the ethers of their vortices," and that gravity was due to a circulating ether that had to be replenished in the center of the Earth by a process like fermentation or coagulation. (
Restless Genius: Robert Hooke and his Earthly Thoughts
, Ellen Tan Drake, Oxford University Press, 1966, pp. 32-33. Drake's source is Newton's letter to Oldenberg, Dec. 7 1675, as cited in Turnbull, 1959, vol. 1: 368; Patterson, 1950).

Newton won the day against Hooke by using his influence at the Royal Society, just as he did in heading off the new discoveries of Robert Boyle, all in an effort to advance his own career. (David Clark and Stephen P. H. Clark, *Newton's Tyranny: The Suppressed Scientific Discoveries of Stephen Gray and John Flamsteed* , New York: W. H. Freeman and Co., 2001; Richard S. Westfall,
Never at Rest: A Biography of Isaac Newton
, Cambridge University Press, 1981, 1983, pp. 471f, 601f; on Robert Boyle see
False Prophets
, Alexander Kohn, Oxford, Basil Blackwell Ltd., 1986, p. 39). On at least three separate occasions, Newton introduced fallacious figures into the
Principia
in order to increase its apparent power of prediction ("Newton and the Fudge Factor," Richard S. Westfall, Science, 179, 751-758, 1973;
False Prophets
, Alexander Kohn, Oxford, Basil Blackwell Ltd., 1986, pp. 36-39). Ironically, it was considered an "epoch-making" work long before it was thoroughly reviewed, the highly influential John Locke having accepted it based merely on the word of Newton (Richard S. Westfall,
Never at Rest: A Biography of Isaac Newton
, Cambridge University Press, 1981, 1983, pp. 469-470; Morris Kline,

Mathematics in Western Culture
, Oxford University Press, 1953, p. 230. See also Kline's
Mathematics: The Loss of Certainty
, Oxford University Press, 1982).

In addition to the ill-treatment of his scientific colleagues, Newton was rumored to have had a homosexual relationship with one John Wickins, a friend with whom he had lived for twenty years; and a later liaison with Nicholas Fatio De Duillier, a man twenty years his junior and with whom he exchanged intimate letters, many of which were later censored by Newton or a confidant. Newton was also deep into alchemy (illegal at the time) and the Kabbalah, the occult musings of medieval Talmudic authors. Although he was reputed to have Christian moorings, Newton embraced the heresy of Arianism (i.e., the denial of both the divinity of Christ and the Trinity). Westfall writes: "In Newton's eyes, worshiping Christ as God was idolatry, to him the fundamental sin" (Richard S. Westfall, *Never at Rest: A Biography of Isaac Newton*, Cambridge University Press, 1981, 1983, p. 314; On Newton's intimacy with Wickens and Fatio, see
Isaac Newton: The Last Sorcerer
, Michael White, MA: Perseus Books, 1997, pp. 235-254).

Voltaire had accused Newton of using his niece to entice politicians so that Newton could gain various positions of prestige. Voltaire writes: "I thought in my youth that Newton made his fortune by his merit. I supposed that the court and the city of London named him Master of the Mint by acclamation. No such thing. Isaac Newton had a very charming niece, Madame Conduitt, who made a conquest of the minister of Halifax. Fluxions and gravitation would have been of no use without a pretty niece" (*Dictionnaire Philosophique*, as cited in N. Martin Gywnne's *Sir Isaac Newton and Modern Astronomy*
, Britons Catholic Library, n. d., p. 8). Biographer Richard Westfall, although an admirer of Newton and predisposed to dismiss any hearsay, adds: "The wider ramifications with Halifax, and Newton's involvement in it, do not evaporate with equal ease," although "With Halifax the libertine, Victorian eulogizers could not bear to associate Newton. Nor could they bear the thought, the point of Voltaire's jibe, that Newton used the degradation of his niece to advance his own career" (
Never at Rest: A Biography of Isaac Newton
, Cambridge University Press, 1981, 1983, pp. 596-597).

Unknown to most, Newton spent most of his time interpreting biblical prophecy, writing over a million words on the subject. One of his more intriguing predictions is the date of 2060 AD as the end of the world, but that date surfaces only because Newton decided that the Roman Catholic Church was the Antichrist. As Westfall says, Newton "hated and feared popery," and as Koestler concludes, Newton was "a crank theologian like Kepler…and held that the tenth horn

of the fourth beast of the Apocalypse represented the Roman Catholic Church." Since he reasoned that the Church's peak occurred in 800 AD, upon which, if one adds the 1260 days of Apocalypse 11-13 but changes them from days to 1260 years, then one obtains 800 + 1260 = 2060. Newton borrowed the '1260 days = 1260 year' scheme from the Puritan mystic Joseph Mede. Mede added the 1260 years to 400-455 AD and held that the end would come around 1760-1815 AD. Others began at different dates (e.g., Bengel at 576; Ellicott at 608; Melanchthon at 660, et al, most trying to bring the terminus to the Reformation). Newton believed that the Second Coming of Christ would follow plagues and war and would precede a 1,000-year reign of Christ and the saints on earth, otherwise known today as "chiliasm" or "premillennialism" He spent close to 50 years delving into biblical prophecy, writing over 4,500 pages and a million words in an effort to determine the end of the world. Many of these papers had lain undisturbed in the hours of the Earl of Portsmouth for 250 years, which were eventually sold by Sotheby's in the late 1930s. Newton proposed various dates for the end, but one of the last, which he apparently wrote on a separate piece of paper, was 2060. This collection of papers was purchased by Abraham Yahuda, and was stored in the Hebrew National Library. It was among these documents that the date 2060 was found. (See also Michael White's *The Last Sorcerer*
, pp. 156-157).

Albert Einstein

Albert Einstein's biography is one of the most lurid in the annals of science, but most of it has been hid from the public for many years. Although *Time* magazine named him "Person of the Century" (Dec. 31, 1999), up until recently few in modern history have had the privilege of being shrouded in as much impenetrable media insulation as Einstein, that is, until the executors of his estate had deceased (Helen Dukas d. 1982; Otto Nathan d. 1987). Helen Dukas had motivation to protect Einstein, since she met him in 1928 when his marriage to his cousin Elsa Löwenthal was badly deteriorating, of which Elsa "sought as far as possible to block the subject of infidelity from her mind" (*The Private Lives of Albert Einstein*
, p. 210). Michele Zackheim adds:

"Hans Albert suspected they were lovers. His allegation was fortified by the proximity of her room in Princeton – just off Albert's study and down the hall from Elsa's. In addition, Einstein left Dukas more money in his will than any other member of his blood family, as well as the net income from his royalties and copyright fees and all his books and personal effects" (*Einstein's Daughter: The Search for Lieserl*
, p. 253).

Highfield and Carter remark: "Dukas became fiercely loyal to her employer: she was liable to attack as 'dung' any biography that dared shed light on Einstein's personal life, and she saw newsmen as her 'natural enemies'" (*The Private Lives of Albert Einstein*, p. 211).

In the information contained in his personal papers we find that a Mr. Hyde hid close behind the Dr. Jekyll commonly portrayed by the wire-haired, absent-minded professor. He fathered a daughter out of wedlock with Mileva Mari?, although the couple eventually married. They named the child Lieserl, but that is all the affection she would ever receive from Einstein. He persuaded Mileva to give up the child to an orphanage so that he could avoid the social repercussions of having an illegitimate daughter. He handled it as a mere business transaction, for he never saw Lieserl face-to-face. As biographer Michele Zackheim puts it:

Einstein scholars have concluded from his September 19 [1903] letter that the couple had decided to put Lieserl up for adoption, based on Albert's concern that the child's registration (or lack thereof) not be a source of trouble for her – or her parents – in the years to come…Apparently, in the end, Albert and Mileva agreed it would be best to pretend that Lieserl had never existed. And so, with a deliberate hand, the short life of Lieserl Einstein-Mari? was erased (*Einstein's Daughter*, pp. 52-53.).

Zackheim also concludes from her detailed research in Mileva's hometown that Lieserl had a severe mental handicap which helped seal the Einsteins' decision, and that she died at twenty-one months old, on September 21, 1903. Mileva's father was given the task of making sure that no official records concerning her short life remained in any governmental or church repositories (ibid., pp. 276-277). Highfield and Carter describe the situation:

"There is no evidence that Einstein and his daughter ever set eyes on one another. For all his apparent enthusiasm after the birth, it seems that his main concern was to free himself of this burden at the earliest opportunity. Lieserl's existence was kept hidden even from his closest friends, and within months she had disappeared from his life without trace. Einstein was never to talk of her publicly, and Lieserl might have been erased from history had it not been for the discovery of his letters to Mileva by the Einstein papers project….The dangers that seemed to preoccupy him were unconnected to the child's illness: his question about registration strongly suggests that she was being surrendered for adoption, and that Einstein was eager to cover his tracks. The lack of any official record of the birth would appear to be a tribute to the thoroughness of the precautions that he referred to. Lieserl's birth posed a threat to Einstein's new start as a patent examiner in Berne. He had gained Swiss citizenship only a year earlier, and the stigma of an illegitimate child would have harmed his prospects…The couple's meager income may have provided another motive for giving the child away…" (*The Private Lives of Albert Einstein* , pp. 88-90).

That such callousness wasn't just an incidental quirk is demonstrated as Einstein later forsook his son Eduard and consigned him to a sanatorium so that he could be relieved of the financial responsibility for his care and take full advantage of the public funding available. Eduard

eventually died in the sanatorium. Mileva wrote to Albert: "'You have here a dear, seriously ill child. Often he asks if his father will come, and with each postponement, he becomes even more morose. He is terribly wounded.' Albert refused to come back to Zurich to see Eduard. And he refused to acknowledge the financial and psychological battles that Mileva had to wage over his care" (*Einstein's Daughter*, p. 190).

Einstein's indifference to his children, however, was outshone by the animosity he showed to his wife. According to the divorce papers, Mileva was the victim of physical violence in the marriage, and Einstein's adultery was the final straw that led to the legal separation in 1914 and final divorce in 1919. Zackheim writes: "He tended to have a few romances going at once, but after Mileva, he was known to prefer simpler women" (*Einstein's Daughter*, p. 227). Highfield and Carter add: "Einstein was obliged to admit in his legal submissions that he had committed adultery. There were also references to fierce fights between him and his wife, which had made their continued marriage intolerable" (
The Private Lives of Albert Einstein
, p. 188). Zackheim gives the precise wording of the deposition: "…It is true that I have committed adultery. I have been living for approximately four and one-half years with my cousin, the widow Elsa Löwenthal, and since then I have had intimate relations with her. My wife, the plaintiff, has been informed that I have had intimate relations with my cousin since the summer of 1914" (
Einstein's Daughter
, p. 87). In a related incident, the biographers add:

"The following day Lisbeth and her mother visited Mileva and found her face badly swollen. It seems that Lisbeth may have been suggesting that Mileva had been beaten. Einstein was a powerful man and, for what it is worth, Hans Albert recalled that when he misbehaved his father 'beat me up'. … It is known that Einstein's divorce papers – which remain under seal in Jerusalem – refer to violence within the marriage" (*The Private Lives of Albert Einstein*, pp. 153-154; See also
Einstein's Daughter
, p. 73).

After Mileva suspected an affair between Albert and Anna Meyer-Schmid, Albert complained that this "was typical in a woman of such 'uncommon ugliness,'" adding, "Professor John Stachel says this remark was the first to shock him as he worked through Einstein's papers after his appointment as their editor" (*Private Lives*, pp. 125-126). Mileva describes herself as "starved for love" as early as 1900 (ibid., p. 128). See also
In Albert's Shadow: The Life and Letters of Mileva Mari?
, p. 16-17.

As the marriage to Mileva began to deteriorate, “Einstein established himself in a bachelor apartment around the corner from Elsa,” his cousin and next love interest, whom he eventually married in 1919, only four months after his divorce (*The Private Lives of Albert Einstein*, p. 172). Yet, Highfield and Carter add: “But there is no evidence that Mileva believed her husband was about to be stolen from her, battered though their marriage was. Einstein…had no plans to leave her. Instead he intended to pursue his affair while remaining her husband. … He remarked to Elsa ‘But the order is always to pretend. Only when we are born and when we die are we permitted to act in an honest way’” (
The Private Lives of Albert Einstein
, pp. 163-164); “Mileva would remain a virtual invalid for three years after Albert’s decision to end the marriage…” (
In Albert’s Shadow
, p. 19). Prior to his involvement with Elsa, Einstein had a short fling with Paula Einstein, Elsa’s sister, but soon ended the relationship. He then wondered why he had become involved with her, settling for the rationale that “she was young, a girl, and complaisant. That was enough” (
Einstein’s Daughter
, p. 72).

In one of his more audacious moves, Einstein had actually pleaded with Mileva to allow him to marry Elsa, using as his excuse that Elsa’s daughter “…had to suffer from rumors that have been circulating regarding my relationship with her mother. That weighs upon me and needs to be remedied through a formal marriage” (*Einstein’s Daughter*, p. 85.). If this had been the real motive for Einstein’s pleading, we might be tempted to conclude that he was a deranged individual who had lost touch with reality. The real truth is more sinister and shocking. The thirty-nine-year-old Einstein was actually in a debate with himself whether he should marry Elsa or Elsa’s twenty-year-old daughter, Ilse, while all along he had been shacking up with Elsa (for the four years prior), while still married to Mileva. As Zackheim puts it:

Albert was not being honest [with Milvea]. By May [1918], he had made it clear that he wanted to marry Elsa’s daughter Ilse. Ilse reported to a friend, Georg Nicolai: ‘Yesterday, suddenly the question was raised about whether A[lbert] wished to marry Mama or me…Albert himself is refusing to take any decision, he is prepared to marry either Mama or me. I know that A[lbert] loves me very much, perhaps more than any other man ever will, he also told me so himself yesterday…’ (*Einstein’s Daughter*, pp. 85-86).

Zackheim adds: “At the top of the letter, Ilse had written, ‘Please destroy this letter immediately after reading it!’” Shortly after Ilse wrote this letter, Albert wrote to Mileva and told her that he had changed his mind about coming to see the boys in the summer. Instead, he had decided to go to Ahrenshoop, a remote village on the Baltic Sea, with Elsa, Ilse, and Ilse’s younger sister, Margot” (ibid., p. 86).

In the waning months of his time with Mileva, records made public in 1996 show that Einstein gave her a list of conditions in order for her to remain under his financial care:

(A) You will see to it: (1) that my clothes and linen are kept in order; (2) that I am served three regular meals a day in my room; (3) that my bedroom and study are always kept in good order and that my desk is not touched by anyone other than me.

(B) You will renounce all personal relationships with me, except when these are required to keep up social appearances. In particular, you will not request: (1) that I sit with you at home; (2) that I go out with you or travel with you.

(C) You will promise explicitly to observe the following point in any contact with me: (1) You will expect no affection from me and you will not reproach me for this; (2) You must answer me at once when I speak to you; (3) You must leave my bedroom or study at once without protesting when I ask you to go; (4) You will promise not to denigrate me in the eyes of the children, either by word or deed (*London Daily Telegraph*, October 30, 1996; *Einstein's Daughter*, p. 77.)

In one of his love letters to Elsa, Einstein wrote: "I treat my wife as an employee whom I cannot fire. I have my own bedroom and avoid being alone with her" (*Einstein's Daughter*, p. 73). Mileva was apparently no fool. A few months after receiving the above conditions she moved to Zurich with her children and never returned to Einstein.

Things fared no better for Elsa, the eventual winner of the Elsa versus Ilse contest. Einstein persuaded her to divorce her husband, Max Löwenthal, so that the two lovers could marry. But this marriage also began to deteriorate due to Einstein's sexual affairs. According to a biographer, "she told him he could have a woman on the side, but only one at a time" (*Discover*, September 2004, pp. 29-30), and consequently, to her dismay, Einstein's adultery was serial. Highfield and Carter write: "It has to be said that Elsa was not the only one of Einstein's female relatives to catch his eye. It appears that, either during this trip or some time earlier, he had also flirted with her younger sister, Paula" (
The Private Lives of Albert Einstein
, p. 148). They add: "Einstein joked that he preferred 'silent vice to ostentatious virtue,' but there was little that was furtive about his affairs. Either they were conducted in open view, or easy clues were left for Elsa to discover. Another incident…gives the impression that Einstein was eager for his wife to know what he was up to…" (ibid., p. 209).

As he had with Mileva, Einstein recast their relationship as one of mere convenience. She died

in 1936, nineteen years before Einstein.

In addition to his sexual escapades, Einstein was suspected of plagiarism and failing to give scientific credit to Mileva who helped him develop his theories. On the accusations of plagiarism, see C. J. Bjerknes, *Albert Einstein: The Incorrigible Plagiarist*, Downers Grove, IL, XTX Inc., 2002; R. Carroll, “Einstein’s $E = mc^2$ ‘was Italian’s idea,’” *The Guardian*, Nov. 11, 1999; G. H. Keswani, “Origin and Concept of Relativity,” *British Journal of the Philosophical Society*, 15:286-306, 1965; Richard Moody, Jr., “Plagiarism Personified,” *Mensa Bulletin*, 442 (Feb): 5, 2001; *The Private Lives of Albert Einstein*, pp. 108-109.

One of the biggest myths surrounding the aura of Einstein is that he was the inventor of the famous $E=mc^2$ formula, but there were at least a dozen scientists who had either helped develop or employed the formula prior to Einstein. It wasn’t until five years before his death (d. 1955) that Einstein publicly attributed $E = mc^2$ to the 1862 charge-momentum field equations of James Clerk Maxwell. Previous to this was the work of J. Soldner who assigned mass to light and thus could calculate its deflection in a gravitational field. There were also Michael Faraday’s 1831 experiments with electricity and induction coils which had already introduced the energy/mass relationship, and Maxwell put this in the reciprocal equation $m = E/c^2$. In fact, one can go back as far as Isaac Newton in 1704 for the theoretical relationship between mass and energy. Samuel Tolver Preston used the formula in 1875. Julius Robert Mayer put the formula in terms of aether pressure.

A curious twist in this saga occurs in 1881 with J. J. Thomson in his work with charged spherical conductors in motion, since he derived a slightly higher coefficient, that is, $E = 4/3mc^2$. The same $E = 4/3mc^2$ was found by F. Hasenöhrl in 1904 when he published the first explicit statement that the heat energy of a body increases its “mechanical” mass. The history of the 4/3 coefficient is intriguing. Arthur Miller shows both its origin and how Einstein sought to remove it. Although Einstein purports to have legitimately removed it, Miller shows he did not. Einstein had attributed the excess 1/3 to mechanical constraints, but Poincaré had demonstrated earlier that it was due to forces that avoid the explosion of the electron. Engrossed in his General Relativity theory,

Einstein did not visit the problem again. Max Von Laue demonstrated that to obtain the final formula $E = mc^2$ "one type of energy…the new physics must eliminate from its list…is kinetic energy." The reason is that if mass is based on energy, as $E = mc^2$ shows, then there cannot be a kinetic energy, $K = ½mv^2$, which, in turn, depends on the mass. In other words, to obtain $E = mc^2$ one must abandon the most obvious and primary form of energy, kinetic energy.

Henri Poincaré had used the basis for the $E = mc^2$ formula long before Einstein commandeered it for his Special and General Relativity theories. In 1889, Oliver Heaviside used the $E = mc^2$ principle in his work with capacitors. In 1903 the Italian scientist Olinto De Pretto had already published $E = mc^2$ two years before Einstein, but which Einstein did not mention in his 1905 paper on Special Relativity, which is odd considering that he spoke fluent Italian and, by his own admission, read all the Italian physics journals. In 1907, Max Planck, expanding the work of Hasenöhrl and using Poincaré's momentum of radiation formula, gave the final derivation of the $E = mc^2$ formula. All in all, $E = mc^2$ is readily derivable apart from the theory of Relativity, as both Joseph Larmor in 1912 and Wolfgang Pauli in 1920 demonstrated independently.

Other instances of Einstein's plagiarism abound. Although his biographer, Abraham Pais, does his best either to minimize or to make these incidents coincidental, the facts speak for themselves (Abraham Pais, *Subtle is the Lord: The Science and the Life of Albert Einstein*, Clarendon Press, Oxford, 1982). Pais claims Einstein was "unaware" of the work of Lorentz (ibid., p. 21); of Boltzmann and Gibbs (ibid., p. 55); "Equation 5.12" (ibid., p. 92); of Poincaré (ibid., p. 94); of Hilbert (ibid., p. 257) yet his work contains their formulas and principles.

One of the more notable instances occurs in September 1924. Einstein proposed at a meeting of famous physicists that the community investigate interference and diffraction phenomena with molecular beams. Louis de Broglie, however, had already been working on the idea and published a paper on it in November 1924. As it turns out, de Broglie had sent a copy of the unpublished manuscript to Paul Langevin some months earlier, and Langevin had passed it to

Einstein, whereupon Pais records Einstein's evaluation that de Broglie's ideas "seemed quite interesting to him." Obviously, Einstein obtained the notion of searching for "interference and diffraction phenomena with molecular beams" from de Broglie's unpublished paper, but he failed to mention de Broglie's work to the September 1924 audience of physicists, thus leaving the impression that this was all his idea. In the face of all this weighty circumstantial evidence, Pais, as he is prone to do in his biography, glosses over them and concludes: "Thus, Einstein was not only one of the three fathers of the quantum theory, but also the sole godfather of wave mechanics" (*Subtle is the Lord: The Science and the Life of Albert Einstein*, p. 438).

Physically speaking, the youthful Einstein was the epitome of strength and vigor, since he was by common standards very muscular and attractive. But as the years wore on Einstein became grossly unhygienic, refusing to brush his teeth or even change his clothes. The image of the unkempt, wire-haired professor is not the prop of a Hollywood producer but the symptoms of a man who seemed to be loosing his grip on life. (*The Private Lives of Albert Einstein*, Robert Highfield and Paul Carter, NY, St. Martins Press, 1993, pp. 59-217;
In Albert's Shadow: The Life and Letters of Mileva Mari?
, ed. Milan Popoci?, Baltimore: Johns Hopkins Univ. Press, 2003, pp. 16-27; "Whose Relativity Was It, Anyway?" Patricia Nemo,
College of St. Thomas Magazine
, Spring 1990, pp. 22-25; "Sex-mad Father of Relativity left family out of equation,"
London Daily Telegraph
, Anthea Hall, July 25, 1993; "Relatively imperfect genius,"
Jewish Chronicle
, Monica Porter, August 8, 1993).

Eventually, the promiscuous lifestyle of his earlier years may have finally caught up with him. Einstein's personal doctor, János Plesch, who knew him quite well, concluded that he died of syphilis, demonstrating from the results of the autopsy that the abdominal aneurysm that took his life is always associated with the tertiary stage of the disease, which can be 25 years or longer from time of onset. Highfield and Carter write that, in an April 18, 1955 letter to his son Peter, remarking on Einstein's sexual escapades, Plesch stated:

"Why shouldn't a healthy and beautiful man have had bad luck in his youthful daredevel days and contracted a lues [syphilis]?" Plesch insisted that Einstein's symptoms were entirely consistent with the disease, and boasted that in all his years of medical practice he had never once been wrong in tracing an abdominal aneurysm to this cause. (*The Private Lives of Albert Einstein* , pp. 265-266).

The biographers add:

“It appears that the same thoughts may have been occupying Seelig, for the cause of the aneurysm was a point on which he had been pressing Nathan…One is tempted to wonder whether the possibility of syphilis had occurred to Nathan too. Dr. Harvey has stated that, medically speaking, Plesch ‘had justification for thinking along those lines,’ but added, ‘It is known that tertiary syphilis does cause aneurysms, but not in this location very often’” (ibid., p. 266).

Mileva’s letters reveal that in Albert’s reading of the book *Die Sexuelle Frage*, he had underlined the parts dealing with venereal disease. Zackheim notes: “this highlighted passage about venereal disease suggests that Mileva apparently worried about Albert’s sexual life outside their bedroom. Furthermore, Einstein historians believe that Albert frequented prostitutes before he married, and that Mileva may have been aware of it” (
Einstein’s Daughter
, p. 268). “…Janos Plesch, who described his friend [Einstein] as a man with a strong sex drive… ‘in the choice of sex partners he was not too discriminating,’ wrote Plesch… ‘Einstein loved women, and the commoner and sweatier and smellier they were, the better he liked them’” (
The Private Lives of Albert Einstein
, p. 206). “Einstein was also voicing deep misgivings about the institution of holy matrimony. He told Plesch that it must have been invented ‘by an unimaginative pig,’ and…it was ‘slavery in a cultural garment’” (ibid., p. 210). Deborah Hayden’s article, titled “Syphilis in the Einstein Factory,” shows that the interest level from other biographers regarding the possibility that Einstein contracted syphilis is practically nil. In order to protect Einstein, most have ignored or ridiculed the suggestion, yet Einstein’s numerous sexual affairs remain an open book. Some doctors claim that abdominal aneurysms are not all caused by syphilis (from 6-17-05 letter from Hayden on file, used with permission).

Michele Zackheim’s research reveals the following:

He [Plesch] also insisted that Albert had syphilis, the ‘gentlemen’s disease.’ “In my long medical practice I have found, almost without exception, that abdominal aneurysms which Einstein suffered from are syphilitic in origin. It might, of course, be that Einstein was exceptional in that respect too and that his aneurysm was nonspecific. However, an earlier syphilitic infection is also indicated by the fact that he suffered from extensive secondary anemia attacks…I think the infection was acquired during the interval [between his marriages]…. Even though many may shake their heads about this, I am adhering to my thesis. (*Einstein’s Daughter*, p. 255.)

Zackheim adds:

“Dr. János Plesch had maintained that Albert contracted syphilis sometime between leaving Mileva and marrying Elsa. But Albert could have contracted the disease prior to 1910, when he began to exhibit active interest in other women. If Albert had contracted syphilis before Mileva

became pregnant with Eduard, in November 1909, or even before Lieserl was born, in 1902, he might have passed the syphilis to Mileva, who could have been a latent carrier. She, in turn, could have passed it to a baby *in utero*. The closer to conception that the mother is infected, the greater the risk of congenital syphilis in the fetus, which can result in a variety of birth defects from skin lesions to a failure to thrive to an enlarged liver and spleen to mental retardation. But with a mother who is a latent carrier, a healthy child can be born between two syphilitic children. Hans Albert, Mileva and Albert's only healthy offspring, was a middle child" (ibid., p. 268).

Despite his candidness about Einstein's syphilis, Plesch had written a much softer biography of Einstein, after having discussed its contents with Einstein. In remarking on the book, Plesch tells Einstein: "You can believe me that while I was writing these seven hundred pages, I was laughing a lot about how marvelously we are all trained to lie and how little human beings are allowed to state the truth. Our good Ibsen hit the nail on the head when he said, 'Take somebody's life lie away and you will take away his whole life.' The book is written with this compromise" (ibid., p. 249). Unfortunately, the publisher destroyed the book.

For the record, syphilis is purported to be the impetus for the genius, and eventual madness, of many notables in history (e.g., Beethoven, Capone, Dostoyevsky, Goya, H. Hughes, Hitler, Joyce, Lenin, Lincoln, Mozart, Napoleon, Nietzsche, Poe, Roosevelt, Toulouse-Lautrec, van Gogh, Wilde, et al.). (*Pox: Genius, Madness and the Mysteries of Syphilis*, Deborah Hayden, Basic Books, 2003, p. 306f.). Whether or not this phenomenon had anything to do with Einstein's theories, we simply do not have enough evidence to make a firm conclusion.

On the religious side of things, Mileva and her children converted to Catholicism in 1905, a fact little advertised by the secular press, then or now (*Einstein: The Life and Times*, p. 139). The year 1905, of course, saw the introduction of his Relativity theory to the scientific community. Unmoved by his wife's religious life, Einstein wrote to his confidante Professor Hurwitz: "They've turned Catholic. Well, it's all the same to me" (
Einstein: Life and Times
, p. 139.)

Einstein was, for all intents and purposes, an atheist. In *The Private Lives of Albert Einstein*, the authors write: "Einstein's views were atheistic in almost every important respect. He found it impossible to conceive of a personal deity, had no belief in an afterlife and considered morality an entirely man-made affair. His worship of cosmic harmony was genuine; his claims that this was the face of God were at best benign affectation" (p. 18). Highfield and Carter add that Einstein's pupil in Zurich, David Reichinstein, writes of a "Messiah-feeling" unfolding in Einstein's psyche, so much so that "his account contains dark hints that Einstein's arrogance bordered on hubris" (ibid., p. 127). "Einstein was well aware that his harsh attitude disturbed

people" (ibid., p. 180).

Any notions he had of God were of an entity completely impersonal and uninvolved with human affairs. His path toward allowing science to unseat Scripture and the Church as the ultimate authority for any intellectual endeavor that crossed its domain had begun very early in his life. After receiving instruction up until the age of twelve at Bavarian schools, which included teaching on the Catholic faith (and in particular the traditional six-day creation), Einstein later reflected that in "reading of popular scientific books" he "soon reached the conviction that much in the stories of the Bible could not be true." (*Einstein: The Life and Times*, p. ix.)

At times Einstein wrestled with the concept of God. In one of his later works he writes:

If this being is omnipotent, then every occurrence, including every human action, every thought, and every human feeling and aspiration is also His work; how is it possible to think of holding men responsible for their deeds and thoughts before such an almighty Being? In giving out punishment and rewards He would to a certain extent be passing judgment on Himself. How can this be combined with the goodness and righteousness ascribed to Him. (Albert Einstein, *O ut of My Later Years*
, New York: Philosophical Library, 1950, p. 27.)

This rationale for being an agnostic is ironic, in a way, since the complaint of not being able to combine God's omnipotence with man's free will comes from a man who had no problem combining the hitherto incompatible entities of space and time, energy and mass, inertia and gravity, and matter and antimatter. In fact, Einstein was known for trying always to simplify things by combining them, as he sought, although in vain, for his Unified Field Theory. So why someone who spent his whole life combining incompatible things would suddenly stop at the Almighty and free will, especially since God would have a ready answer for his objection, is quite puzzling. Perhaps, with Einstein's apparent fear of being held responsible for his "deeds and thoughts" and having to face the Almighty's "reward and punishment," he is echoing the deepest motives of all men who suppress the evidence of His existence in order to make themselves autonomous.

At another time, Einstein assured his followers that he, indeed, did not believe in a personal God, and, in fact, had no religious leanings other than, perhaps, the "structure of the world."

It was, of course, a lie what you read about my religious convictions, a lie which is being systematically repeated. I do not believe in a personal God and I have never denied this but

have expressed it clearly. If something is in me which can be called religious then it is the unbounded admiration for the structure of the world so far as our science can reveal it. (*Albert Einstein: The Human Side*
, eds., Banesh Hoffman and Helen Dukas (Princeton University Press, 1981).

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