

COSMOLOGY without HEADACHES

(Lecture Series)

(compiling, transcribing, researching, editing always in progress)

LECTURE XVII: Infinite Expanse to Infinite Division—The Micro-world; Spinoza, ‘God-intoxicated’ or Atheistic? Physics as the Anti-faith

The magnifying glass (a single converging lens) was known in ancient times, often referred to as a burning glass—said to have been used by Archimedes to incinerate enemy ships at up to half-a-mile, but the first compound microscope is thought to have been made by Zacharias Janssen, Dutch spectacle maker, in the last decade of the 16th century. It did not catch on right away, due to the unavoidable aberration in early lens systems. We will have to wait until the 1840s for compound microscopes incorporating achromatic lenses (compound lenses that minimize chromatic aberration due to refraction, which was just beginning to be understood in the early 17th century).

Embryonic Modern Biology:

The first microscopists worked with ‘simple’ instruments. The best were made by **Anton van Leeuwenhoek** [1632-1723], who observed capillaries, red blood corpuscles and sperm cells, and was the first to see bacteria and protozoa he called ‘animalcules.’ The single lens was placed almost touching the object and the eye had to be very close. Even then, Samuel Pepys observed, it is difficult to discern much. Leeuwenhoek’s countryman, **Jan Swammerdam** [1637-1680], famous for precision and hypothesizing and *THE BOOK OF NATURE*, warns his reader that “the lens must, for this purpose, be carefully managed, for as it is turned one way or another, different things are seen: one cannot bring the lens nearer, or remove it further, but the least distance, but something is immediately perceived by the sight, which was not observed before.”

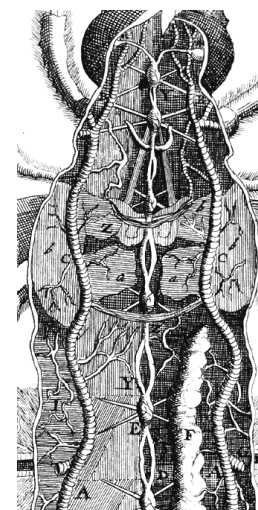
Swammerdam was also somewhat notorious for his meticulous but nonetheless horrifying dissections of lower animals. He demonstrated by a series of insect dissections that the same organism persists through its various developmental stages. He argued against the fluid-carrying nerve idea proposed by Descartes, and demonstrated his nerve and muscle discoveries with the famous frog-leg experiments showing how muscles react, even after death, to stimulation of nerve endings. His, too, was the discovery that the king bee was actually a queen. He argued against the then long prevalent notion of spontaneous generation (flies developing out of putrescent garbage and mice generated by old rags, etc.) and he laid the basis for the modern understanding of morphogenesis. In the 1670s he took biology to a whole new level. If you have heard of Swammerdam at all, it is likely to have been in a negative way, as for many years it has been generally accepted that Swammerdam was responsible for the idea of ‘preformationism,’ or ‘*emboitement*’ (that all the future generations of an individual are nested; ‘interfitted’ something like Ukrainian Matruska dolls. One writer tells us that Swammerdam supposed:

...that an egg contained all the future generations of its kind as preformed miniatures, like a series of boxes one inside the other. “In nature there is no generation,” wrote Swammerdam, “but only propagation, the growth of parts. Thus original sin is explained, for all men were contained in the organs of Adam and Eve.”

[S.F.Mason; *A HISTORY OF THE SCIENCES*; Collier, 1962, pp.363-364,
as found in Reading and Writing the Book of Nature: Jan Swammerdam (1637-1680),
an internet linked article (without reference to its origins) by Mathew Cobb]

What Swammerdam apparently meant was that something like Aristotle's 'potential' was latent in every individual. In 1665 he dissected a caterpillar in public, showing his amazed audience "a Butterfly...perfectly contained within its skin." He concluded, *first*, that the caterpillar and the adult butterfly were the same individual in different forms and, *second*, adult forms lie hidden within the juvenile body—which is what he meant when he said "in the whole of nature there is no generation, only growth." So there is no succession of individuals from larvae to adults, but a radical transformation or succession of transformations from egg to completion of the *potential* adult—the recipe, so to speak, or the immaterial *form* stored therein. The egg, then, or seed, and all its potential is itself stored, potentially, in the parent—leading to intense arguments as to whether the individual had been stored in the seed of the father or the egg of the mother.

[See more of Swammerdam's experiments and concepts in NATURE REVIEWS: Neuroscience, 5/2002, vol.3, pp.395-400, from which most the above was taken.]



Swammerdam's dissection of a mayfly nymph showing nervous system (in the middle), trachea (the pipe-like structures on either sides) and muscles (hatched areas). Note the optic nerves branching out from the miniscule brain at the top. In the actual insect, the area shown is about 8mm long.

The Advent of Chemistry:

To small to be seen by even the best modern microscopes, the elements, as hypothesized by farsighted chemists, had to be learned strictly through experimental method and mental visualization. A convinced atomist,



Robert Boyle [1627-1691] (famous for the gas law named after him: $PV = \kappa$ -- or the Volume of a gas at a given temperature varies inversely with applied Pressure)

Boyle was perhaps the first to realize the need for a cataloguing of elements. But how many were there, and how should they be arranged? He supposed these elements combined to form compounds, but that they were themselves indivisible—thus, atoms—giving us the first notion of atomic theory applied to chemistry. The scientific world would have to wait until the next century for **Antoin-Laurent de Lavoissier** [1743-1794] and **John Dalton** [1766-1844], the father of modern atomic science, to carry that idea forward into a molecular

theory and describe how the elements might be combined.

An often forgotten contributor to this early exposing of the microcosm is **Robert Hooke** [1635-1703], considered by many to be the 'father of the modern microscope.' He developed an early instrument using two lenses—a tool that would have to wait a while, however, for perfection by others. Hooke is one of the most underrated scientists of this period (e.g., inventor of the iris diaphragm shutter in cameras; the universal joint; balance spring escapement in watches [independently invented later by,



Hooke's Microscope

and often credited to Huygens]; and he coined the term ‘cell’ in biology). He was also an astronomer and an architect. His own grid-like layout having been rejected, he worked closely with his good friend, Christopher Wren, the genius who was principle architect in the rebuilding of London after the Great Fire of 1666. Though Wren was actually only a self-taught architect, having had a brilliant career as a mathematician and professor of astronomy, his monumental task included building 52 churches, all of different design (especially noteworthy is St.Paul’s Cathedral with its monumental baroque façade).

Hooke also worked on lenses, improving the telescope as well as the microscope and deducing from experiments in refraction a wave theory of light. Further he seems to have conceived, perhaps in rudimentary form, the laws of gravity, almost immediately thereafter formulated mathematically by Newton, but without crediting Hooke when ‘Book One’ of his *Principia* was presented to the Royal Society. He admitted, however, that Hooke had got him interested in the subject, having related a kind of dream of such an idea. Hooke seems even to have suggested the inverse squares idea. But merely conceptualizing is insufficient to establish a scientific law. One must demonstrate its truth by experiment and/or mathematically, and extend its principle universally. Actually, according to the Wikipedia article on Hooke, “recent assessment about the early history of the inverse square law is that ‘by the late 1660s,’ the assumption of an ‘inverse proportion between gravity and the square of distance was rather common and had been advanced by a number of different people for different reasons’.” [Meanest foundations and nobler superstructures: Hooke, Newton and the ‘Compounding of the Celestial Motions of the Planetts’; Ofer Gal, 2003, p.9]. Newton, then, in all published versions of *Principia* does credit Hooke, as well as Wren, and also Halley (who had financed its publication). One of the reasons we have not heard more of Hooke’s accomplishments is that not only his papers but his very portrait mysteriously disappeared from the Royal Society when Newton became its president and it moved to a new meeting place. His papers were found in the 20th century and have led to renewed interest in him and his career. His portrait, too, was thought to have been recovered, but further investigation revealed the painting was actually of Flemish scholar Jan Baptist van Helmont.

Many minds were opened by the sheer perplexity of trying to explain all these new physics facts (as well as the suggested infinite expansion and simultaneous reduction of the world) by the traditional understanding of the Universe. The fact that these apparent infinite regressions were now beginning to be handled in some respect by the new mathematics was of no little import to the radical transition that was taking place: a transformation in cosmic concept, latent for millennia, now developing over but a few generations of humans—but in only a few, particularly open-minded and educated humans. Science, even as primitive as it was in the age of Newton, had not impressed the masses. In many ways it still has not been understood by duller minds as anything but another, more reliable form of magic. Regrettably (but probably naturally and unavoidably) most folks in the 1600s were stultified by reactionary religions that saw science as a work of Satan, or they were simply enthralled by tales of the supernatural. So much so that Europe was still burning witches into the early 18th century.

Cell structure of cork by Hooke



In fact, science was very much the anti-faith, but its task—attempting to pierce through the gloom of ignorance and superstition—was daunting. Polishing lenses through which truth might be at least partially illuminated was a man whose vision was too clear for his time.

Baruch Spinoza [1632-1677]

Spinoza learned too much too fast. As a boy he was already projected to be a stalwart of Judaism among the faithful of Amsterdam. But even before finishing his studies in the Synagogue he crossed the boundary into philosophy. He was excommunicated at only 24 years old.

“...[I]mmEDIATELY, with the perfect grace and humor of a cultured mind,” says Joseph Ratner, “he changed his name from Baruch to Benedict, quite confident one can be as blessed in Latin as in Hebrew. [J.Ratner of Columbia University in ‘The Life of Spinoza,’ (*prefatory material in*) *THE PHILOSOPHY OF SPINOZA: Selected From His Chief Works*; Modern Library, NY, 1927 (p.xvii).]”

It could hardly have been so blithely done as Ratner suggests. This sensitive prodigy was cut off from his family, his community—his very ‘race—as well as his friends (some of whom had turned him over to the Jewish leadership as a suspected heretic). Spinoza did not find this lonely path by accident or entirely on his own. He was walked along the brink of the philosophical chasm by his Latin instructor, Van den Ende. Van den Ende, though a Catholic physician, was a free thinker and shared some of that freedom with a select few of his pupils. For such carelessness in his teaching and in his politics, he would pay the ultimate price himself on the gallows in Paris.

Van den Ende, however, showed young Baruch only the mire beyond the walls of tradition—exposing some conflicting passages in the Bible to jar his faith and, during his Latin lessons, introducing him to thinkers, ancient, recent, and contemporary, who might be likely to conduct him safely through the swamp (or so it may have seemed to Spinoza). However that may be, Van den Ende did not actually push him in. Hobbes may have had some influence there, certainly Machiavelli was behind him, but Descartes would be his principle guide. In any case, Spinoza’s mentality hardly needed coaxing and he entered enthusiastically but calmly into the life of the mind. Even after being cut off from the Judaic community he was still viewed as a Jew by most Christians, so ironically he was not considered a heretic. He only published one work during his lifetime (under his own name, that is: *PRINCIPLES OF DESCARTES’ PHILOSOPHY GEOMETRICALLY DEMONSTRATED*) and, as the title suggests, not exactly in a popular style. So he generally stayed out of the spotlight, even turning down the chair of philosophy at Heidelberg (1673). Although he was generally considered quite odd and a borderline atheist, despite some grumbling denunciations there were but few isolated incidents that interrupted his relatively untroubled way. Overall, more ignored than persecuted or threatened, he was allowed to live simply and frugally as a lens grinder—even if a godless one.

Without official academic or social position and with so little published, his reputation was gained through hearsay among only the most thoughtful class in Europe. Though his full effect on modern philosophy was thus delayed for several decades after his death, his thought was known to leaders of the scientific revolution, and he thus helped to shape the new vision of a completely mechanical world based on mathematical principles, our discovery of which, he expected, would bring us ever closer to an



understanding of God—but a god very unlike the anthropomorphic visualization still common in the 17th century (and even today). The physical Universe, for Spinoza, is part of God—the only part we can know, it seems, through science and reason. “Instead of maintaining that God is like Man magnified to infinity,” Ratner explains, a God

...who has absolute, irresponsible control of a universe which is external to him— [as presented by] the rather rude anthropomorphic account of the ultimate nature of the universe contained in the Bible—Spinoza maintains that God is identical with the universe and must be and act according to eternal and necessary laws. God is Nature, if we understand by Nature not merely infinite matter and infinite thought—the two attributes of Nature specifically known to us—but [also] infinite other attributes the precise character of which we can never, because of our finitude, comprehend. Within this Being—God, Nature or Substance (the more technical philosophic term)—there is no dichotomy; and there is outside of it no regulative or coercive intelligence such as the Biblical God is conceived to be. Whatever is, is one. And that is, in the special Spinozistic sense, supremely perfect because absolutely real. There is, considered in its totality, no lack or defect in Nature. There can be, therefore, no cosmic purposes, for such purposes would imply that Nature is yet unfinished, or unperfected, that is, not completely real. Something that cannot possibly be true of an absolutely infinite being.

In the Bible, miracles are presented as the clearest possible examples of God’s omnipotence, and are used to achieve His purposes by interrupting Nature.

For Spinoza, however, miracles, did they actually occur, would not exhibit God’s power, but his impotence. The omnipotence of the one absolutely infinite Being is not shown by temperamental interruptions of the course of events; it is manifested in the immutable and necessary laws by which all things come to pass.

[*ibid.*, *Introduction*; pp.xxxiii-xxxiv]

The perfect God doesn’t need second chances. As Friar Gottschalk had pointed out (heretically) in the 9th century, one miraculous creation is plenty. But if the principles behind the Universe/God are timeless, there would be no ‘moment’ of creation. Anyway, Spinoza had to dispose of the scriptural miracles. How else would he establish a rational, dependable, predictable world? Science could not advance under a whimsical God. That would be a world akin to the one in Alice’s looking glass. Only if things are determined by necessity is science possible. Only if there are dependable laws can man make use of memory, forethought, and his power of reason. Only if Nature is constrained can she be manipulated—and this is the crucial difference between ancient and modern posture.

On the other hand, if events are determined, as they must be in such a causal world, what has happened to free will? The strictly causal mechanism gives us the Newtonian billiard-ball world, whereby, given the laws of motion and an original push imparted to the cue ball plus the primal positions and attributes of all the other elements, all of Natural history can be deduced. This physical determinism is an apparently unavoidable residue of the mechanical/causal cosmos. If the physical world is at one with the meta-physical or mental or spiritual, ‘incorporeal’ world, then even such things as human mental states would be affected by the interaction of these elements—the swirling of the world in which we live driving the elements of which we are made—so all our moods and wants and choices and actions are determined; such that we are denied free

will. We do not, thereby, will anything, but only *seem* to ‘will.’ Willing is thus an illusion: a momentary state of being—*seeming* to be judging, evaluating, deciding—during which we are actually merely awaiting a conclusion brought about by the eternal and unconcerned interaction of insentient elements in accordance with the imperturbable laws of nature, to which our subsequent actions are simply a reaction that only *seems* to be under our control. This quite obviously leads toward fatalism, whereby morality is eliminated. For how can one be held responsible for predetermined actions, to which neither praise nor blame can be attached? Worse, even our reasoning about such things is an illusion; our very consciousness is a fraud, as Daniel Dennet and a number of other modern day psychologists like to say: we only think that we think, the experience called thinking having simply been the natural reaction to the collisions of elements during certain electro-chemical interrelationships over which we have no control.

But we have stepped too far forward in anticipation of modernism, and must now return to the 17th century. There the rescue of free will was attempted in two ways:

ONE way, exemplified by **Henry More** [1614-1687], was to push the mind/body dualism even beyond Descartes’ intention, such that free will was possibly available in the alternate dimension of spirit or soul or mind—i.e., in the non-mechanical, incorporeal realm. The evidence of a non-mechanical aspect of reality was obvious to More. The action of magnetism and gravity were natural processes that, though they could be measured in certain ways, could not be explained or ‘demonstrated’ by mechanistic principles. So, although it may have seemed difficult for many of the new mechanists, More had no trouble in imagining another, parallel world, as it were; a spiritual realm:

For as for the very *Essence* or bare *Substance* of any thing whatsoever, he is a very Novice in speculation that does not acknowledge that utterly unknowable; but for the *Essential* and *Inseparable Properties*, they are as intelligible and explicable in a Spirit as in any other Subject whatever. As for example, I conceive the intire *Idea* of a *Spirit* in generall, or at least of all finite, created and subordinate *Spirits*, to consist of these severall powers or properties, viz. *Self-penetration*, *Self-Motivation*, *Self-contraction* and *Dilatation*, and *Indivisibility*; and these are those that I reckon more absolute: I will adde also what has relation to another and that is power of *Penetrating*, *Moving* and *Altering the Matter*. These *Properties* and *Powers* put together make up the *Notion* and *Idea* of a *Spirit* whereby it is plainly distinguished from a *Body* whose parts cannot penetrate one another, is not *Self-moveable*, nor can *contract* nor *dilate* it self, is *divisible* and *separable* one part from another; but the parts of a *Spirit* can be no more separable, though they be dilated, than you can cut off the *Rays* of the *Sun* by a pair of Scissors made of pellucid Crystall.

[From Henry More: *An antidote against atheism*, book I, ch. IV, par.3, p.15 quoted in Koyré: *FROM THE CLOSED WORLD TO THE INFINITE UNIVERSE*; Johns Hopkins, 1957; ch.vi, pp.125-6]

Henry More, in developing his spirit concept, turns to matter’s opposite attributes to envision something like non-matter: an incorporeal world, even though his description and his use of the term ‘spirit’ makes it sound rather like ghosts or angels—such that a number of More’s contemporaries expressed “the confident opinion” that “the very notion of a *Spirit* were a piece of Nonsense and perfect Incongruity.” But as Koyré persists, More had a cogent argument. Light, for instance, shows exactly the properties he assigned to spirit: certainly immaterial, yet

extending through space and acting upon matter. Penetrable while penetrating, light allows the motion of bodies through it without resistance, and can itself pass through bodies (transparent ones, at least), indicating that light and matter can coexist in the same place. The same could be ascribed to Gilbert's magnetism and the 'attraction' of gravity—not to forget about the æther that seemed to fill all-space without the least resistance to the motion of objects even as large as planets and possibly the sun. Leaning most heavily on gravity to make his case, he notes that the laws of motion require that unattached bodies on our moving earth would drift away into space were they not bound by a non-mechanical or "more than mechanical" force: a "spiritual" agency. "So that it is plain that we have not arbitrarily introduced a Principle but that it is forced upon us by the undeniable evidence of Demonstration." [*From the preface to More's The Immortality of the Soul as found in Koyré, Ibid., p.133.*]

This has been included here not only because Henry More was influential regarding the concepts of Newton and thus regarding the early development of classical physics but to make it clear that there were serious questions being asked, right from the beginning, about the consistency of the 'clockwork' universe hypothesis; questions that would tend to be ignored rather than answered as the mechanical/mathematical model proved increasingly productive. Surely it was now dawning on many of its proponents that it would be only a matter of time before this theory explained everything. Because things in the material/mathematical world progressed so successfully, the unanswered questions tended to be left to new 'philosophers,' as scientists simply began making the mechanist assumptions necessary to continue progressing, pushing the new model while separating themselves from philosophy and limiting their reasoning within the boundaries of pure physics. As we will see, physics became so seemingly reliable as *the* means to knowledge as to impose its underlying assumptions as an inadequately examined foundation for what would develop into modern philosophy, spawning schools of thought that the ancients would have considered madness (but certainly clever).

In any case, the mind, as part of the spiritual realm, is separate from the material world in which we dwell or with which we 'interface'. So decision making, nonetheless real for taking place in the non-physical realm, is based on our actually evaluating temporal events and situations. Thus our will is free from purely mechanical causation. This approach contends, then, that humans have a dual nature—one foot in the material world, one 'foot' in the spiritual realm: not quite angels, not quite beasts. Though our decisions are certainly affected by what goes on in the material world, we might be free within the boundaries of a given situation—e.g. our cultural climate and our capacity to think, to judge, and to act—and thus to be, ourselves, a *cause* of material events, allowing us to deflect the course of history.

Even Spinoza was interested in discovering among the laws of nature especially the mental laws. His work in this regard can be regarded as the foundation of modern psychology—but of course, with Spinoza, as with the subsequent science of psychology, even here the idea persists that nothing whatever happens in the mental (spiritual) life that is not somehow *caused* to happen. How else could there be psychological laws? Thus thoughts, feelings, moods, and resulting actions in the physical world are still all predetermined, not freely created.

A *SECOND* way of trying to save free will from Spinoza's denial, of it but without postulating a parallel dimension, is to consider that physics may not be exhaustive of truth; that there are other sorts of knowledge and other methods of its attainment, though science may be the best and/or cover the most ground. I.e., there is more to the Universe than meets the eye (that is to say there is extra-empirical 'stuff'—like 'dark matter'?). Of course we are limited by laws of universal nature as well as our own nature, but they might not be the same kinds of laws. The laws for humans may (and seem actually to be) less strict than those for insensible atoms and stones and celestial bodies. In physics every action causes an equal and opposite reaction; a law the inanimate cannot escape—or even know. With humans, however, and to a lesser degree even with the higher animals, there is room for adjustment in reaction to causes. Thus, though the laws of physics certainly constrain us, they are not perfectly or absolutely determinate of human behavior, leaving 'wobble room'—room for a modicum of free will. If we cannot altogether avoid reacting, we seem to be provided with a more or less limited choice as to *how* we shall react to a given stimulus, and can even train ourselves to react in what seems the most beneficial or least harmful manner. Thus we are free—or can be—within the constraints of our own nature, the historical era and our particular culture, the parameters of the immediate situation, etc., etc.: much as an artist is free within the frame of his painting or an author within the covers of his book. But paradoxically we can only be free if we know the determining laws. Otherwise, if we could not depend on laws of nature, existence would be serendipity. Memory would be useless and foresight impossible. We would be constantly subject to the 'whim' of the cosmos: a tyranny of uncertainty. Increasing knowledge, then, is a condition of increasing freedom: the freedom from randomness and darkness, out of which arises the freedom to set goals, hence to find or invent methods by which to achieve them (such as the very scientific method that, ironically, seems to imply that free will is a delusion!).

To get back to Spinoza and to speculate perhaps more freely than is warranted: the reticence displayed regarding publication of his major theses was not due only to fear of persecution (he was already persecuted: ostracized for suspected atheism) but to fear that his own philosophy might actually succeed in supplanting and ruining religion. We have accused science as the 'anti-faith,' and Spinoza believed religion actually performed a necessary social and psychological function. Like the ancients, he considered philosophy to be the business of philosophers; something with which the majority of men should not, *could* not be burdened. Most men, he supposed, believe that nature is like them, in that it has an end: a plan. And thus that God Himself directs things in the interest of man—so that He might be worshipped.

Spinoza thinks this is a rather lowly opinion of God and instead holds that nature has no goal or purpose; that it acts by sheer necessity (the same with God, or nature as an extension or attribute of God); that there is merely a need only *in humans* to establish some final cause or principle behind nature. Yet he also criticizes Plato's idea of God fashioning the world out of the realm of ideas, because this realm seems to him something outside of God. That would mean God Himself is subject to a kind of fate, which he thinks absurd since he has labored mightily to show that God is the first and only cause of everything: of all essence and existence. How can this be resolved with his version of God as having no purpose?

While not an atheist in principle—seemingly more of a pantheist (God is Everything, or gods are in everything) or what some have called a ‘panentheist’ (Nature or the Universe is a partial manifestation of Infinite Being that [who?] simply exists: Super-entity with neither human nor humane attributes nor interest at all in ‘our world’), Spinoza knew his ‘rational religion’ was tepid and not for everyone. Most folks need some sort of superstition-loaded faith, he thought, complete with anthropomorphic deities and spirits. Civilization seems to require both angels and demons to help homogenize behavior. So he may not have sought purposefully to destroy religion. In fact (though the ‘religion’ of Spinoza is hardly recognizable by anyone at all, much less to either Jews or Christians), he sought to base philosophy on theism by making God (arguably) synonymous with Nature or the Universe: The One, a concept verging on wholism. Thus natural philosophy in Spinoza’s hands became, in a sense, rational theology.

Spinoza is the only major philosopher to have attempted to resolve the conflict between reason and religion by equalizing them and working them into a kind of reason-based religion. But it is neither a warm and comforting religion nor a fearsome fire-and-brimstone kind of faith. It has no churches and no hymns—not even prayers, for its god does not require worship or love or altruistic acts—nor would the most humble display of abject obeisance be effective in altering even a sub-particle of cosmic reality. Of what good is such a religion? It is tempting to envision Spinoza’s incentive as vengeance: getting even with all of Judaism as the club that would not have him as a member, shunned him, cast him out, exposed him as a traitor. Perhaps, in his youth, he had only been testing their mettle; challenging them to convince him of the truth of orthodoxy, but a true traitor could not have undermined the Old Testament any more effectively.

The seeds of the Enlightenment had only recently been planted by others, but Spinoza already offered a detailed description of the fruit they would produce. Though he wanted the political results of the Biblical law to be maintained by reason instead of indoctrination and coercion, it was by means of reason that he cut off the very source of that law: the Word of God. Spinoza saw the Bible, in effect, as political document. Thus Moses would be understood as having invented the Law for political purposes: ethnic loyalty and social stability. Moses is here portrayed as the supreme confidence man, having made up the stories of miracles and his conversations with God to achieve a police-free means of divine enforcement over the weaker members: those hold-over, Egypt-influenced pagans and the non-philosophical minds of the common tribesmen. This view denies Socrates the title ‘father of political philosophy’ (earned principally through the dialogues of Plato, having written nothing himself) and awards it to Moses. According to many Biblical scholars, Moses also wrote nothing, or wrote only the Ten Commandments and possibly some other parts of the Judaic code and presented them as given by God. But even if he wrote the Books of Moses entire, he has presented only what Socrates/Plato would call a “noble lie”—albeit the greatest noble lie ever told; the one that was likely the very key to unlocking the potential for Western civilization: the ‘revealing’ of God’s behavioral demands. If true, that Moses invented the myth of the One God and Genesis and the Decalogue, etc.—the very foundation of the Old Testament and the rock of Judaism, then, also like Socrates, he left no written evidence as how he came to the deeply sophisticated philosophical understanding necessary even to conceive of such a fabulous hoax. By actually pulling it off he becomes the greatest political genius ever—but still a step down from the only person to whom God actually appeared.

Here, then according to this rational, Jewish, a-theological revisionist view, is the very sub-structure of Western history:

Moses dreamed up the necessary mythology and provided the politico-theological rules for developing and sustaining a stable and prosperous society: the very invention of Judaism. Later,

Jesus, Judaism's greatest heretic, by reinterpreting the Old Testament (without denying it as revealed) managed to promote Jehovah to God of humanity, extending Hebrew-style morality to the world. This too was done without Jesus having written a word, accomplished by his disciples through their Gospels and the church founded upon his even more special relationship to God than that of Moses. Nearly seventeen centuries later, by puncturing the original Mosaic mythological bubble and reducing the Word of God to a doubtable human conception,

Spinoza, perhaps Judaism's second greatest heretic, even without publishing his reasoning, rationalized the meaning of the Covenant and thus made the Jews like everyone else. It may have been intended as a positive move, to make social or national or political assimilation possible for a landless people who had been for too long seen as different and suspicious and unacceptable to the various European Christian cultures; relieving Jews, thereby, of Western scorn and persecution. Of course that goal would require that both sides be notified of the change, rather than hiding his ideas under the carpet. Even so, the effect of his 'solution' would hardly be hands across the theological boundary for it required the junking of both Judaism and Christianity in favor of some much weakened and indecipherable relativistic humanism: a dethroning of theology to crown the usurper, philosophy; replacing Jerusalem with Athens, which is the very message of the coming Enlightenment and the curse of modernity.

Leo Strauss observed that the reception of Spinoza has undergone various stages, from condemnation as a soulless atheist and materialist, to canonization by the German romantics who saw him as a mystical pantheist and "God intoxicated man," and finally to neutrality by scholars who had come largely to accept the results of his historico-critical approach to the Bible. The official reception of Spinoza was possible, Strauss writes, only once the famous *querrelle des anciens et des modernes* had been decided in favor of the moderns and the legitimacy of modern thought had been accepted.

[found in READING LEO STRAUSS: *Politics, Philosophy, Judaism* by Steven B. Smith; Univ. of Chicago Press, 2007; p.65;
as interpreted and expressed by Smith from *Das Testament Spinozas* by Leo Strauss, in GESAMMELTE SCHRIFTEN, Heinrich Meier, ed.; Metzler, Stuttgart, 1996; vol.1, pp415-422;
and as Translated by Michael Zanc in his chapter *The Testament of Spinoza*, in LEO STRAUSS: *The Early Writings (1921-32)*; SUNY Press, Albany NY, 2002; pp.216-33]

Spinoza's world was far from ready to hear his message, so he withheld his philosophy from publication. He may have expected that the world of common men would never be ready for his man-made 'rational religion'. 'Spinozisticism', then, would seem to have been a failure, except that "practically every scientist today" (as Will Durant points out) in some way over the course of his work (although unwittingly, I expect, in the vast majority of cases) "has become a member of his congregation".

Open here to discussion about free will vs. determinism in a mechanistic universe: Can we find the cause of some inconsequential action of mine today in the primal stellar dust? (etc.)

HANDOUT:

from Alexandre Koyre: FROM THE CLOSED WORLD TO THE INFINITE UNIVERSE;
Johns Hopkins Univ., Baltimore, 1957;
chapter vii, '*Absolute Space and Absolute Time and Their Relations to God*';
pp.155-189

ALSO

RECOMMENDED (*not required*):

from READING LEO STRAUSS: *Politics, Philosophy, Judaism* by Steven B. Smith;
Univ. of Chicago Press, 2007; Ch.3, '*Strauss's Spinoza*'; pp.65-83