

Keynote Presentation: The Early Modern Origins of Secularism: Revisiting the Relationship Between Knowledge and Faith

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In order to address the questions raised by this forum, I went to the online version of the Oxford English Dictionary (OED) and I went to ARTFL (The Project for American and French Research on the Treasury of the French Language) to look up what traces of secularism we could find in the *Encyclopédie* as well. Those of you who have gone through this same exercise will know that the word ‘secular’ in its French equivalent is not an entry in the *Encyclopédie*, though there are various entries that relate to it, like ‘atheism,’ or various words related to laicism.

By contrast, it is a word in the OED, and the definition that I think we generally tend to use is one that emerged, if the OED has got its chronology and sources correct, roughly around the middle of the nineteenth century. But the OED entries, I think, are also very interesting in the traces of a kind of earlier vocabulary and I’m going to try to allude to it in various points of this brief discussion tonight.

I want to start out with the one description of something relating to secularism that most intrigued me, and it was under this very short entry for *laique* in the *Encyclopédie* where they said, “In speaking of people, one says about all of them that which they are not.”¹ This is a wonderfully apt description of the exactly problem we are struggling with: “that which they are not.” Its mirror is a mid-nineteenth century definition of secularism in the OED from a book entitled *Secularism the Practical Philosophy of the People* (1854) where the author, G. J. Holyoake, justified his use of this word as follows: “Secularism has been chosen ... as expressing a certain positive and ethical element, which the terms ‘Infidel,’ ‘Sceptic,’ ‘Atheist’ do not express.”² Here we have the other side of the coin, a century later: a conscious attempt to transform a

¹“Laique,” *Encyclopédie* (1751-72), vol. 9, p. 198: “en parlant des personnes, se dit de toutes celles qui ne sont.”

² *OED*, s.v. “secularism.”

downplaying of belief into a positive philosophy, the presence rather than the absence of something.

As a historian of the Renaissance and the Scientific Revolution, I'm much more interested in the birthpangs of secularism in this earlier period; like Sean Cocco and a number of other people in the room, I primarily study the sixteenth and seventeenth centuries, though I'll occasionally go backward or forward. I'm going to make this period the focal point of my comments. My remarks draw less on my own research and more directly from my thinking about this important subject in relationship to teaching the history of the Scientific Revolution, and how we might think of the way in which secular themes can be complicated by looking at them through the history of science.

Let me start out by saying that I think for many of us who teach in this field, teaching the history of science is not only an exploration in history of interpreting nature, but a critical inquiry into the reasons why we want to understand the natural world. What motivates the scientific study of nature? This is one of the questions to which I constantly return when I talk with students, while also getting them to see how a series of ideas have evolved, been rejected, accepted, and debated at various moments in time.

One of the key misperceptions that students have about this subject is that science is -- and has always been -- a secular pursuit. This is one of the biggest unarticulated preconceptions that they bring to the class, and the way it usually comes out is in relationship to what I am trying to emphasize, which is quite the opposite. For the average undergraduate, famous episodes such as the trial of Galileo that Professor Cocco has included on his syllabus, and the debates over evolution reinforce the perception that science exists in direct conflict with religion. For many historians of science, the warfare of science and theology is dead, but for our students who live in this world, it is alive and well for many reasons that we know well, because of what they hear and read about regularly. Nowadays, they directly relate this subject to more contemporary developments such as the idea of Creationism and, more recently, Intelligent Design think of the very interesting case this year in Pennsylvania. For our students the history of science, to the extent that they've thought about it at all, is still that sort of view embedded in the origins of the subject: that the progress of science is, de facto, the

triumph of the secular worldview. And that secularism is embedded in a certain concept of modernity.

As a historian, I like to remind students that the evolution of scientific ideas is far more complicated and messy, and not at all inevitable. Science may be ultimately, but not inevitably, secular; it may be largely, but not entirely, divorced from systems of values and beliefs, religious or otherwise. Today we emphasize the procedural aspects of scientific methodology as the basis of its commitment to the impartial generation of truth. Such procedures exist precisely because somebody wanted to invent them, and that's one of the reasons that studying the sixteenth and seventeenth centuries is so interesting, because this is, at least in the world of Western science, a moment when we begin to invent these kinds of procedures that we associate with the core methodologies that people use when they experiment, when they confirm what other people have done, when they follow through on the process of not only generating, but testing, confirming, denying, knowledge of one sort or another.

Studying the early history of science offers us an opportunity to explore not only the evolution of scientific ideas and theories, but how and why these procedures, these generators and guarantees of sound knowledge emerged. It also allows us to consider the alternatives, and this is something that I tend to spend a lot of time on: I like to get students to see not only the paths we've taken, but the paths that at some point or another seem to not fit into the more recent story. And I also like to remind them, whether I'm teaching history of science or history of medicine, that no old knowledge ever dies; it's always out there somewhere, active in some way in the modern world, and you need to go looking for it.

For instance, one of the examples I offer, given the location in which I teach, concerns a local museum. I tell students that if they want to take one field trip related to this class that demonstrates the persistence of discarded knowledge, go down to San Jose, go to the Rosicrucian Museum, and think about the place that magic and the occult sciences have played in the Scientific Revolution. Think about where it is today relative to where it was 500 years ago – the point is that it's still there. For the vast majority of its history, scientific inquiry has been neither autonomous nor self-generating, nor has it held up objectivity as its ideal. These are all very recent developments. Science exists in

relationship to other ways of generating knowledge, of confirming belief, of arriving at the truth. -These are some of the basic points I'm trying to convey in this sort of class, namely, that prior to the nineteenth century, science was largely dependent on both theology and philosophy to accomplish its goals. One of the things I want them to understand, is why we use the term "science" - with all the sub-disciplines and specialties that it encompasses – to describe so many diverse kinds of inquiry. And I want them to reflect on why that ideal still satisfies us, since it was invented in the early nineteenth century, as a way of talking about these things. I want them to see what that large encyclopedia, that circle of disciplines, looked like beforehand and the interconnections it created.

When discussing the realm of ideas, the fundamental interconnections for the history of science are to questions of religion and philosophy. We can certainly talk about politics, economics, and many other developments which matter in understanding how science evolves, but I think these are the crucial ones within the specific context of this workshop on secularism.

The emergence of scientific knowledge as its own subject with its own authority is a relatively recent event, and one that is still disputed by certain communities, which feel threatened by the implications of scientific research for their own worldview. In my discussion this evening, I want to explore some of the initial stages in the process of making science a secular pursuit, and I want to also ask: what does it mean to be secular?

My focal point is going to roughly be the period of the Scientific Revolution, including luminaries such as Copernicus, Galileo, Descartes, and Newton. This period in Western European history was crucial for the emergence of science as a distinctive kind of knowledge. It was also an era of prolonged dispute over the status of science in relationship to the authority of religion and philosophy. Let us keep in mind that these were also subjects of dispute, that nothing is stable in the story. All of these domains of knowledge changed in relationship to each other, and to a whole host of other factors as well.

In a study entitled *Religion and the Rise of Modern Science* (1972), Reijner Hooykaas wrote, "Contrary perhaps to what one would have expected, a more fully biblical worldview has, since the sixteenth century, favored the rise of modern science,

and the world picture connected with it.”³ This comment is one of the earliest and most articulate attempts to counter the image that people had of the “warfare” of science and theology. It’s one that has produced a whole strand of research, including a lot of very excellent work that has been done in the past fifteen years on the role of the Jesuits in early modern science, completely dispelling the earlier view that came out of the work of scholars such as Robert Merton, who were very inspired by Weber to talk about the strength of a Protestant worldview in the rise of modern science.

Now, as somebody who primarily studies Italy, I suppose you could say I have a personal axe to grind with that old and now discarded thesis – and I do – but that’s not the reason I grind that axe; I also grind it because I just think it’s unsustainable. It is absolutely valid to look carefully and specifically at the way in which different religious worldviews and different theologies interact with a desire to understand and explain the natural world. But just as we have to be very specific and careful about these developments in the realm of Catholicism, and understand the many different kinds of Catholics that existed there, we also – as various people have pointed out this afternoon – can’t be monolithic about that so-called “Protestant worldview” because a Protestant worldview that encompasses Newton’s Arianism and Locke’s Unitarianism, and the Anglican worldview of many of the members of the early Royal Society (as well as a few other viewpoints), is encompassing too many things to be consolidated into something short and simplified as a Protestant approach to modern science.

Throughout the sixteenth and seventeenth centuries, religion was undoubtedly an impetus for investigating the natural world. Knowing God’s other book, nature, in relationship to scripture, was an intellectual homage to the Creator who brought the world into existence. In this Christian tradition, the quality of one’s understanding of the world relied on the depth and certainty of one’s faith. That sense of this relationship was only accentuated in both the Protestant and Catholic world by the Reformation.

Such sentiments were deeply felt on both sides of the theological divide by the late sixteenth and certainly by the early seventeenth century. At a certain point later on, the strength of these convictions diminished, and that is one of these things we still

³ R. Hookyaas, *Religion and the Rise of Modern Science* (Edinburgh: Scottish Academic Press, 1972), p. 13.

struggle to explain. What caused this sea change, somewhere between the late seventeenth and eighteenth century, what really destabilizes the conviction that science must be a matter of faith? I'll try to hint at a few things, drawing upon some of the case studies I know better in the course of this discussion.

Leading natural philosophers of the scientific revolution, from the sixteenth century German mystic and reformer, Paracelsus, to his later German colleague Johannes Kepler, to Robert Boyle, John Ray, and Isaac Newton, all saw themselves quite explicitly as “priests of nature.” They appropriated this term because it underscored their desire not only to elevate science to the level of a religious calling, but to draw its strength from the convictions of faith.

While we often assume that the influence of religion on science declined at the height of the Scientific Revolution, quite the opposite was true. In the very period when Locke composed his *Essay Concerning Toleration*, the great Dutch entomologist Jan Swammerdam completed his life's work, *The Bible of Nature*, as he called his endless study of insects. He then proceeded to give up science entirely as the culmination of what he was trying to achieve, which was natural theology.

Despite the Royal Society's proclamation to exclude matters of religion and politics from their scientific discussions, Locke's fellow members of the early Royal Society were hard at work defending the piety of natural history and experimental philosophy in the late seventeenth century from accusations of atheism. Let me give you a few examples of this, to be more specific. In 1690 John Ray wrote the following in the preface to his *Methodical Synopsis of British Plants*: “There are those who condemn the study of experimental philosophy as mere inquisitiveness, and denounce the passion for knowledge as a pursuit displeasing to God, and so quench the zeal of the philosopher.” Ray underscored the vital necessity of scientific inquiry in further publications, such as *The Wisdom of God Manifested in the Works of Creation*. “[I]t is knowledge that makes us men,” he affirmed.⁴ For Ray, natural theology created a middle ground between science and faith – a scientific reading of the book of nature – just as the idea of natural and civil religion later sought to demolish this premise in the hands of sharp-tongued

⁴Both passages from Ray are quoted in John C. Greene, *The Death of Adam: Evolution and Its Impact on Western Thought*, 2nd ed. (1981), p. 4.

critics, such as Hume, who famously declared that the most pernicious form of skepticism was to believe in witches while denying the simplest proposition of Euclid.

But in England of the 1690s, the concerns overwhelmingly favored John Ray's, rather than John Locke's, outlook. Consider another product of the Royal Society in this period, published in the same year: Robert Boyle's *The Christian Virtuoso* (1690-91). As the full title explicitly tells us, Boyle wrote this work to demonstrate that "a Good Christian could be profitably," as he put it, "addicted to Experimental Philosophy." Citing the growth of irreligion, Boyle sought yet another compromise. Allowing that scientific knowledge could be, in some hands – and he specifies whose hands they were, those of "a Resolved Atheist, or a Sensual Libertine," – Boyle argued that, when left in *those* hands, scientific knowledge could indeed be dangerous to believe. Yet he also observed that overly zealous Christians had hampered the progress of knowledge by arguing – and again I'm quoting him – "that Religion and Philosophy were incompatible."⁵ In other words, he disliked both sides. Like Ray, he truly was trying to explore and define the middle ground. Reassuring his readers that there were not nearly as many atheists as they might have imagined, Boyle underscored the productive piety of the new experimental philosophy, refining a language for science first articulated by his early seventeenth-century predecessor, Francis Bacon, whom he often cited as his direct inspiration in these methodological statements.

A brief consideration of Bacon's views on this subject at the beginning of the seventeenth century allows us to consider the origins of the kind of conversation emerging in the 1690s. What exactly did Bacon inspire in a reader such as Boyle? In the first book of his, *Advancement of Learning*, Francis Bacon described the steps by which a new kind of philosopher, appearing at the beginning of the seventeenth century, might lose and then regain his faith. "[It] is an assured truth, and a conclusion of experience," he observed, "that a little or superficial knowledge of philosophy may incline the mind of men to atheism; but a further proceeding therein does bring the mind back again to religion."⁶ I particularly like this phrase because it reminds me of something that was written a little

⁵Robert Boyle, *The Christian Virtuoso* (1690; Everyman edition), pp., 281, 292-293, 283.

⁶Francis Bacon, *The Advancement of Learning* (1605; Latin edition, 1623), 1.1, in idem, *Selected Philosophical Works*, ed. Rose-Mary Sargent (Indianapolis: Hackett, 1999), p. 9

bit earlier, in the middle of the sixteenth century in a very different context, namely, the trial and inquisition of an Italian atheist named Lelio Socino. Socino at one point says that most of his friends have ceased to believe in God because they have become so learned. There can be no better example than this one of the idea that the philosopher might de facto become an atheist through learning. Bacon is trying to counter this sort of conclusion and his conviction – the idea that knowledge leads one back to belief – also informs Boyle’s comments.

While Bacon clearly described the circumstances of unbelief-- “imperfect knowledge,” as he put it – he did not elaborate on how a richer and fuller knowledge of things undid this error. How did knowledge restore belief? Did it transform it in the process? These are the kinds of questions that John Ray, Robert Boyle, and of course their younger contemporary Isaac Newton, all sought to answer, each in his own particular way.

Newton’s answer was probably the most complicated because it wasn’t as overt as what Ray and Boyle did, allowing people to misunderstand what his project was since only in the past century have modern scholars been able to read the *Principia* with all the other pieces of his work, published and unpublished; his contemporaries did not have this advantage. Newton truly agonized over the relationship between his science and his faith, and, again, I think it’s a sign not only of doctrinal and personal differences, but of generational differences. Boyle and Ray were willing to be explicit about this relationship in the 1690s, but Newton, both during this period and after, is a little more prudent.

In pursuing these lines of inquiry, many early modern natural philosophers were secular in the original sense of the term, and this brings us back to the OED’s many definitions of this fascinating word. They sought to create a kind of religious occupation in the world as “priests of nature,” because that’s what being secular meant in the medieval and in much of the early modern world. For these practitioners in this kind of Christian society, it was the creation of a religious occupation *in the world* that made one secular.

Early modern natural philosophers argued passionately for the value and dignity of science. They did so not only because they understood the significance of the scientific discoveries since the age of Copernicus and Vesalius, but because they wished

to illuminate God's other book and perhaps even prioritize it over Scripture. Was nature the first or the second book? This was a critical question. The less certain Scripture became in an age of heated Biblical scholarship and criticism, and the more natural philosophers agreed on procedures for investigating and explaining nature, the more likely it seemed to these philosophers of nature that the authentic, incorruptible word of God was found in nature.

The secularism of early modern science in its initial phase was, as I'm trying to argue, deeply religious. At the same time, it was also indebted to efforts to increase the possibilities for philosophical inquiry within a world dominated by spiritual authorities. For this other strand of secularism, I want now to turn away from Anglican England of the 1690s, and instead briefly look backwards yet again, to Roman Catholic Italy in the late sixteenth and early seventeenth centuries. It was in this other context that this famous phrase, *libertas philosophandi* (the freedom of philosophizing), first emerged, not surprisingly, in those crucial decades when Copernicanism and more generally cosmology became an increasingly public and controversial topic of discussion.

During the 1580s, the ex-Dominican, soon to become heretic, Giordano Bruno, increasingly made reference to what he described as a search for "philosophical freedom." In his *Ash Wednesday Supper* (1584), his most overtly Copernican work, he anticipated by some thirty years Galileo's famous statement that Scripture was not intended to be a scientific explanation of nature. Galileo would fully elaborate his own position in his *Letter to the Grand Duchess Christina*, written in 1615 and not published until 1638, well after the trial of 1633. He would write this work one year before Copernicanism was officially condemned by the Catholic Church as a heretical doctrine. And it's in text that Galileo articulated a fundamental principle of his philosophy: "Two truths cannot contradict each other."⁷

Now, is this a secular statement in a modern sense? Actually, no. It's a secular statement in this early modern religious sense. We too often want to turn the Brunos or Galileos of the world into modern secular heroes, fighting a nineteenth or maybe even a twentieth or twenty-first century battle. Sean Cocco found a wonderful reference on the

⁷Maurice Finocchiaro, ed., *The Galileo Affair* (Berkeley: University of California Press, 1989), p. 96. On the history of this important phrase, see Robert B. Sutton, "The Phrase *Libertas Philosophandi*," *Journal of the History of Ideas* 14 (1953): 310-316.

web to Galileo as “a hero of the fight for intelligent design.” While great historical figures can ultimately stand for any cause you want them to uphold (posthumously), as a historian I want to figure out what was going on in this particular moment. What did such words mean at the time they were spoken?

By way of conclusion, let me give you a few examples of the way in which Galileo used this phrase, “*libertas philosophandi*.” For instance, in his *Discourse on Floating Bodies* (1612), Galileo says, “True indeed is the saying by **Alcinous** that philosophizing needs to be free.”⁸ At various other points, including the *Letter to the Grand Duchess*, Galileo reiterates this idea: that true philosophy is a free philosophy, even as it becomes a more complicated situation in which to say these kinds of things after the Catholic Church’s condemnation of heliocentrism in 1616.

Galileo wasn’t alone in saying these kinds of things at the time. I want to remind you of some of the other people who also agreed with Galileo -- not just the heretic Bruno, who had been burned in 1600, but people who were much more interesting in terms of their direct relationship to the debates about heliocentrism in this critical period of the early seventeenth century.

For example, in 1615, one month before Copernicus’ book was put on the Index, Galileo’s friend in Rome, **Giovanni** Ciampoli wrote him to describe the outcome of his discussion about heliocentrism with Cardinal Maffeo Barberini (who would become pope Urban VIII a few years later and preside over Galileo’s trial and condemnation in 1633. Via Ciampoli, Barberini urged the Tuscan mathematician of the wisdom of a basic principle in advocating new scientific ideas: “one should not exceed the limits of physics and mathematics.”⁹

Those limits, this uncertain boundary, were exactly what natural philosophers of Galileo’s ilk wanted to bend, perhaps even redraw. This imagined division had become a restriction, delimiting ill-defined subjects that perhaps one could not pursue or talk about easily. Interestingly enough, one of the people who respond to the creation of this boundary, this imaginary limit that was now being defined quite sharply as the debates

⁸As quoted in Sutton, p. 311.

⁹As quoted in Richard Blackwell, *Galileo, Bellarmine, and the Bible* (Notre Dame: University of

Notre Dame Press, 1991), p. 74.

over cosmology become more and more public, was not actually Galileo. It is one of the Jesuit mathematicians in Rome, Christoph Grienberger, who said around 1616, in the midst of a discussion of the censorship of a work of astronomy, that he thought it was time “for a greater degree of freedom of thought” for mathematicians and astronomers.¹⁰ He wanted more room to discuss these important matters. And he said this both as a deeply pious Jesuit and as a mathematician.

A few years later, yet another controversial Dominican, Tommaso Campanella published his *Defense of Galileo* (1622). Campanella said, quite famously, exactly what Galileo had said (without publishing it): that two truths cannot contradict each other. The world for Campanella, was “materially created wisdom,” as he puts it in this important and impassioned little book¹¹. It was also a place that should have the freedom to engage in philosophical liberty.

Campanella further specified something about that philosophical liberty that neither Galileo nor Bruno nor Grienberger had said: he wrote that it was an especially Christian virtue, that it was something that other, pagan nations did not possess. This idea partly emanated from Campanella’s own sort of peculiar Catholic universalism; nonetheless, it serves to remind us of the interesting ways in which early modern philosophers connected knowledge and faith when they argued that there ought to be room philosophical liberty as a virtue of a devoutly Christian world.

The story that I’ve traced is useful background, as Robert Sutton long ago wrote, for considering how and why *libertas philosophandi* makes its appearance in the title of Spinoza’s famous *Theological-Political Treatise* of 1670. I’m just going to quote what Spinoza writes in the longer version of that title, when he not only invokes “the freedom of philosophizing,” but then underscores the idea that it should be possible to philosophize freely “without prejudice,” as he puts it, “to piety and public peace.”

Let me return at this final point in my discussion to the 1690s, but to a different version of the 1690s, which is the one I’ve followed in my own work on the scientific culture of in early modern Italy. The 1690s also did produce John Locke’s many interesting publications for people to read and to contemplate, including manifestations of

¹⁰As quoted in Blackwell, p. 152.

¹¹Tommaso Campanella, *A Defense of Galileo*, p. 97 (see also pp. 55, 69, 74). I believe I used the more recent edition edited by Richard Blackwell but I can’t check right now!

his strong conviction that reason and the senses ought to be a guide to revelation, and that nature therefore, much as Galileo had begun to suggest in his unpublished letter, could help us interpret scripture. The readers of Locke took his ideas as much to heart as the readers of John Ray and Robert Boyle did, who wished to follow that other line of natural theology.

One of the interesting readers pursuing this line of argumentation was an Italian scientist, a consumer of the words of Galileo, of Descartes, as well as Locke and his contemporaries. Nowadays, Antonio Vallisneri is, for us, a very obscure physician and naturalist who worked in the city of Padua, but in his own day, he was extremely well known for his interesting and important experimental work in the realm of medicine and natural history. Vallisneri is one of the people who get involved in the early and increasingly heated and public debates about fossils, the nascent science of paleontology, strongly linked to what we also think of as another nascent science in this period, geology, that did not yet have a name.

Vallisneri was deeply distressed by a series of British publications that had been coming out at the end of the seventeenth century, arguing in enormous detail that the flood would help to explain an increasingly rich and diverse array of fossils that were being dug up and interpreted by people all over the place. The most important text that Vallisneri had in mind was another book published in this English context, Thomas Burnet's *Sacred Theory of the Earth* (1681). It is a fascinating publication, a great example of all of these different – and, for us, seemingly contradictory – things in one place: innovative insights and deep, deep piety; and an apocalyptic view of the beginning and end and the cycles of the world.

Vallisneri would have none of this. He began to argue, based on his own research into the fossil record, that what he saw was clearly antediluvian, and that there was no way the flood could have caused this; these fossils had to predate this Biblical event. He argued this in many different forms, not only in the presentation of his own research, but in increasingly witty and acerbic – and often anonymous – reviews of the works of his

contemporaries, including the work of the Swiss naturalist Johann Scheuchzer, who claimed to have found the original “Diluvian Man,” the witness to the flood.¹²

A product of the post-Galileian world, Vallisneri wished to avoid the pitfalls of Galileo. He did not write a *Letter to the Grand Duchess Christina* in which he argued against a certain Biblical interpretation by reinterpreting scripture to show that two truths could not contradict each other. He simply decided to not talk about Scripture at all, and in various places we can find him at least talking about this decision to not talk about these things, which to my mind signals a different kind of secularism.

And an early example of this, as a matter of fact – let me quote you one example that comes from his 1708 review of Scheuchzer’s discussion of the Diluvian man in the *Galleria di Minerva*, which is one of the periodicals that he helped to edit. Here Vallisneri wrote:

When we can explain things without recourse to the omnipotent hand of God, this is more philosophical and does not diminish but increases the glory of the great Master, who constructed the great machine in such fashion that what often appears miraculous to us really is subject to laws, even if these may be beyond our understanding.¹³

Vallisneri also joked extensively with his friends about efforts to interpret Noah’s Ark as Biblical natural history. For him, the idea of a Bible of nature à la Swammerdam simply was not possible. A “bible” could not be a productive venue for the pursuit and the description of scientific knowledge.

Vallisneri signals the beginning, however early and unheralded, of a sea change in thinking about the relationship between knowledge and faith. This new approach to the problem came to full fruition in such publications as David Hume’s *The Natural History of Religion* (1757). Thanks to the work of historians such as Paolo Rossi and Rhoda Rappaport, Vallisneri is a little less obscure than he has been. What Vallisneri did in his many interesting and intelligent publications – which clearly were the fruit of careful reflection on the methodologies of his predecessors as well as the product of numerous

¹²See especially, Paolo Rossi, *The Dark Abyss of Time*; Rhoda Rappaport, *When Geologists Were Historians*; Martin Rudwick, *The Meaning of Fossils*; and Stephen J. Gould, *Time’s Arrow, Time’s Cycle* [complete all citations].

¹³As quoted in Rappaport, p. 167.

fresh observations of his own – may have been revolutionary in its own way but, interestingly, he did not suffer the consequences of his predecessors for saying openly that science and religion ought to have nothing to do with one another. At best, as far as I can tell, there was a minor delay in the appearance of one of his publications but - that's it. He lived a full, rich, long life as a professor of medicine and natural history, publishing and communicating widely to many different people.

We are left with a question: What was it about the early decades of the eighteenth century in Italy that made it possible for Vallisneri to discuss at length ideas that were equally as controversial as heliocentrism had been in the seventeenth century (and still continued to be for a good part of the eighteenth century)? The gulf between the age of Galileo and the era of Vallisneri is but one of the many, many paradoxes we face in trying to explore the multiple historical meanings of secularism. There is no reason to simplify this history. I take it that the project of this Institute is to do exactly the opposite: to sort of blow it apart and look at the many different ways of thinking about this concept.

I'll just end by saying that I absolutely loved this discussion of pleasure as another way of thinking about secularism, and I thought this was really interesting idea to pursue. It got me thinking about other things, too, that we had not talked about: the economics of secularism, for example, and the ways in which we might expand our discussion into other realms by creating different kinds of projects in order to understand secularism in all its different forms. What are the building blocks of what we consider to be a "secular" worldview? I hope that I've offered just a little bit more food for thought in relationship at least to the history of science.