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Historical Deficiencies and Present Needs: A Summons to Interdisciplinary Dialogue

Jordan R. Voges

The second decade of the twenty-first century is drawing to a close. In the realm of the sciences, round-the-clock work continues to discover whatever might fill in the next paradigmatic gap, cure some heretofore fatal disease, or make the tabloid headlines.¹ If the recent past is any indicator, from the discovery of the Higgs Particle at CERN to the enamoring photos of the Pluto system and Ultima Thule by the aptly named New Horizons space probe, science has and will continue to stir excitement in the global public.²

But excitement is not the only thing being stirred up. When it comes to the perception in the U.S. of the interaction between the sciences and the Christian religion, perplexity is on the rise: “Are science and religion at odds with each other? A majority of the public says science and religion often conflict, with nearly six-in-ten adults (59%) expressing this view in newly released findings from a Pew Research Center survey.”³ But here we find an interesting discontinuity between the general American public and what the survey categorized as “white evangelical Protestants.” Whereas the majority of the public saw conflict between religion and science, almost half (49%) of all white evangelical Protestants asserted the opposite: science and religion do not conflict.⁴ The irony is that white evangelical Protestants, while most likely to claim consonance between the two subjects, are also most likely (40%) to purport conflict between their personal beliefs and science; ten percentage points higher than the average U.S. adult (30%) and twenty-four points higher than people who claim to be religiously unaffiliated (16%).⁵ These statistics are evocative: Why is there such a difference in perceptions? If Lutherans—professional and lay—claim any distinction from white evangelical Protestantism, where do they stand on these matters? More generally, what are the dynamics of the encounter between Lutheran theology and the sciences?

Responding to the above questions, while necessary, cannot be the subject of this essay. Even making a start toward that task could fill many more pages than I have to spend here. Rather, the narrower purpose of this essay is to exhort Lutheran theologians to begin engaging in conversation with scientists and their work. This conversation is nothing new to Lutherans. Indeed, as this paper will show, such a

conversation began in the very midst of the Lutheran Reformation. But what started out as an engaging discourse quickly fell into silence, and not for the better. Because it is a conversation that needs to be happening in our present context; because it is a conversation sorely needed by Lutherans who have contributed little in the way of substantive responses to the questions posed above.⁶

This essay will show that there is now a need for Lutheran theologians to reflect on developments in the sciences and to participate in conversations and relationships with those practicing in the scientific fields by examining (1) the gradual slide of Lutheran theologians into apathy toward the developments in the study of the natural world and (2) the presently growing public sense of animosity between Christianity and the sciences. As an aside, and to reiterate a point I will make several times throughout this essay, my goal is not to give answers or solutions to the questions I pose, but, instead, to pose questions that demonstrate a need for conversation. I pray my readers hear my words in the winsome tone of just such an invitation.

The Historic Backdrop: A Slide to Apathy

The present need for renewed interdisciplinary dialogue is predicated on a historic lack of such a dialogue. Consider as a case study the circumstances surrounding paradigm shifts in astronomy over the past several centuries: the shift from the geocentric and geostatic view of the universe, propounded by Ptolemy and the Aristotelians, toward a Copernican and Newtonian heliocentric view. And from there to our current model, envisioned by people like Einstein and Lemaitre. We find the starting point of this study in the midst of the Reformation, in the final years and months of Nicolas Copernicus' life (1473–1543).

The relationships between astronomy, theology, and the respective scholars of each field were by no means latent with hostility at that time. Melanchthon himself, in addition to being a leading theologian, was considered—by the standards of the day—to be an authority in natural philosophy (the precursor to the modern sciences).⁷ Furthermore, a student and friend of his—Georg Joachim Rhaeticus (1514–1574)—devoted himself in no small way to the work of the scientific revolutionary.⁸ Rhaeticus was a mathematician and thus, by training, proficient in the study of astronomy. In 1537, at age 23, he was summoned by Melanchthon to fill a chair at the university in Wittenberg. Rhaeticus initially accepted Melanchthon's invitation. But in 1539, shortly after beginning his work, he opted to study under and aid the aging Copernicus in publishing *On the Revolutions of the Celestial Spheres*, the book which would make known to the world Copernicus'

heliocentric hypothesis.⁹ Melanchthon always regarded heliocentrism with a degree of tentativeness. Even so, he never revoked the hand of friendship—nor the offer of a teaching position—to Rhaeticus. Indeed, on his return journey in 1541—after *On the Revolutions* was published, after the world was introduced to the astronomical picture Copernicus painted, and after Rhaeticus played a public and pivotal role in the promulgation of the heliocentric hypothesis—Rhaeticus received a letter of recommendation from Duke Albrecht of Prussia, himself having helped fund the project, to the Elector of Saxony and resumed his position at Wittenberg. And more than that, Rhaeticus was immediately promoted to the deanship of the faculty of arts.¹⁰

Not that astronomy's relationship to the Lutheran Reformation was entirely without controversy! Such a survey is hardly complete without mentioning Andreas Osiander (1498–1552). Osiander was a Lutheran clergyman brought on by a printer working in collaboration with Rhaeticus and Copernicus to help in their efforts of publication. History would remember how Osiander inserted his own preface to the 1542 Nuremberg edition of *On the Revolutions*. In it, he anonymously explained that Copernicus' proposition of a heliocentric universe was merely a tool for prediction and, in complete contradiction to what Copernicus thought, not a reflection of reality. Osiander published the work without Copernicus' permission and, according to legend, reading Osiander's preface hastened the ailing Copernicus' death in 1543.¹¹

To be sure, the Copernican picture of the world is the progeny of neither an entirely Roman Catholic nor Lutheran parentage. It is best to see the phenotype of the Copernican revolution as springing from the genetics of the German Renaissance, mixed with some other accidents of history.¹² But there is still no denying the facts that “a Lutheran prince [Albrecht] subsidized the publication of his [Copernicus'] work, that a Lutheran theologian [Osiander] arranged for the printing and that a Lutheran mathematician [Rhaeticus] supervised the printing—a Lutheran mathematician who was second to none in working for the introduction of the new world picture and did not forfeit the friendship of Melanchthon by doing so.”¹³ It seemed as if the relationship between Lutheran theologians and astronomers might have had a bright future. Bright, that is, until a divide began to form as one generation of astronomers and theologians gave way to the next.

Three names come to mind in post-Copernican astronomy. The first two are Galileo Galilei (1564–1642) and Tycho Brahe (1546–1601). Galileo made his stunning telescopic observations of Earth's moon and its telluric characteristics, probed the starry depths of the Milky Way, and gazed at stars humanity had yet to

lay eyes on.¹⁴ All these observations and more were compiled by Galileo in March of 1610, with his publishing of *The Starry Messenger*. Galileo came to the astounding conclusion, having witnessed what he later came to call the Medicean stars of Jupiter, that he had discovered four satellites orbiting an extraterrestrial body; impossibilities for the geostatic and geocentric worldview of Ptolemy and Aristotle, and vindications for Copernicus.¹⁵ Tycho Brahe, while opposed to the Copernican hypothesis till the day of his death, likewise aided the felling of the old medieval paradigm by observing variation and change where the supposedly static, unalterable crystalline spheres of the Aristotelians should be.¹⁶

But in this cavalcade of geniuses, it was Johannes Kepler (1571–1630), a former assistant of Brahe, who brought Copernicus' system to maturation. Copernicus was still beholden to certain Aristotelian paradigmatic assumptions. For example: that the revolutions of the planets were perfectly circular, always equidistant from the sun, always moving at the same speed. Kepler—the German-born Lutheran astronomer—altered these assertions and posited, instead and based on meticulous astronomical observations, his three renowned laws of planetary motion. Summarily put, these laws maintain that planets, moons, and all satellites orbit not in perfect circles but in ellipses around a focal point (e.g., the Sun, Jupiter, etc.), speeding up or slowing down but always encompassing the same area in the same amount of time.¹⁷

Among post-Reformation theologians, however, interest in the burgeoning discoveries was underwhelming and lackadaisical, in contrast to the example of the earlier Melancthon. On the one hand, some Lutheran theologians, such as Cort Aslaksson (1564–1624) and Melchior Nikolai (1578–1659), saw a certain level of consonance between the emerging views in astronomy and the biblical picture of the cosmos. Aslaksson was a professor at Copenhagen and, like Kepler, had studied as an assistant to Tycho Brahe. While, like Brahe, Aslaksson remained unaccepting of heliocentrism, he was open to an integration between the astronomical findings of his day and theology. Nikolai, by contrast, wholeheartedly accepted the Copernican system, asserting the Bible spoke phenomenologically about matters concerning astronomy and not literalistically.¹⁸ On the other hand, a small group of Lutheran theologians, best identified with the likes of Abraham Calov (1612–1686), spurned the heliocentric view as anti-scriptural and hazardous to the faith.¹⁹ Yet—and this point is pivotal for our case study—these three figures were *oddsities*. “Among the great majority of the Lutheran theologians of the post-Reformation era there was relative indifference and ignorance of the new scientific world pictures which were being set forth.”²⁰ Most theologians simply did not care. Perhaps we can ascribe their *laissez-faire* attitude to a perceived silence in Scripture concerning the formulation of an astronomically significant worldview. At the very least, “[i]t is clear that they did

not consider it incumbent upon them to favor or reject on theological grounds any of the cosmological hypotheses of their day.”²¹ The divide which then formed was the progeny not of angst and anger, but of apathy.

We should acknowledge the Bible’s general silence on many things, including much of what we would call the sciences. But it is just such silences that Christians and, vocationally, pastors and theologians are called to investigate and speak into while admitting what they do not and cannot know. And so, we must ask: Is the silence and apathy—tending toward ignorance—of the many Lutheran theologians in the years since Copernicus so innocuous? Before we think the pious reticence of the post-Reformation Lutheran theologians too distant from the present moment and therefore innocent of danger, let us turn and consider the end of our timeline in the early decades of the twentieth-century.

Our case study culminates with the work of two people: Francis Pieper (1852–1932) and Edwin Hubble (1889–1953). In the first volume of his *Christian Dogmatics*, published together with the other two volumes in 1924, Pieper rejected the Copernican system as unacceptable. But more than personally rejecting Copernicus, Pieper made an explicit point of establishing the theological integrity of his hearers based on their agreement with him on this issue: “It is unworthy of a Christian to interpret Scripture, which he knows to be God’s own Word, according to human opinions, and that includes the Copernican cosmic system, or to have others thus to interpret Scripture to him.”²² Although the quote is plucked from a broader theological argument and context, the point is still made that Pieper, in 1924, publicly rejected the concept of the Earth orbiting the Sun and used his authority to bind the consciences of his hearers and establish or revoke the legitimacy of theologians based on their agreement with him on this point.

Edwin Hubble published something in December of that same year. Hubble had been accumulating data on Cepheid variable stars at the Mount Wilson Observatory in California, where he had worked since 1919.²³ Put simply, these stars are important because they emit a consistent luminosity. Furthermore, the distances between several Cepheid variable stars and the Earth had been calculated at the time by way of parallax. These two facts put together—a known luminosity of a consistently luminous type of star coupled with the known distance of several Cepheid variables—meant that Hubble could calculate the distance of any Cepheid variable to Earth based on its luminosity.²⁴ What Hubble discovered in the data and made known to the world at the end of 1924 was a Cepheid variable star in what had previously been called the Andromeda Nebula. Calculating its distance based on the stars luminosity, “Hubble estimated its distance to be approximately 900,000 light-

years. Since this was much greater than the size of the Milky Way system [in light years], it appeared that the Andromeda Nebula must be another galaxy outside our own.²⁵ There were not only countless stars beyond our solar system and within the Milky Way—many, in all likelihood, with their own satellites—now it was known that there were innumerable galaxies far beyond the Milky Way.

What happened in those intervening centuries which so dissuaded Lutheran theologians from keeping a finger on the pulse of the sciences? What made Pieper commit himself so strongly to the fringe-position of geocentricity and condemn those who disagreed with him and yet still wished to be faithful Christians? What were the catalysts? Many of the reasons are beyond the purview of this paper (e.g. the lack of Lutheran church patronage for ventures into understanding the natural world as opposed to English and Roman Christianity). But it is valid to say what led in part to Pieper's claims was a historical trend: a lack of initiative from Lutheran theologians to engage the wider world of the sciences in constructive dialogue; a tradition of apathy and borderline ignorance toward fields deemed non-vital to theology.

The Present Perspective: A Growing Animosity

Putting positive construction on Lutheran theologians of the past, it is easy enough to say their silence in the conversation was warranted; there were surely other, more pressing matters in Germany than the emerging sciences and the lack of dialogue produced no large amount of public criticism. But even if that construction is illusory, the luxury of cultural amiability, especially on matters of the sciences, is nonexistent at present. Subjects such as the origin of the universe and of life on earth, global warming and climate change due to human activity, and the vaccination of children regularly make headlines and are integral parts of American education and life.²⁶ For example: concerning the topic of evolution, the same Pew study mentioned above found an extreme difference of opinion between white evangelical Protestants (36% accept it in some form) over against Roman Catholics (69%), white mainline Protestants (71%), and seculars (86%).²⁷ Such a difference alone should warrant energetic conversation. It demonstrates the need for engaging the wider thinking within the church and beyond. This need is magnified even more so in the case of the Lutheran Church-Missouri Synod, since, based on further Pew data, 52% of its congregation members think human life evolved from a common ancestor of other primates. This is an anomaly given their general proximity to white evangelical Protestants on many other cultural matters.²⁸ Yet the question remains: Where is the conversation? Why are we not acknowledging and engaging this discrepancy? Let me be clear: I mean no controversy in presenting this data. Rather, I am pointing out how the discrepancies demonstrate that what we have is an opportunity for charitable and faithful conversation.

A similar note resonates in and around the subjects of climate change and the requirement of childhood vaccination. While 50% of American adults think the Earth is warming due to human activity, only 28% of white evangelical Protestants would say so.²⁹ Likewise, white evangelical Protestants hold the highest dissenting percentage among the groups surveyed concerning the requirement that parents vaccinate their children: 39% of white evangelical Protestants say parents should be able to decide, whereas 30% of other U.S. adults would say the same.³⁰ Although nine percentage points may not seem like much, it is curious that the dissenting group of white evangelical Protestants should be higher than any other group surveyed. The difference is even more striking looking back at the analysis of opinions on climate change and evolution. Why is it that people from that demographic of Christianity (white evangelical Protestants) differ so greatly from their fellow Christians and from their fellow Americans on these and many more matters in the realm of the sciences? There are many more questions which can and ought to be asked and this paper is no place to even begin such an intensive investigation. Rather—to state the thesis again—this information and these questions are being presented to show the need for a dialogue that Lutherans are not having. Perhaps if such a conversation were to occur, the reasons and nuances behind the whys and hows would become clearer, and perhaps certain answers and observations concerning Christianity's approach to the picture of the world presented by the sciences will be either justified, reformed, or put down. But one cannot say definitively because quietude or perhaps apathy is the present status quo.

If the statistics are not enough to shake Lutheran theologians from their apathetic slumber, then perhaps the more vociferous cries from the New Atheists can. Continuing the theme of astronomy from earlier, Daniel Dennet in his popular book, *Darwin's Dangerous Idea: Evolution and the Meaning of Life*, lights on a decontextualized statement by one of the reformers concerning Copernicus: "Philipp Melanchthon, a collaborator of Martin Luther, opined that 'some Christian prince' should suppress this madman [Copernicus]."³¹ Is this an adumbration of how Dennet wishes to portray the engagement of all Christians with the new discoveries of science? (Probably!) Or consider the words of the late Christopher Hitchens at the outset of his book, *god is Not Great*: "As I write these words, and as you read them, people of faith are in their different ways planning your and my destruction, and the destruction of all the hard-won human attainments that I have touched upon. Religion poisons everything."³² If one were to include the sciences in those "hard-won human attainments," then Hitchens is saying Christianity opposes scientific enquiry and development. Is he right?

Conclusion

The above citations from the New Atheists are easily refuted by an adequate theological (and historical) reflection, but what theologians in the Lutheran tradition have taken the time for such reflection and to explain these facts to the scientific community, to the public at large, or—more importantly—to congregations and pastors? Furthermore, these quotes are meager in comparison to the many pages that follow them! Here again, one is left wanting for voices from the Lutheran tradition in the conversation. Others have made themselves heard, substantively or not (e.g., Alvin Plantinga, Allister McGrath, John Lennox, Francis Collins, and Ken Ham to name a few), but where are the Lutherans?³³

Apathy and disengagement are not responsible courses of action given the present context. Many of our Lutheran forefathers (e.g., Melancthon and Rhaeticus), and the universities where they taught and were educated, saw the joy and importance of conversing with the explorers and investigators of God's creation. It was when theologians ceased to concern themselves with the developments of natural philosophy and, later, the sciences that a divide began to form, culminating in a prominent theologian making an authoritative and inaccurate scientific and theological assertion (i.e. Pieper). So, shall we continue with this uncritical disinterest and let others discuss the questions of science and the Christian faith? Or shall we Lutherans capitalize on our distinctive confessional and theological strengths, part with past trends, remove whatever our present blinders might be, and, trusting in the guidance of the Spirit, seek a revitalized conversation with the practitioners and findings of the sciences along with our other Christian brothers and sisters? This paper prescribes the latter option. The next question is: How?

Endnotes

- 1 Thomas Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996), 24.
- 2 Adrian Cho, "Higgs Boson Positively Identified," *Science.com*, March 14th, 2013, <http://www.sciencemag.org.csl.idm.oclc.org/news/2013/03/higgs-boson-positively-identified> (accessed May 11th, 2016); Hannah Devlin, "Pluto: Nasa reveals first high-resolution images of planet's surface," *The Guardian.com*, July 16th, 2015, <https://www.theguardian.com/science/2015/jul/15/pluto-mission-nasa-reveals-first-high-resolution-images-of-planets-surface> (accessed May 11th, 2016).
- 3 Cary Funk and Becka Alper, *Religion and Science: Highly Religious Americans are Less Likely than Others to See Conflict between Faith and Science*, U.S.: Pew Research Center (2015), 4.
- 4 Only among Hispanic Catholics is the percentage of people who sense consonance between religion and science is higher than white evangelical Protestants (50%), according to Funk and Alper, *Religion*, 4.
- 5 Funk and Alper, *Religion*, 15.
- 6 An exception would be *Together with All Creatures*, put out in 2010 by the LCMS Commission for Theology and Church Relations.
- 7 Werner Elert, *The Structure of Lutheranism*, St. Louis: Concordia (2003), 417.
- 8 Melanchthon was of several minds on Copernicus. For example, he wrote once to Burkard Mithobius, in 1541, "Surely wise rulers should restrain the impudence of clever persons [e.g., Copernicus]." On the other hand, in a commemorative address honoring Kaspar Cruciger eight years later, in 1549, he said, "Moved by these and similar observations, we have begun to admire and love Copernicus more." With the limits of this paper, one thing is worth noting: Melanchthon's primary reason for being suspect of Copernicus was not doctrinal or theological. Rather, it was humanistic. Copernicus was moving beyond the antiquity of Aristotle, maintaining—contrary to popular opinion—that the ancients were not the measure of all knowledge. This notion must initially have bordered on anarchic for Melanchthon. See Elert, *Structure*, 417-419.
- 9 Elert, *Structure*, 424-425.
- 10 Rhaeticus deserves a twofold honor. On the one hand, he was the only proper student of Copernicus. On the other hand, according to Owen Gingerich, without Rhaeticus' "persuasive intervention" Copernicus likely never would have published his theses. Owen Gingerich, "The Copernican Revolution," in Gary B. Ferngren, *Science and Religion: A Historical Introduction*, Baltimore, MD: Johns Hopkins University Press, (2017), 89. Elert, *Structure*, 421.
- 11 Phil Dowe, *Galileo, Darwin, and Hawking*, Grand Rapids: Berdmans (2005), 40-41. Elert, *Structure*, 421. This view is otherwise known as "instrumentalism."
- 12 Elert, *Structure*, 423.
- 13 Elert, *Structure*, 423. "At the very time the new world picture had to pass through the gravest crisis as a result of the papal index of 1612 Wilhelm Schickard was teaching the Copernican system at Tübingen in addition to Maestlin, his fellow countryman; Ambrosius Rhodius was teaching it at Wittenberg; Organus, the Silesian, was teaching it at Frankfurt an der Oder; Bernegger, the zealous Lutheran who came from Austria, and, somewhat later, Nikolaus Reimers, from Dithmarschen, were teaching it at Strassburg; and Peter Cruger, the Prussian, was teaching it at Danzig. Here and there this was certainly embarrassing to their theological colleagues, who for a long time probably still understood no more about the astronomical bases of the Copernican system than Luther did. But if the

- Copernican teaching had been regarded as heresy in the Lutheranism of that time, the practice of the time guarantees that exactly the same measure would have been taken against it that were taken by Rome." Elert, 426–427.
- 14 "I have been led to the opinion and conviction that the surface of the moon is not smooth, uniform, and precisely spherical as a great number of philosopher believe it (and the other heavenly bodies) to be but is uneven, rough, and full of cavities and prominences, being not unlike the face of the earth, relieved by chains of mountains and deep valleys." Quoted by Todd Timmons, *Makers of Western Science*, North Carolina: McFarland & Company (2012), 24.
- 15 Timmons, *Makers*, 24–27.
- 16 Timmons, *Makers*, 40–41.
- 17 Timmons, *Makers*, 43–44.
- 18 Preus, Robert, *The Theology of Post-Reformation Lutheranism: God and His Creation*, vol. 2, St. Louis: Concordia (1972), 230.
- 19 Preus, *Post-Reformation*, 229.
- 20 Preus, *Post-Reformation*, 235.
- 21 Preus, *Post-Reformation*, 235.
- 22 Francis Pieper, *Christian Dogmatics*, volume 1, St. Louis: Concordia (1950), 473.
- 23 Michael A. Hoskin, "Hubble-Edwin," *The Encyclopedia Americana*, vol. 14, Connecticut: Grolier (1992), 519.
- 24 This is, of course, a simplification, but the point is still valid. Such stars and astronomical phenomena are known to contemporary astronomers as "standard candles" and are still used to judge interstellar distances.
- 25 M. W. Fr., "The Physical Sciences: Astronomy," *The New Encyclopedia Britannica*, 15th ed., vol. 25 (Chicago: Encyclopedia Britannica, 2005), 836.
- 26 Funk and Alper, *Religion*, 19.
- 27 Funk and Alper, *Religion*, 19.
- 28 "Religious Landscape Study: Members of the Lutheran Church – Missouri Synod," *Pew Research Center*, accessed May 11th, 2016, <http://www.pewforum.org/religious-landscape-study/religious-denomination/lutheran-church-missouri-synod/>.
- 29 Funk and Alper, *Religion*, 33.
- 30 Funk and Alper, *Religion*, 28.
- 31 Daniel Dennet, *Darwin's Dangerous Idea*, New York: Penguin (1995), page 19. The same quote can be found above in note 8 of this essay alongside another, more amicable quote by Melancthon concerning Copernicus.
- 32 Christopher Hitchens, *god is not Great*, New York: Twelver (2007), 13.
- 33 E.g.: Alvin Plantinga, *Where the Conflict Really Lies*; Allister McGrath, *The Territories of Human Reason*; John Lennox, *Can Science Explain Everything?*; Francis Collins, *The Language of God*; Ken Ham, *The Lie*.