free of identity politics. If you look up any list of "happiest careers" you will find several which demand strong mathematical skills. Any Lutheran with a gift for mathematics can be assured that studying it will lead to gainful employment. A Lutheran can study it rightly: not making it an idol, but being thankful to God who created such a world and invites us to participate in ordering.

Mathematics and Lutheranism are then not exactly orthogonal. Mathematics is a tool, though employed by fallen man, which not only aids in our duties in the mandate of creation but is a creative endeavor which demands our best mental strength. Lutheranism helps us accept the limitations of this tool due to our fallen reason and rightly directs our awe at its power towards our God who invites us to call him Father through the blood of his Son our Savior.

1. Ellul, Jacques, "The Technological Society", xxv, Vintage, New York.

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AD FONTES
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LUTHERANISM AND... MATHEMATICS?

BY DR. JAMES T. GILL

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MATHEMATICS AND LUTHERANISM SURE ARE AN ODD subject for an essay. We know what mathematics is, or at least we know some of what is taught concerning mathematics. We know about counting, adding, some things about triangles, and, for those of us blessed to remember something of high school physics or chemistry, how it can succinctly describe an idea that took man centuries to discover. We know what Lutheranism is, or perhaps what it ought to be. It is a way of following Jesus Christ as Lord that confesses certain documents from the sixteenth century as faithful teachings of Holy Scripture. Mathematics and Lutheranism seem very different, but not opposites exactly. Perhaps a word that would appear best to capture their relation, and indeed borrowed from mathematics, is *orthogonal*. The word means "at right angles" and carries the connotation of the two being distinct and unable to affect each other. It appears that nothing we could ever learn from mathematics would inform our Lutheranism, and vice-versa. I hope to convince you, reader, that this is not entirely the case.

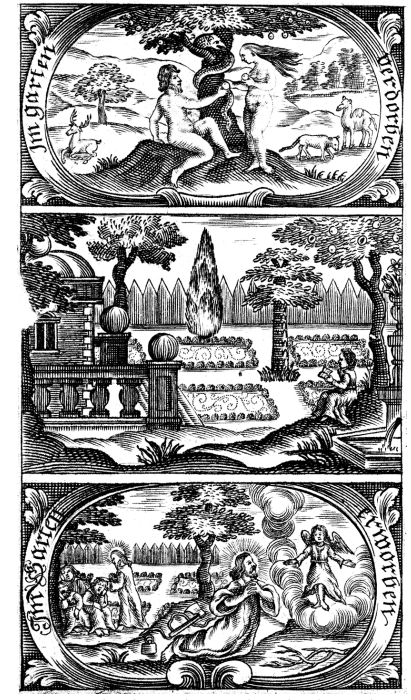
"…And God said to them, 'Be fruitful and multiply and fill the earth and subdue it and have dominion over the fish of the sea

and over the birds of the heavens and over every living thing that moves on the earth.'" - Genesis 1:28 (ESV)

When is the last time you "subdued" something? We don't generally view our work in this light, but building culture or civilization as something distinct from nature is indeed subduing the earth. Mathematics is a vital component of this work. Architecture can hardly be imagined without the Pythagorean theorem, whose truth was known even before its proof given by the Pythagorean cult. Sailing, a necessary skill for filling the earth, is impossible without astronomy, a field which was aided by logarithms almost as much as optics. GPS technology certainly aids in the mission given to us in this first command from God, but it would not work without certain corrections provided by Einstein's theory of relativity. Einstein's theory uses non-Euclidean geometry that was discovered not long before his famous *annus mirabilis* of 1905. Even our beloved ancient creeds were written by men who deeply studied Plato and his theory of the forms, which was inspired by the Greek geometric proof of the existence of only five Platonic solids. So much has been subdued with mathematics.

As men learned how to subdue plants after the fall and curse in order to fulfill this original first commandment, sin immediately rushed in and we worshipped the tool but not the Creator who provided the conditions for agricultural success. Idol worship (of gods of harvest and fertility) was a way for man to worship creation. Man tried this with mathematics as well. While the cult of Pythagoras is well-known, some more recent idolatry is not. Shortly after the explosion of technique in the 19th century, two mathematician-philosophers, Bertrand Russel and Alfred North Whitehead wrote *Principia Mathematica* (1911-13). This work was a sort of Tower of Babel for mathematics. Man thought he could construct something completely true. Mathematics was hoped to be the foundation upon which to build all man's knowledge. However, in 1931, Kurt Godel frustrated this tower by showing logically that mathematics has real limitations. Even our mathematical reason is fallen.

So mathematics will not save us. Given my experience with students, this is probably for the best. If mathematics cannot sufficiently ground human technique, which Jacques Ellul defines as "the totality of methods rationally arrived at and having absolute efficiency…in every field of human activity"[1], then it would be wise to stop treating it as such. Human technique will not subdue the earth, but rather it will subdue man. Mathematics is a craft. It can be used to help us obey God's law, and it can be used to violate it. For those gifted to understand it, it has the ability to bring one to a state of wonder usually only ascribed to great art and literature. For those who are not, it engenders thankfulness to our Creator and our ancestors inasmuch as it helps us follow God's mandate.



"Corrupted in the garden, purchased in the garden." Franz Hardkopf, 1697.

To bring us back to this partially-subdued earth, why study mathematics? For those with the aptitude the reasons are similar to why one would study any art. But not all hope for financial remuneration is lost, for there are many ways (some sadly inspired by the idolatry discussed above) in which mathematical skill can be used to provide for any family that God blesses you with. I am a professor of mathematics, but as I look around at higher-education I often feel like I "caught the last chopper out of Saigon." For a student of truly exceptional ability, this track might still work. The creation of new mathematics is an experience of earth-subduing with a distinct flavor. It is less impressive than building a house, but more enduring. There are also many other possibilities. Our Lutheran schools need teachers with strong mathematical skills. The actuarial profession pays well and appears blessedly