

Print Ontology: Geometrical Reason

1. In the next several video lectures I will explore how the printing press both enabled the rise of and served as a model for modern religious and philosophical thought. Classical and medieval culture are still scribal cultures, albeit axial scribal cultures. As we have seen, they translated oral personifications and stories into literate, abstract systematic theory.
2. Modernity on the other hand is a print world. As I hope to show in this lecture one can read Descartes and the myriad philosophies his revolution unleashed as a turn from calligraphy, however beautiful to a print modelling of the world in a clear and distinct typeface.
3. The calling of the scribe was to preserve traditional wisdom. Axial scribes universalized and systematized that tradition. Descartes will profess to throw it out and start afresh. “Moderns” saw themselves as having reached full rational maturity, able to finally shake off any tutelage from their elder, ancestral traditions. They were entering an age of enlightenment after a millennium of medieval darkness. While they looked back to classical Roman and Greek cultures for inspiration, it was the nostalgia of childhood by a species who were finally reaching maturity.
4. That darkness was defined by the very virtues of scribal literacy: the preservation of ancestral wisdom across the generations. The axial revolution called for a critical attitude towards tradition, but it was still largely about finding arguments to justify traditional truths, systematizing them and drawing distinctions to resolve their oral and mimetic ambiguities. Descartes on the other hand, will call for razing the ramshackle “edifice” of traditional wisdom down to its foundations and rebuilding it squarely, step by step, from rationally universal and necessary, indubitable foundations.
5. In the words of Immanuel Kant, the essence of the Enlightenment was “Sapere Aude”: dare to think , that is *for yourself*. (1) With books now widely available everyone ought to become lettered. (2) By reading by yourself, you can understand by yourself, (3) you can write your down your own thoughts, and feelings and desires, (4) you can write your own story and (5) become a true individual. While it took the invention of industrial printing to fully realize universal literacy it was an ideal born in the Enlightenment, when

Reason came of age, and obedience to traditional authority was now scorned as submission, the very antithesis of the autonomy of reason.

6. Thus modernity represents a further radicalization of literate axial thought enabled by the dissemination of books beyond the monasteries and the ability to write and publish one's writings even outside the university guilds. Tellingly other than Kant, all the canonical philosophers of early modern thought; not only Descartes, but also Spinoza and Leibniz, Locke and Hume, all worked outside the academic establishment. For it was not grounded in scholastic dialectic but on objective analysis, what Descartes will coin "the geometrical method." For while philosophy and theology were sites of continuous controversy, geometry's fundamental principles and arguments had remained unchallenged for over two millennia, a feat not attained through appeals to authority, but the rationally compelling force of valid argument. Scholastic dialectic furthered argument, the geometrical proofs concluded arguments, once and for all.
7. To put this in other words, Descartes charged that all other areas of even axial scholarship were still riddled with systematic error due to the rational vices of: (1) prejudice, deference to the tradition in which one had been trained and the culture in which one had been raised, (2) projection, attributing subjective sensations, feelings and desires to objective reality; (3) precipitousness, quick witty remarks as opposed to careful, methodical thinking and (4) the kind of pride that insulates one from external criticism by those not initiated into the scribal guild.
8. Descartes formulated new rules for thinking that were to be accessible not merely to the scholar but to any literate person using their own "*bon sens*", or common sense. Reason was not an artistic craft like calligraphy, beautiful but hard to write and to read, calling for divine inspiration, but a methodical skill accessible to anyone endowed with the natural light of reason enjoyed by all. (1) He begins, like Socrates, by calling for suspending belief in all that you think you know but cannot prove. Not all that is reasonable to doubt but all that is possible to doubt. Such doubt is to be philosophical, not practical, it is to be methodical and systematic. Secondly (2), he calls for analysis, a conceptual breakdown of all our beliefs into logical combinations of indubitable, clear and distinct principles and concepts. One can think of it as a call to spell out letter by letter every concept we have. Third,(3) to reconstruct the edifice of knowledge through

deductive proof and impartial observations, brick by brick, beam by beam, or in terms of the print analogy, by setting our page, line by line, word by word (4) and finally to double check one's reasoning, proofreading the page one might say, to check for misspellings, grammatical mistakes ambiguous wording, illogical transitions. Now what cannot be rigorously proven in this way may still need to be believed in and acted upon for practical reasons. Don't ignore risks just because they are not certainties, but do not claim to know what one cannot oneself prove.

9. Right away, Descartes new method of reasoning entails an inversion of the traditional relationship between faith and reason. For as we saw in the writings of even axial Christian theologians and mystics, including Anselm and Aquinas, (1) reason was not the foundation of faith, but an aid in the (2) understanding of the Christian faith, and its implications for the world around us. (3) Descartes on the other hand would seek to (4) justify the fundamentals of the Christian faith on reason alone, (5) Thus, rather than faith seeking understanding, Descartes calls for faith to be based on rational proof. In other words, it is not reason that needs to be judged by faith, but rather faith that needs to be judged before "the tribunal of reason."
10. Calligraphy and colorful illuminations, inspired metaphor and resonant analogy must be replaced by a clear and distinct typeface, analytical diagrams and conceptual classification trees, all only possible with the identical mechanical reproduction afforded by the printing press.
11. Descartes did not see this call for the rational justification of faith to be a threat to religion however, but rather as its purification from lingering mimetic prejudices, especially the mimetic violence that was currently tearing Christianity apart. Descartes himself was a combatant in the thirty years of religiously justified warfare then devastating Europe.
12. He even sets his Meditations in the context of a day taken away from battle. Tellingly all of his own writings would be published before that war was to be finally settled, in stalemate.
13. On the other hand, Descartes geometrical method does mirror the Christian tradition of mystical purgation of the soul from the passions and the apophatic purification of "thought and image," The difference is that Descartes's seeks a purgation of our reason

from all its vices and the apophatic transcendence of all subjective sensory qualities. Purification of the will from moral vice will follow automatically the purification of our thought. Obscurity and confusion, mystery one might say, has moved from the trappings of the sacred transcending ordinary thought to that of the demonic leading it astray into error, mimetic desire and the violence that follows in their train.

14. In the first of his “Meditations”, itself a title with religious resonance, Descartes begins by applying the first principle of objective, “geometrical” thought, the methodical doubt of all that one can. (1) This will include any beliefs about the world that are the product of desire, or even sensation. (2) It will even include the very existence of a world of objects outside his own consciousness. All our experience could be a dream. (3) It will even include doubting the very truths of geometry that he looks to as his own touchstone of certainty since it is not impossible that our reasoning is itself being systematically manipulated by some evil demon. (4) Famously, his methodical doubt leaves him one truth which he cannot doubt, (5) that he is indeed doubting, and so that he must exist, at least as a doubting, and so thinking being. It is ironic but telling that his search for objective truth leaves him with only a subjective truth, the objective existence of his subjective consciousness. Literacy’s dissociation of oral alterity into pure subject and pure object is not the product but the operative first principle of “mature” literate reasoning.
15. In order to move beyond knowledge of his own existence, Descartes will need to establish the reliability of his own reasoning. (1) He does this by turning to the idea of God in his consciousness. (2) Now, by “God” Descartes means an infinitely perfect being. (3) An infinitely perfect being cannot be a deceiver. (4) Thus reason is reliable when I use it properly, ie methodically. In contemporary secular culture, (5) it may seem counter-intuitive for Descartes to believe in the existence of God before that of the objective world, but it is a necessary consequence of the subject-object dichotomy characteristic of literacy. If we can only be certain that a subject exists, we are going to have to start from the content of that subject’s consciousness to prove the existence of anything else.
16. So how does he pull this rabbit out of his hat? By reformulating Anselm’s proof in such a way that it is not a proof at all, but simply the analysis of a concept. The Christian idea of

God is that of (1) an infinitely perfect being. It's a positive formulation of the understanding of God we saw in Anselm: God is that than which nothing greater can be thought. (2) Now among the list of infinite perfections that the concept of an infinitely perfect being would include would be that of existence itself. For is it not better to be than not to be? (3) And of course in God it would need to be infinite existence, that is existence that is eternal, and infinitely powerful, that is, that needs nothing else in order to exist and that no other being could be powerful enough to deny existence to or to destroy. Thus anyone who methodically spells out the properties inherent in the concept of God, knows by inspection alone, that God exists. Its not an argument; its true by definition.

17. With the existence of God as an infinitely perfect being, Descartes can then demonstrate the validity of our inferential reasoning. (1) For infinite goodness is also on the list of infinite perfections and (2) an infinitely good God would not systematically (3) deceive the product of his own creative activity. Or to put it in the model of printing, to read one cannot be continuously or systematically mistaking the words on the page. And from the validity of logical inference, Descartes goes on to prove the reliability of causal inference. For he will define causal inference as simply a conditional syllogism, where the cause is the antecedent and its effect the consequent.
18. Now by using causal inference he then presents two more arguments for the existence of God. (1) His second proof is an answer to the question of what could possibly cause such a concept to be in our consciousness in the first place. (2) His third answers the question of what could possibly be the cause for my own existence as a thinker conceiving of God. Both thinker and thought, agent and action, both must have a cause explaining their existence. (3) He addresses the former by arguing that the concept of an infinite being could itself only be caused by an infinite being. He has a clear and distinct concept of infinity from his work in mathematics. He argues that the concept is not simply an extrapolation from our experience of finitude; it is a positive idea in its own right, indeed an infinite idea. (4) But to be infinite is just what we mean by God. (5) Therefore, since the concept of infinity exists, even as a formal mathematical reality, so must God. He begins his third proof by claiming (6) that his consciousness cannot be the cause of its own existence. Now by "cause" here he does not mean "source." Descartes' parents are

the source of his existence. But they are now dead, yet Descartes continues to exist. What explains that? What explains his continuing existence from one moment to the next? Why does consciousness not suddenly vanish at some random moment? It cannot be himself, for he is only too aware of his own limitations, his own imperfections. If he created himself would he not have made himself in accord with his concept of infinite perfection, his concept of God? (7) Furthermore, no material thing could be the cause of his consciousness either. For matter and mind are clearly distinct from each other, matter can no more produce thoughts than thoughts can produce matter. (8) Nor can one consciousness produce another. (9) Only God remains. God alone can be the cause of my continuing consciousness from one moment to the next. (10) Therefore God must exist.

19. From the point of view of literate culture what is most striking about these proofs is that they are all drawn from consciousness. They are conceptual, causal and existential proofs from the reality of human subjectivity. Even more radically than we saw with ancient and medieval axial thinkers, the highest reality, what it to be held sacred, is to be found within our own subjectivity, not in the objective world beyond consciousness.
20. The immortality of such individual interiority Descartes also claims to be able to prove. After all, as we have just seen, we have a clear and distinct knowledge of the existence of our subjective consciousness before we can even prove the existence of the world. Thus our thinking cannot be itself dependent upon the world outside our thinking. The dissolution of our body does not entail the dissolution of our thinking. The immortality of the soul is thus likewise provable from reason alone.
21. Now further, more particular Christian dogma, such as the divinity of Christ and the truth of biblical revelation is not susceptible of such rational proof. But neither can they be rationally disproven. For such truths of faith are not also scientific truths. They are rational to believe, in that they inform a meaningful, Christian way of life, but they are not rationally compelling. They are matters of faith, not knowledge.
22. In his last Meditation, Descartes finally turns to the analytical reconstruction of what we can know of the objective world of nature. Here too, God can be trusted not to systematically deceive us so long as we too proceed systematically and methodically in our reasoning. What he can prove is the existence of an extended, “external” world stripped of all subjectivity. The objective world will be the analytical world of geometry

and mathematics, quantitative rather than qualitative, digital rather than analogue. In contemporary terms the world beyond consciousness is the “real” world of scientific theory in contrast to the mimetic, sensory world of “folk wisdom.” A world of measurable and impartial objective fact, operating autonomously according to its own mechanical, algorithmic necessity. In short the objective world is a machine, its value purely instrumental, in how humans can use it for the attainment of their human goals.

23. But if the objective world has no inherent value, then, in religious terms it is a radically secular world as well, a world where nothing is sacred but its radical antithesis, the equally radical subjective world of human consciousness—a consciousness which is not itself an object at all but a free spirit for which the body serves as a tool until death does its part.
24. Descartes thus proves the existence of God and the immortality of the soul as well as defends the reasonableness of traditional Christian dogma at the cost of an autonomous secular scientific world stripped of any inherent value, meaning or purpose. Tellingly, for the contemporary priest and scholar Marin Mersenne, Descartes earliest advocate who circulated Descartes writings throughout his network of philosophers, scientists and theologians, this radical separation of science from religion was not a fault or limitation of his geometrical method but its most valuable feature. For Mersenne, himself a mathematician as well, the Church had erred in censoring Galileo, treating Biblical symbolism as scientific truth. (1) Following in the footsteps of axial mystics such as Origen and Augustine, the truths of the bible, such as geocentrism, were spiritual, not necessarily literal. Mersenne argued that religion had nothing to fear and everything to lose from seeking to impose limits on what truths scientific research can discover.
25. Mersenne may have been even more enthusiastic about Descartes radical separation of religion and science in light of another heresy battle with the Dominican alchemist Giordano Bruno. On the one hand alchemy was a spiritual science, one that found sacred meaning and value in all things. But, on the other hand, it was a rival religion, a religion of immanence over transcendence, not theism but pantheism. For Mersenne such an interweaving of science and religion only adulterated and endangered both. Descartes gave Mersenne the intellectual weapons to refute what he took as a mortal threat to traditional Christianity.

26. And indeed as the Enlightenment continued to evolve and the new mechanistic science gained cultural momentum through its technological successes, (1) the rational purgation of religious faith would move beyond Cartesian compatibilism to a deism stripped of mimetic ritual and biblical truths altogether. While Deists would still offer rational proofs for the existence of God and the immortality of the individual soul, they would reject any religious belief that extended beyond the reach of reason alone. Religious revelation was not beyond reason but below it. Or, better put, literate reason itself was now claimed to be the sole organ of divine revelation. (2) Gospel truths were either rational truths that could be justified independently from universal and necessary principles or childish superstition that it was time for rational thinkers to outgrow.
27. In the following video lecture I shall explore deism and its religion of reason alone. In particular, I shall focus on yet another proof for the existence of God, this one drawn from the objective world of science and technology itself and the intricate interlocking complexity of the mechanisms scientific researchers were discovering to be operative within it. It would become the most compelling argument for the existence of God until Darwin would provide an even better scientific hypothesis for the design of nature in his theory of evolution.