Religious Presuppositions
of Logic and Rationality
An Enquiry

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ABSTRACT   There is a crisis in philosophical rationality today—in which modern logic is implicated—that can be traced to the abandonment of a common background of principles. The situation has no parallel within the pre-modern tradition, which not only admits of such principles (as an unproblematic presumption), but also refers them back to a set of assumptions grounded in a clearly religious frame of mind. Modern conceptions of rationality claim complete independence from religious sources, as from tradition more generally, and typically end up disposing of first principles altogether. The result is a fragmentation of reason, which can be seen to be dramatically exemplified in the realm of modern logic, populated by countless different systems and incompatible conceptions of what it is to be a logic. Many of the conceptual choices that became implicit in the philosophical discussions eventually leading to the rejection of the religious picture, and ultimately to the aforementioned crisis, were themselves originally linked to religious premises, so that all along, a kind of religious subconscious has subsisted throughout those disputations; however, the lack of any proper recognition of this background obstructs the possibility of making a reasonable assessment of the nature and causes of the crisis. Alasdair MacIntyre, whose thought inspires the argument developed here, reached similar conclusions regarding practical (or moral) rationality and the effects of abandoning the teleological framework of Aristotelian (and Thomistic) philosophy. MacIntyre's arguments can be adapted, as he suggests, to deal with reason more generally, and his insistence upon the tradition-laden character of rational enquiry can help point toward the grounding of human reason in religion.

KEYWORDS   culture; logic; MacIntyre, Alasdair; rationality; religion

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1. The Crisis of Contemporary Philosophical Rationality

A characteristic trait of contemporary philosophical culture, at least as Alasdair MacIntyre would see it, is its rejection of first principles.[1] Usually, such a rejection is connected to a philosophical critique of the Cartesian approach to the pursuit of a "foundational" program of one kind or another. Just like its Cartesian predecessor, however, contemporary philosophy claims fidelity to no other master than the pure demands of reason, or else burning all masters at the stake, in order to get rid of any shadow of strange gods and idols. If philosophy cannot stand by reason alone (or, at least, reason supplemented by no more than its natural sources, such as the senses) in a systematically built-up way, then it risks being overthrown or simply turned into an auxiliary tool, in order to "clarify" or "organize" the concepts and tasks of the real knowledge-builders, such as the scientists, who will then be regarded as being responsible for performing the real hard work (even if they do not care much for philosophy's self-appointed auxiliary business). Given that first principles are no good as "rational foundations," then it seems that they are no good at all.[2]

As will be argued here, though, this has hardly been a common mark of philosophy since the day of its inception. Indeed, philosophy is born tradition-laden in a quite self-conscious way. First principles are, in pre-Cartesian philosophy, both a presupposition and an aim of the enquiry.[3] Although they are never put into question, and operate as reliable guidelines wherever the philosopher engages in reasoning, their clear and precise formulation is to be achieved only after a thorough—and, in a sense, always unfinished—investigation. That this is so is something that in turn reflects a set of definite beliefs about man's cognitive powers, the real order of the world, and the relationship that obtains between these—one that is not really established philosophically (it being up to philosophy to properly *describe* these objects), but rather accepted from an inherited world-

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1. Alasdair MacIntyre, *First Principles, Final Ends, and Contemporary Philosophical Issues* (Milwaukee, WI: Marquette University Press, 1990), 1.

2. The collection of essays edited by Alvin Plantinga and Nicholas Wolterstorff, *Faith and Rationality: Reason and Belief in God* (Notre Dame, IN: Notre Dame University Press, 1983), deals with the issue of the implications of the demise of "classical foundationalism" for the epistemological questions surrounding contemporary philosophy of religion. In a sense, the essays in that collection suggest a return to a religious framing as a licit rational starting point, even though the suggestion depends on quasi-fideistic viewpoints, as if the choice of such a starting point could stand as one among a plurality of legitimate options (ibid., 7–9). On the other hand, it will be argued here that reason itself, or at least philosophical reason, *must* be referred to a religious framework (even if as a tacit dimension).

3. See MacIntyre, *First Principles,* 3–5.

view.[4] The religious traditions, both popular and esoteric, were a source from which the early philosophers explicitly drew, but not only that: they usually conceived the most proper object of their research as relating to the divine. The main streams of philosophical thought that cultivated and continued the legacy of the ancient Greeks were carried by defenders of Semitic monotheisms, so that the further history of philosophy becomes inseparable from the history of the theologies of the Abrahamic religions.[5] Modern philosophy characteristically dismisses the central role of tradition, religious or otherwise, in the workings of reason. It searches for a neutral ground, discoverable through the toils of the (individual) mind's natural faculties alone, and apt for gaining the assent of every rational being by sheer force of evidence. Even the doctrines of religion must submit, if they are to claim any authority at all, to the strictures of such a court.[6] But as a matter of fact, this very order of things was substantially conditioned by the religious scenario and theological choices of the preceding generations (not to mention the vocabulary and conceptual tools of the tradition being rejected)[7], and modern philosophers were themselves quite particularly involved in pursuing a kind of theological speculation as a means to warrant the assertions and principles of their own philosophy and science.[8] So, for instance, late medieval nominalism, which was heading towards burying medieval scholasticism and laying the groundwork for the empiricist tradition, emerged from theological concerns to stress

4. Of course, the history of classical philosophy is not that of a single continuous tradition, there being much disagreement in the matter of principles and general worldviews amongst the various Hellenistic schools, for instance. Indeed the depth of such disagreements was such that it eventually gave rise to reactions such as skepticism (as with the earlier Sophists), which also appears as a practical (and even ascetic) wisdom of sorts. See Harald Thorsrud, *Ancient Skepticism* (Stocksfield: Acumen, 2009), 6–7.

5. There are, to be sure, the trends of Pagan and Gnostic thought that were involved in polemics against Christianity and continued to exert a perceivable influence even subsequently, but these, too, were characterized by explicitly religious attitudes. See José Alsina Clota, *El Neoplatonismo: Síntesis del espiritualismo antíguo* (Barcelona: Anthropos, 1989), 11–3; Hans Jonas, *The Gnostic Religion* (Boston: Beacon Press, 2001), 9–27; Florian Ebeling, *The Secret History of Hermes Trismegistus: Hermeticism from Ancient to Modern Times* (Ithaca, NY: Cornell University Press, 2007), 7–12.

6. In any case, this is explicit in Locke, who set the agenda for religious *evidentialism*, which has since been turned into an issue of philosophical common sense. See Nicholas Wolterstorff, "Introduction," in Plantinga and Wolterstorff, *Faith and Rationality*, 5–7.

7. Regarding the fundamental dependence of thinkers such as Descartes and Locke on the theses and resources of scholasticism, see Roger Ariew, *Descartes among the Scholastics* (Leiden: Brill, 2011); and Edward Feser, *Locke* (Oxford: Oneworld, 2007), 9–28.

8. See Amos Funkenstein, *Theology and the Scientific Imagination: from the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1986), 3–9.

the absolute power of God and the radical contingency of the created or-
der. The very early efforts to build a form of secular reason either relied
on explicitly theological premises such as the strictly spiritual nature of
religious authority (as in Ockham's and Marsilius of Padua's political the-
ories) and the absolute corruption of man's lapsed condition (as in the
Lutheran and Calvinist traditions), or else appealed to God (conceived as
the almighty, infinite, creator Being of the Christian tradition rather than
as the Demiurge, First Mover or supra-ontological Unity of Greek pagan
thought) as the guarantor of the reliability of knowledge claims (as with
Descartes and Berkeley), or tried to establish the principles of a "natu-
ral religion" (that, while opposed to the demands of "organized religion,"
inherited a great deal of the contents of both the latter's doctrines and
ethos), designed to secure the foundations of the social and moral order
(as with Enlightenment deism).

Even so, what we see is that the philosophical tone of modernity tends
towards progressive secularization, the appeal to tradition fades, and the
ideological commitments (and, thenceforth, the very principles of ratio-
nality) diverge radically among different authors—think, for instance, of
the deep divergences relating rationalistic and empiricist accounts of ra-
tionality, both between the two fields and within themselves—as the re-
ligious conflicts sweeping through Europe appear to demand the kind of
neutrality that modern thinkers sought to find in reason, however differ-
ently they conceived of it amongst themselves.[9] Nevertheless, not only
did that highly secular outlook possess a religious and theological back-
ground, but also many of the concepts and problems on the one hand, and
a great deal of the elements of the proposed solutions on the other, re-
mained the same as those of the philosophical tradition being rejected as
a source of superstitious idolatry. Moreover, the uses such resources were
put to, and the cognitive interests which governed these (in line with the
emerging modes of life of bourgeois society[10]), were most deeply at odds

9. The process whereby an integrated tradition of thought and enquiry gave way to a
fragmentation of reason such that, in the search for a neutral ground of judgment, diverse
efforts to construct an ahistorical and universally compelling view of rationality (namely,
the project of the Enlightenment—a process constitutionally fated to fail), is described,
as it relates to moral philosophy, in Alasdair MacIntyre's *After Virtue: A Study in Moral
Philosophy*, 3rd ed. (Notre Dame, IN: University of Notre Dame Press, 2007), 36–50. My
own account, while focused on logic and emphasizing the religious aspects of the matter
more strongly than MacIntyre, closely follows his.

10. These modes of life did not simply emerge, either, from a discrediting of religious
truth as an organizing principle for society, following the wars of religion, but had their
own spiritual sources (which is not to say that these influences were either monolithic

with those of the environment from which they had arisen and within which they had matured. They also implied, at the very least, a conviction that it would be possible to defeat their venerable opponent in any fair philosophical contest.

In order to achieve that goal, the paradigmatic modern philosopher typically instituted a system from scratch, relying on "first principles" defined on the basis of putative epistemological prominence as both self-evident and foundational. But later philosophers not only found themselves surprised by the wide range of disagreement over the evidential status and adequacy of such "principles" (sometimes even attributed to the "common sense" of mankind), but also came to realize that no set of statements could both fulfill the requirement of immediate self-evidence and perform the substantive role of constituting a foundation for all knowledge.[11] Even so, the outstanding successes of modern science (especially mathematical physics) invited a sustained effort to justify its claims to the status of true knowledge. Meanwhile, it seemed that the final words of modernity would be that the very principles of science have no other legitimacy than that imposed by custom (Hume), or by the in-built constraints of the mind (Kant).[12] Even as they rejected a Humean psychology of ideas and Kantian explanations of the possibility of synthetic *a priori* knowledge[13] (the key to his "Copernican" turn in philosophy), the founding fathers of modern mathematical logic and analytic philosophy turned to the order imposed by language (ideal or ordinary) in order to investigate the conditions of knowledge and reformulate and solve (or dissolve) the classical problems of philosophy.[14] In so doing, they adhered to the idea of an active con-

or straightforward, but rather that they were in a large measure mixed and unintended). See Michael Allen Gillespie, *The Theological Origins of Modernity* (Chicago: University of Chicago Press, 2008); Stanley Jeyaraja Tambiah, *Magic, Science, Religion, and the Scope of Rationality* (Cambridge: Cambridge University Press, 1990), 1–31; MacIntyre, *After Virtue*, 36–50; Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (London: Routledge, 1992); Amintore Fanfani, *Catholicism, Protestantism, and Capitalism* (Norfolk, VA: IHS Press, 2003); George O'Brien, *An Essay on the Economic Effects of the Reformation* (Norfolk, VA: IHS Press, 2003).

11. See MacIntyre, *First Principles*, 8–9.

12. See Gavin Ardley, *Aquinas and Kant: The Foundations of the Modern Sciences* (London: Longmans, 1950), 108–13.

13. See John P. O'Callaghan, *Thomist Realism and the Linguistic Turn: Toward a More Perfect Form of Existence* (Notre Dame, IN: University of Notre Dame Press, 2003), 79–112; and J. Alberto Coffa, *The Semantic Tradition from Kant to Carnap: To the Vienna Station* (Cambridge: Cambridge University Press, 1991), 7–40.

14. Of course this is an oversimplification. Even though Michael Dummett, in *Origins of Analytical Philosophy* (London: Duckworth, 1993), 5–6, claims that analytic philosophy

ferral of order (*à la* Kant) that, at the same time, was taken to possess an intrinsic social dimension (*à la* Hume).[15] The transformations that have occurred in logical theory reflect this modern inheritance (e.g., its nominalist or extensionalist character, its conception of existence as a second-order predicate, and so on—which is not to say that later developments do not allow for new concepts of intensionality, "deviant" understandings of quantification, etc.: it is just that such adaptations normally happen to arise as accretions to, or revisions of, a formal machinery designed to fit the aforementioned characteristics), even as they move in the direction of exploring more novel approaches. The fact is that in terms of producing consensus or "rational adherence," or even constituting a tradition of enquiry with intelligible aims and objects,[16] these approaches—with their

begins when, supposedly, Frege perceived the proper task of philosophy to be the analysis of thought as distinct from the psychological process of thinking, and carried this through into a scrutiny of language, nothing of this was explicitly stated by Frege himself (as Dummett, by the way, acknowledges: see *Origins*, 6–7), who had never set ideals for the whole of philosophy and was concerned with logical rather than linguistic analysis. Indeed, neither Moore nor Russell can properly be described as "linguistic philosophers." In a sense, the "linguistic turn" was only fully taken by Wittgenstein. See Aaron Preston, *Analytic Philosophy: The History of an Illusion* (London: Continuum, 2010), 32. Nevertheless, the focus on propositions and meanings, and the development of formal tools to aid philosophical analysis, could be said to have a linguistic bent in themselves. Hans Sluga, who is particularly attentive to the historical context, happily concedes that Frege is the first "linguistic philosopher," but is also careful to distinguish between Fregean and later analytic approaches toward language. See Hans Sluga, Gottlob Frege (London: Routledge, 1980), 4 (for the concession), and 4–6 (for the distinction).

  15. See Ardley, *Aquinas and Kant*, 108–13.

  16. See, for instance, Preston, *Analytic Philosophy*, 99–152, who speaks of an illusion of *unity* connected to the illusion of *promise* of the analytic approach to philosophy. Thomas L. Akehurst, in *The Cultural Politics of Analytic Philosophy: Britishness and the Spectre of Europe* (London: Continuum, 2010), 1–15, suggests that analytic philosophy reaches self-understanding as a cultural movement through a politically-motivated historical opposition to a caricature of an "anti-canon" of philosophy, projected onto continental, mainly German, thought. Dummett, *Origins*, 4–5; and Peter Hacker, "Analytic Philosophy: Beyond the Linguistic Turn and Back Again," in *The Analytic Turn: Analysis in Early Analytic Philosophy and Phenomenology*, ed. Michael Beaney (New York: Routledge, 2007), 138–9, both deal with the problem by restricting the meaning of "analytic philosophy" so as to exclude non-linguistic philosophy. Timothy Williamson, in "Past the Linguistic Turn?" in *The Future for Philosophy*, ed. Brian Leiter (Oxford: Clarendon Press, 2004), 107–8, excogitates the advent of what he calls a "representative turn" as a substitute of the deceased linguistic turn, in order to cope with the revival of mental representationalism in the philosophy of mind (if only to dispense with the recourse to representation as the primary philosophical worry—see ibid., 127–8). Dagfin Follesdal, "Analytic Philosophy: What Is It and Why Should One Engage in It?" in *The Rise of Analytic Philosophy*, ed. Hans-Johann Glock (Oxford: Blackwell, 1997), 7–9, identifies "analytic philosophy" with "philosophy preoc-

continuities and departures from their immediate ancestors[17]—fare no better than their modern predecessors.

Indeed, as MacIntyre suggests,[18] contemporary academic philosophy in the English-speaking world—in some semblance of what was practiced at universities in the fourteenth century[19]—is characterized as a highly technical exercise with no clear teleological direction that assumes, as its standard of evaluation, the skill shown in the formulation of logical and conceptual instruments. Elsewhere, he admits that this kind of philosophizing is apt to rule out a number of auxiliary theses, without thereby coming any closer to settling a single fundamental issue.[20] In spite of its

cupied with argumentatively justifying theses" (which seems to him to include Aristotle, Aquinas and Descartes and exclude Wittgenstein—see ibid., 9–10, 14). Hans-Johann Glock, *What Is Analytic Philosophy?* (Cambridge: Cambridge University Press, 2008), 212–24, simply speaks of a kind of Wittgensteinian "family resemblance" uniting the practitioners of this kind of philosophy through a historical or genetic thread. Of course, there is also a linguistic turn in Continental philosophy, but it is mostly alien to issues of formal logic.

17. The continuities and critical connections here verge on the obvious: debates in the philosophy of mind are framed in quite the same Cartesian dualist terms—even if only to reject it: there are always Cartesian appearances to be coped with or explained away; see Edward Feser, *Philosophy of Mind: A Beginner's Guide* (Oxford: Oneworld, 2006), 1–2)—although there is a general substitution of propositional attitudes for "ideas"; the discussions over mental representationism generally start from Fregean criticisms of Locke (albeit inadequately extended so as to apply to the whole of "traditional philosophy"—see O'Callaghan, *Thomist Realism*, 101–2); accounts of causality usually begin with Hume. See Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), 57–8. Needless to say, the historical details are almost always overlooked.

18. MacIntyre refers explicitly to the United States of America. Even if it is the characteristic dominant trend in that environment, it is in no way restricted to it. See Alasdair MacIntyre, *Three Rival Versions of Moral Enquiry: Encyclopedia, Genealogy, and Tradition* (Notre Dame, IN: University of Notre Dame Press, 1990), 158–60. Indeed, Hans Sluga, in "What Has History to Do with Me? Wittgenstein and Analytic Philosophy," *Inquiry* 41 (1997): 111–2, goes as far as to say that analytic philosophy is the first authentically supranational philosophy since the end of medieval scholasticism.

19. Of course, the degree of disagreement over fundamental assumptions is much higher in the contemporary case: even if the late medieval logician-philosophers were deeply divided as regards essential assumptions about, say, the range of demonstrative reason and the nature and tasks of philosophy, they were nonetheless of almost a single mind about some authoritative texts, principles and even a considerable part of their conception of the human nature, ends and powers. See Gyula Klima, "Contemporary 'Essentialism' vs. Aristotelian Essentialism," in *Mind, Metaphysics, and Value in the Thomistic and Analytical Traditions*, ed. John Haldane (Notre Dame, IN: University of Notre Dame Press, 2002), 192.

20. Alasdair MacIntyre "On Not Knowing Where You Are Going," *Proceedings and Adresses of the American Philosophical Association*, 84, no. 2 (2010): 69–70. Richard Rorty—at one stage— and Scott Soames see this as already representing a definite sign of "progress"

undeniably secular outlook, and its preoccupation with issues of "truth and knowledge, as opposed to moral or spiritual improvement,"[21] this sort of philosophy does display a certain ascetic attitude, seeking as it does to portray itself in virtuous terms[22] as a species of philosophy that refuses to compromise in relation to anything beyond the adamantine precepts of reason and science. Yet this surely renders it vulnerable to the kind of accusation that Nietzsche issued against his own highly irreligious contemporaries. Indeed, for Nietzsche, the "death of God" brings forth the death of reason.[23] The Nietzschean critique affords what we might call, through an analogy with the standard noncognitivist stance in metaethics,[24] an "emotivist" position regarding both practical and theoretical criteria, in that these are viewed as governed in reality by the drives of the will, concealed behind a smokescreen of epistemic scrupulousness. While

in philosophy. See Rorty's "Introduction" to *The Linguistic Turn: Essays in Philosophical Method*, ed. Richard M. Rorty (Chicago: University of Chicago Press, 1992), 2–4; Scott Soames, "Introduction to the Two Volumes," in *Philosophical Analysis in the Twentieth Century*, ed. Scott Soames, volume I, *The Dawn of Analysis* (Princeton: Princeton University Press, 2003), xv. MacIntyre's description fits exceptionally well with the judgment of Soames (ibid., xi) concerning the main achievements of analytic philosophy, which he takes to be the recognition of the necessity of grounding philosophy on "pre-philosophical thought" (usually thought to be the fuzzy—and not necessarily philosophically innocent—fields of scientific practice and "ordinary language"), and the clarification of methodological notions (even if constructed anew from the tools of the logic which developed side by side with it), so that philosophy has no intrinsic teleology, and achieves no special results beyond merely technical ones.

21. Soames, "Introduction to the Two Volumes," xiv.

22. See Akehurst, *Cultural Politics*, 126–62; and Preston, *Analytic Philosophy*, 9–17.

23. At least in a substantive, non-instrumental, sense. See Friedrich Nietzsche, *The Gay Science*, trans. Josefine Nauckhoff, ed. Bernard Williams, (Cambridge: Cambridge University Press, 2001), 200–48, for the consequences of the "death of God" in the form of the unmasking of the "will to truth" and of the "metaphysical faith" that grounds trust in science and the scholarly spirit. See also our comments below, on Louis Rougier's logical relativism.

24. MacIntyre, in *After Virtue*, 21–2, explicitly relates Nietzsche's theses on morality to moral emotivism. I believe, however, that we can speak of a more general form of emotivism (or perhaps "expressivism") whenever we find the thesis that some area of speech with epistemic claims is ultimately reducible to the expression of emotions, impulses or attitudes toward life—as when Rudolf Carnap proposes to understand metaphysical statements as expressions of attitudes toward life. See Rudolf Carnap, "The Elimination of Metaphysics through Logical Analysis of Language," in *Logical Positivism*, ed. Alfred J. Ayer (New York: The Free Press, 1959), 78–80. In MacIntyre's latest book, *Ethics in the Conflicts of Modernity: An Essay on Desire, Practical Reasoning, and Narrative* (Cambridge: Cambridge University Press, 2016), 17–24, he deals with "expressivism" as a category that includes more recent and sophisticated versions of the emotivist thesis.

one rarely encounters this view being explicitly defended, it ends up being almost inevitable when one surveys the matter at a metaphilosophical level.[25] Nevertheless, for MacIntyre this points, indeed, not to a rebuttal of the very claims of reason, but rather to the fact that the Nietzschean line of criticism can be interpreted as a kind of *reductio ad absurdum* of the rational tenets of modernity.[26] The thought is that something with the dimensions of a catastrophe takes place once the traditional edifice of knowledge has been demolished and people are left with unarticulated ruins to be gathered together in alien architectonic styles, produced *ab ovo*.

Moreover, in spite of its distinctive technical and piecemeal approach (which does not *per se* exclude a more systematic take),[27] analytic philosophers characteristically claim to follow impersonal criteria and keep to objective standards of rationality,[28] even while these contrast with a virtually complete lack of agreement on any substantial issue—a situation aggravated by the no less radical disagreement over logical principles and their meaning precipitated by the plurality in play of both different "logics" and construals of what it is to be a logic (once it is admitted there is more than one). Such a situation, while replicating the predicament pertaining to moral enunciation pointed to by MacIntyre in connection with the contemporary philosophical scene and its sociocultural environment,[29] would tend to jeopardize even the "certain authority" that, he claims, has been attributed "to logic" by the various rival traditions of enquiry that have struggled over rational hegemony.[30]

One could, of course, just claim that radical disagreement poses no particular problem for philosophy, as it is perhaps just part of the very nature

25. See the quote of David Lewis below.

26. MacIntyre, *After Virtue*, 110–4. MacIntyre is thinking of *practical* rationality, but he himself admits that his views on traditions of enquiry also take in philosophy and science in a broader sense (see *First Principles*, passim).

27. Soames, "Introduction to the Two Volumes," xiv.

28. While tending to absolutize "ordinary" or scientific *use* or appeals to *intuition*, there has recently emerged a tendency for checking such putative uses or intuitions against empirical data through the exercise of what is called "experimental philosophy," in which significant emphasis is placed upon the cross-cultural variance of the conceptions assumed—see Stephen Stich and Kevin P. Tobia, "Experimental Philosophy and the Philosophical Tradition," in *A Companion to Experimental Philosophy*, ed. Justin Sytsma and Wesley Buckwalter (West Sussex: Wiley Blackwell, 2016), 5–21. Such an approach presupposes, of course, a reliance on the methods of the social sciences (e.g., social psychology) as a deeper source of unquestioned objectivity, where this in turn betrays its naturalist provenance.

29. MacIntytre, *After Virtue*, 7–11.

30. Alasdair MacIntytre, *Whose Justice? Which Rationality?* (Notre Dame, IN: University of Notre Dame Press, 1988), 351.

of the philosophical enterprise itself.[31] Maybe the fine-tuned instruments of analytic philosophy and modern logical theory only allowed for a more acute and distinct awareness of that inescapable fact. That it was necessary to emerge slowly from a "theological stage" of rationality and its apparently firm but fake "certainties," may be just part of a painful process of intellectual maturation. However, this very same claim involves, at the very least, taking a judgmental stance on the whole antecedent tradition, supposedly from a superior vantage standpoint and as a consequence of the realization of an implosion of cherished principles and projects that issued from the purely internal development of our intellectual potentialities themselves, so that the rational ambitions of our philosophical allegiances were eventually obliged to acknowledge their own unsurmountable limits. Nevertheless, as it happens, philosophy's internal history is deeply affected by external historical matters (to recur to the consecrated terminology of the historiography of science), so that criteria of judgment and assessment are in large degree molded by social structures, cultural frameworks, and historically-embedded patterns of thought.

Recognizing such sources of conditioning need not commit one to relativism. Most analytic criticisms of relativism tend to closely associate it with a condition of non-neutrality and dependence on historically contingent patterns of evaluation,[32] and the fact that MacIntyre stands by just such a condition[33] has been the reason of his being frequently charged with the accusation of relativism,[34] which is not a very popular stance among analytic philosophers anyway.[35] However, as MacIntyre stresses, the very stating of the relativist thesis presupposes precisely that "above-all-schemes" character that is denied by the universal scheme-dependence which is supposed to be its starting point,[36] just as

31. For a parallel line of reasoning, see MacIntyre, *After Virtue*, 11.

32. See Harvey Siegel, *Relativism Refuted: A Critique of Contemporary Epistemological Relativism* (Boston: D. Reidel, 1987), 6.

33. MacIntytre, *Whose Justice?*, 350.

34. See Timothy Mosteller, *Relativism in Contemporary American Philosophy* (London: Continuum, 2006), 45–76.

35. Recently, a thread has emerged in analytic thought that has been labelled "new age relativism" by Crispin Wright. See Crispin Wright, "New Age Relativism and Epistemic Possibility: The Question of Evidence," in "The Metaphysics of Epistemology," ed. Ernest Sosa and Enrique Villanueva, thematic issue, *Philosophical Issues* 17 (2007): 262–83, doi:10.1111/j.1533-6077.2007.00133.x. Under the mantle of Kaplan's theory of contexts of enunciation for sentences with indexicals, this speaks of "contexts of assessment" for some kinds of claim, but is essentially a semantic (rather than epistemological) thesis intended to apply to some, though not all, areas of speech.

36. MacIntytre, *Whose Justice?*, 367.

the non-neutrality postulate that is frequently affirmed as a necessary condition for the objectivity of knowledge ends up legitimating the situation of radical and irresolvable disagreement which seems to threaten the rational cogency of philosophical arguments and justifies, to all effects and purposes, a kind of generalized "practical relativism," as seen above.

According to MacIntyre's proposal, philosophical investigation must begin from within the confines of a particular, historically-constituted tradition, with a contingent starting point in space and time and somewhat arbitrary (i.e. inherited, rather than justified from self-evident principles) initial premises and patterns of assessment, yet with a radical, in-built *aim* of finding and adjusting itself to transcendent truth (which founds the notion of truth as *adaequatio* as soon as it recognizes itself as inadequate for the truth-acquiring task and thereby comes to seek to be corrected), and whose aptness and rationality depend upon its capacity to cope with its own internal problems, to engage in critical dialogue with rival traditions (especially through coming to grips with their own rational idioms), and to overcome episodes of epistemic crisis via an openness to reformulation and even eventual relinquishment.[37] In any such tradition-oriented enquiry, an awareness of external conditioning and an attention to the historical development of concepts and discussions are bound to be highly valued, together with the possibility of showing adherents of rival traditions the way out of their own epistemic crises.

If, then, there is a crisis in today's philosophical rationality (as will be argued in more detail below), analytic philosophy, with its canonizing of current uses and "intuitions" and its attention to technical detail at the expense of deep-level value-laden commitments, seems poorly positioned for discovering its causes and their respective remedies. An examination of the historical vicissitudes of the relevant conceptions of rationality is surely thus in order, so that the roots of the crisis may be identified,[38] and it will perhaps be found that at least some of the transmutations suffered by reason, instead of constituting genuinely rational improvements, have incorporated certain disruptive factors responsible for provoking the inadequacies that only later became clearly visible (or that did so when seen from a more appropriate viewpoint). Moreover, I shall argue that rationality and logic, at least as framed in the Western intellectual tradition,[39]

37. See ibid., 354–66.
38. See MacIntytre, *After Virtue*, 2–5.
39. This study would profit from an interchange with other traditions, i.e., Indian logic. See Jonardon Ganeri, "Indian Logic," in *Handbook of the History of Logic*, ed. Dov Gabbay and John Woods, vol. 1, *Greek, Indian, and Arabic Logic* (Amsterdam: Elsevier, 2004), 309–95.

must be understood against the background of religious thought, and that the obliteration of that dimension may itself be partly responsible for the present crisis (if there really is one).

MacIntyre's project, we should add, operates on a genuinely philosophical level: even if the traditions of enquiry are sometimes radically informed by religious premises, the criteria for evaluating conflicting traditions need not rely on such premises. Yet the tradition he himself favors (i.e. Thomism) does depend on them in a definite and explicit manner. Even so, this need not render it incapable of distinguishing the philosophical from the theological domain, or mean that it takes philosophical arguments to ultimately depend on religious premises. As a matter of fact, a sharply drawn distinction between philosophy and theology, and a conception of their autonomy relative to one another, are central features of Thomism that rank amongst its most relevant achievements. Unlike "analytic rationality," a recognition of the first principles and final ends of philosophy are essential to that tradition. But this is only the case because within the latter, philosophy itself has been granted a definite place in a wider ordering of knowledge that possesses a clear theological horizon,[40] pertaining as it does to an aspect of lives essentially informed by religious purposes—one that sets much of the philosophical agenda and assures a basic confidence in man's cognitive powers and the intelligibility of the world as starting points for any such venture.[41] Even if he does not always emphasize the fact, MacIntyre certainly does not fail to acknowledge this.[42] Moreover, both his criticisms of modern forms of rationality, and the narrative he constructs to back these, would seem to imply that the loss of the theological has played a decisive role in engendering the mod-

40. See Jacques Maritain, *The Degrees of Knowledge*, trans. Bernard Wall and Margot R. Adamson (London: Geoffrey Bles, 1947), 305–13.

41. See Étienne Gilson, *L'esprit de la philosophie médievale*, 2nd ed. (Paris: Vrin, 1969), 17–38, for the specific influence of the Christian religion on medieval philosophizing and the legitimacy of the notion of Christian philosophy.

42. As regards the gain in systematicity achieved by Aquinas' "theological-cum-philosophical" approach in comparison with Plato's, Aristotle's, and Augustine's, see MacIntyre, *Whose Justice?*, 164. Concerning the integration of human goods within a more unitary conception of man's last end, see ibid., 165–6. Regarding the indispensability of the virtue of religion as something integral to the virtue of justice in Aquinas' account of moral virtues, see ibid., 188. Concerning the epistemic authority of the Church and the intertwining of religious and intellectual life, see *Three Rival Versions*, 91–6. With regard to the presupposed theological dimension of rational enquiry, see MacIntyre, *First Principles*, 28–30. See also Alasdair MacIntyre, *God, Philosophy, and Universities: A Short History of the Catholic Philosophical Tradition* (Lanham, MD: Rowman & Littlefield, 2009), 93–5, 173–80.

ern crisis as he sees it.[43] Anyway, like Josef Pieper,[44] I myself shall adhere here to the position that a religious horizon is congenial to philosophy, and furnishes the most natural environment for philosophical rationality.

2. The Crisis of Contemporary Logical Rationality

While there maybe no absolutely definitive consensus to the effect that there is a crisis in philosophical rationality, this is widely acknowledged as being the case. Despite some possibly over-optimistic manifestations of unshakable faith in something like a "scientific model of explanation" as a safe guide for philosophical reasoning,[45] the fact remains that such a hypothetical model is altogether lacking in any firm and clear characterization, even at some minimally agreed-upon level. Conceptual frameworks and methods of enquiry in science are highly regional and autonomous, and it is often philosophy itself that is called upon (or, rather, that volunteers itself) to state an "underlying order" that frequently happens to be some very artificial, mainly superficial, entirely disputable, and fairly inadequate sort of "rational reconstruction" of scientific reason—assuming that there *is* such a thing at all. Such was the common objective of the "Unity of Science" movement, derived from the Vienna Circle (but with deeper roots in Cartesianism, Enlightenment Encyclopaedism and Comtean positivism), which, from Carnap's debates with Schlick and Neurath through Quine's naturalistic holism to Kuhn's account of normal science and scientific revolutions, has very much failed to achieve any unitary profile.[46]

Sometimes, philosophers recognize the inconsistent character of "scientific knowledge" taken as a whole, but still react quite differently. Hilary Putnam speaks of an "internal realism" which nevertheless preserves a "realistic spirit" as the maximal degree of realism tenable once one has encountered incompatible conceptual categorizations of reality. (The geneticist's account of the essence of a dog, for instance, may be something different from and inconsistent with the cladistic taxonomist

43. MacIntyre, *After Virtue*, 49–50.

44. Josef Pieper, *Leisure: The Basis of Culture*, trans. Alexander Dru (New York: Pantheon Books, 1952), 147–66.

45. As may be in line with Quinean naturalism or a Kuhnian "rule of the experts." See Steve Fuller, *Kuhn vs. Popper: The Struggle for the Soul of Science* (Cambridge: Icon Books, 2003), 62–4.

46. See Thomas Bonk, "Conceptions of Reality—Schlick, Carnap, Neurath," in *Otto Neurath and the Unity of Science*, ed. John Symons, Olga Pombo, Juan Manuel Torres (Dordrecht: Springer, 2011), 83–93; and Mario Bunge, "Two Unification Strategies: Analysis or Reduction, and Synthesis or Integration," in Symons, Pombo, Torres, *Otto Neurath*, 145–57.

understanding of the essence of what seems to be the very same animal.) It does so within a version of naturalism that replaces the ontological relativity of Quine's alternative holistically scientific descriptions of the world with a conceptual relativity distributed across the various disciplines.[47] Ronald Giere, meanwhile, adopts a more straightforward stance when he talks of "scientific perspectivism," rejecting the polarity between a supposedly transcendent reality and ever-adjusting scientific theorizing in favor of the elaboration of models that emerge from perspectival takes on bits of experience.[48] Newton C. A. da Costa and Steven French propose a notion of "pragmatic truth" or "quasi-truth" as a provisional substitute for the goal of a correspondence version of truth, while the (still) mutually incompatible parts of the scientific endeavor are accommodated by them within a paraconsistent framework.[49] John Dupré and Nancy Cartwright, on the other hand, just prefer to declare reality itself inconsistent.[50] Of course, the final choice is up to the customer, but the fact is that while each of them takes science to hold the last word as regards human rationality, what meaning we are supposed to attach to the latter term remains a matter of philosophical debate. Furthermore, the market of ideas would seem to abound with different options here.

Nonetheless, a quest for rational unity may well seem congenial to philosophy, and a more promising approach may perhaps be found in the sphere of logic. The development of the tools of modern logic was—if we think, for instance, of Frege and Russell—originally intended to serve this cause.[51] However, the flexibility of the kind of mathematical apparatus that turned out to be systematically employed eventually allowed for a similar treatment of what one can see as alternative accounts of logic.[52] Since Frege, different symbolisms have been adopted, that sug-

47. See Hilary Putnam, "A Defense of Internal Realism," in *Realism with a Human Face*, ed. James Conant (Cambridge, MA: Harvard University Press, 1990), 30–42.

48. See Ronald Giere, *Scientific Perspectivism* (Chicago: University of Chicago Press, 2006), 59–95.

49. See Newton C. A. da Costa and Steven French, *Science and Partial Truth: A Unitary Approach to Models and Scientific Reasoning* (Oxford: Oxford University Press, 2003), 3–7.

50. See John Dupré, *The Disorder of Things: Metaphysical Foundations of the Disunity of Science* (Cambridge, MA: Harvard University Press, 1993), 7–8; and Nancy Cartwright, *The Dappled World: A Study of the Boundaries of Science* (Cambridge: Cambridge University Press, 1999), 1–19.

51. The logic of the logicists, unlike that of the nineteenth century algebraists, intends to have a universal scope, functioning not only as a *calculus ratiocinator*, but also as a *lingua characteristica*. See Jean Van Heijenoort, "Logic as Calculus and Logic as Language," *Synthese* 17 (1967): 324–30.

52. A difficulty faced by the early logicists concerned their use not only of a symbolic lan-

gested distinct ways for dealing with logic: axiomatic systems (with a diversity of notations and principles—both axioms and rules), natural deduction, sequent calculi, etc. The method of truth-tables, as presented by Wittgenstein and Post (with immediate roots in Boolean algebra), suggested a non-derivative account of logical validity, and allowed, with the addition of more "truth values," for deviant interpretations of what is in some instances roughly the same formal apparatus.[53] An algebraic approach, tending to consider logical systems as a given class of mathematical structures, is revived with the works of Skolem, Löwenheim, and especially Tarski, which tended in a direction opposite to the universalistic stance of the logicists.[54] The development of metatheory, on the other hand (with the related problem of the "great logic," mentioned below), entailed a similar diversification of approaches. All this was soon to contribute to the emergence of heterodox paths, such as were swiftly pursued by the likes of C. I. Lewis, Post, and Łukasiewicz,[55] with the development of a logic of strict implication (that would be the seed of modern modal logics), and many-valued logics. Thus, as the new orthodoxy of "classical logic" was being erected, the claims of heterodoxy were also elevated.

The use of the new logic as a paradigm for conceiving of philosophy as a dissolution of controversies by way of the logical reconstruction and analysis of language[56] could not but be damaged by the realization that the controversies did nothing but multiply. The grounds on which one could defend the primacy of logic, as if from a transcendent vantage point, seemed to fade. With the emergence of such findings as Gödel's incom-

guage over which operations could be defined in a mathematical (or quasi-mathematical) fashion, but also of concepts borrowed from mathematics itself: Russell's and Whitehead's *Principia* makes significant use of quantities, for instance. See Ivor Grattan-Guinness, "The Mathematical Turns in Logic," in *Handbook of the History of Logic*, ed. Dov Gabbay and John Woods, vol. 3, *Logic from Leibniz to Frege* (Amsterdam: Elsevier, 2004), 549.

53. See William M. Kneale and Martha Kneale, *The Development of Logic* (Oxford: Clarendon Press, 1962), 513–75.

54. See Grattan-Guinness, "Mathematical Turns," 549–51.

55. See Kneale and Kneale, *The Development of Logic*, 513–75; and Newton C. A. da Costa, *Ensaio sobre os fundamentos da lógica*, 2nd ed. (São Paulo: HUCITEC, 1980), 132–65.

56. See note 14. There is, of course, the whole issue of philosophies of "ideal" language versus those of "ordinary" language, with the latter being skeptical from the outset about the definite role of logic in conceptual analysis. Some recourse to the authority of modern logic can be found, however, in a variety of areas in philosophy, including the development of modal metaphysics, the analysis of knowledge claims (to deal, for instance, with Gettier cases) and counterfactual reasoning, the articulation of theories of truth, appeals to formal semantics in debates amongst metaphysical realists and antirealists, and so on.

pleteness theorems, it transpired that the new logic could not even resolve the foundational issue in mathematics it had been conjured up to settle (albeit that it did not leave the latter's face unchanged). Given that we might then appeal to some version or other of set theory, type theory, or category theory, etc., the surfacing of paradoxes and the problem of the "great logic" (as Newton da Costa has called it[57]) as a necessary supplement to "elementary logic" (such as first-order quantificational calculus) in most of its relevant applications only reinforced the putative case for embracing deviant logics as alternative frameworks for reasoning.

A historian of logic such as John Woods has gone so far as to say that the "hard sciences"—and also logic in particular—were already entering a *postmodern* stage during the first decades of the twentieth century. Indeed, much of the most valuable recent accomplishments within logic as a field of enquiry have to do with the multiplicity of logical systems, their respective characterizations, and their mutual relations. It is true that classical logic has remained a stronghold—be it thanks to the "intuitive" appeal of its principles, or its utmost simplicity, elegance, efficiency, and interesting algebraic and metatheoretical properties. Still, Quine, one of the great defenders of the sovereignty of classical logic, relied on fundamentally pragmatic grounds: a change of logic is not to be taken as indicative of a discovery of the ultimate and real meaning of the logical terms and principles involved, but rather comes down to a proposal of change in respect of the *meanings* of these, and hence their *use*. This means that relative to an established use (supposedly that of "classical" logic), it is, after all, nothing but a *change of subject*, and given the wide range of theoretical (and practical) commitments that come with an alignment with "classical" logical principles—and bearing in mind Quine's own holistic conception of both the scientific *corpus* and language use, which is such that he would not admit the possibility of a coexistence of mutually inconsistent fragments—a very impractical one at that.[58] Furthermore, he allows for revisions of logic

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57. Da Costa, *Ensaio*, 68–80.

58. See Antonio Negro, "Quine's Challenge and Logical Pluralism" (Master's thesis, Institute for Logic, Language and Computation, University of Amsterdam, 2010), 10–8, https://eprints.illc.uva.nl/845/1/MoL-2010-20.text.pdf. Quine held that the interpretation of the logical constants is rooted in the linguistic behavior of human communities (it amounting to just the fact of our supposing a "deviant" common use affected by insurmountable translational difficulties), where this should allow for the generation of "verdict tables"— by changing the meanings of constants, one changes the understanding of existence, and so damages the intelligibility of discourse. Later he weakens his position, admitting suspension of judgment as a possibility alongside assent and denial, where this would also serve to legitimate intuitionist interpretations—whence results an essential indeterminacy

as much as for any other part of the scientific enterprise.[59] Tarski, actually one of the creators of the orthodoxy, in dealing with the concept of logical consequence—which he understands in terms of establishing a definite class of logical constants, and allowing variation in the interpretation of the remaining symbols (individual terms and predicate letters in standard uses), so that a sentence follows logically from a given set of sentences if, and only if, every model of the latter is also a model of the former (i.e. each sequence of object, standardly, individuals and classes, that "interprets" the nonlogical terms of the latter so that they are satisfied, or, roughly, "rendered true,"[60] does the same with the former[61])—admits his own account to be an abstraction from "ordinary use" that is inescapably tainted by a stain of arbitrariness. This floating margin was to become the starting point of Beall's and Restall's famous defense of logical pluralism (which is only one among many).

   True, logical pluralism does not entail an "anything goes" attitude where logic is concerned. J. C. Beall and Greg Restall,[62] for instance, state that logic must involve the study of interpreted formal languages and be concerned with a concept of consequence that, in order to be *logical*, must fulfill the requirements of necessity, formality, and normativity, being defined relative to an appropriate notion of *cases*. Yet the fleshing out of this concept is thought to be context-bound. In the view of Richard Epstein,[63] the various contexts may imply an addition of *content*, the "classical" case being the initial and, in a sense, most general one. Epstein's justification is essentially pragmatic (although he does also admit the possibility of a realist justification). Dalla Pozza's "global pluralism," meanwhile, distin-

at the starting point. See Alan Berger, "Quine on 'Alternative Logics' and Verdict Tables," *The Journal of Philosophy* 77, no. 5 (1980): 259–77.

   59. Willard V. O. Quine, "Two Dogmas of Empiricism," in *From a Logical Point of View*: *Nine Logico-Philosophical Essays* (New York: Harper, 1963), 42–3.

   60. The definition of "satisfaction" for a given, in a sense "paradigmatic," formal language, and its relation to truth, are given in Alfred Tarski, "The Concept of Truth in Formalized Languages," in *Logic, Semantics, Metamathematics: Papers from 1923 to 1938*, ed. and trans. Joseph Henry Woodger (Oxford: Clarendon, 1956), 186–209. The concept of satisfaction, and consequently those of truth and logical consequence, are, for Tarski, always relative to a given language and defined using a metalanguage that is itself always distinct from the former.

   61. Alfred Tarski, "The Concept of Logical Consequence," in *Logic, Semantics, Metamathematics*, 409–20.

   62. J. C. Beall and Greg Restall, *Logical Pluralism* (Oxford: Oxford University Press, 2006), 7–24.

   63. Richard Epstein, *The Semantic Foundations of Logic*, volume 1, *Propositional Logics* (Dordrecht: Springer, 1990), 57–60.

guishes pragmatic tones (roughly similar to illocutionary acts) as separate frames for different logics (based on fixed "radical formulae").[64] All these approaches, however, not only see logic as variable, but subordinate it to *uses* and, even whilst they do so, present it in different guises in accordance with their particular theoretical commitments.

On the other hand, there are the attempts made by constructivists to ground the concept of logical consequence in that of deduction—which, in turn, is referred to some epistemic criterion akin to that of verification that may then impose a more rigid character upon the notion. Even then, as with Dummett,[65] there is place for a kind of plurality, depending on the relevant epistemic notion (although Dummett himself favors one of them as the most appropriate—the others resting, he thinks, on the assumption of the decidability of every proposition and the perspective of an omniscient knower[66]). Yet another perspective, as proposed, for instance, by Peter Schroeder-Heister, classifies the "classical" (i.e. Tarskian) and constructivist approaches together as forms of "standard semantics" that accept the precedence of a categorical notion of consequence over a hypothetical one and adopt a "transformational" view of it, and thus also embrace therefore an asymmetry between premises and conclusion.[67] In place of such approaches, Schroeder-Heister advances an inferentialist construal, modeled on sequent calculus. Modern perspectives on logical consequence based on deduction or inference, however, in order to avoid objections such as that presented by Arthur N. Prior—who introduces a connective named "*tonk*," defined using an introduction rule and an elimination rule ("from P, infer P *tonk* Q," "from P *tonk* Q, infer Q," respectively), to show the approach's arbitrariness (namely, that from any P, through the successive application of *tonk*-intro and *tonk*-elim, any Q follows)—generally appeal to holistic criteria, such as the proposal of a variously defined notion of "harmony." However, this generally represents a certain compromise between acceptable conditions of assertion and acceptable vindications of the entitlement to draw inferences—one ultimately based

64. Negro, "Quine's Challenge," 50–63.

65. Michael Dummett, "The Justification of Deduction," in *Truth and Other Enigmas* (Cambridge, MA: Harvard University Press, 1978), 316–8.

66. Michael Dummett, *Thought and Reality* (Oxford: Clarendon Press, 2006), 85–109. For another constructivist account of logical consequence, see Per Martin-Löf, "On the Meanings of the Logical Constants and the Justification of the Logical Laws," *Nordic Journal of Philosophical Logic* 1, no. 1 (1996): 11–60.

67. Peter Schroeder-Heister, "Proof-Theoretic versus Model-Theoretic Consequence," in *The Logica Yearbook 2007*, ed. M. Pelis (Prague: Philosophia, 2009), 187–200.

on criteria of language use. Such attempts, though, end up not only with a rejection of the "classical" inference schemes normally taken to be either "intuitively" acceptable (such as the disjunctive syllogism and the ω-rule) or desirable in view of certain results (especially those of "classical mathematics"), but also a failure, even, of such desiderata as the symmetry of introduction and elimination rules, which are sometimes taken to be essential to the "harmony" account, while typically failing for the case of negation.[68]

Graham Priest, meanwhile, starts from the recognition of what he takes to be real and true inconsistencies (like those of the logical paradoxes) to build what should be a logical theory apt for dealing with them.[69] Formal theories of truth avoid the occurrence of semantic paradoxes or the most inconvenient of their consequences (such as explosion), if not by restricting schemes of "capture" or "release" (respectively, inference from "A" to "it is true that A" and vice-versa), then by situating truth predicates at metalinguistic levels (*à la* Tarski), allowing "gluts" and "gaps" in truth value (the paraconsistent and the paracomplete solutions, respectively) while permitting unrestricted capture and release (these being hard to avoid in theories strong enough to express elementary arithmetic, and hence to allow the expedient of Gödel-numbering and self-reference through a fixed point theorem), or even invalidating such rules as cut and contraction and thenceforth depriving the resulting consequence relation of the structural properties of transitivity and monotonicity.[70] Yet both the perspective of a privileging of deduction or inferential rules over semantic principles, and that of a defense of a nonclassical logic as being supposedly better adapted to (mathematical, semantic and / or physical) "reality," depend on trade-offs between "intuitions" and assumed desiderata of "epistemic adequacy," often negotiating "normally" desirable results and otherwise valid schemes in ways that lack any more solid support than what is furnished by contextual demands and personal preferences.

Jean-Yves Béziau proposes a more liberal framework, through his conception of "universal logic" (which he claims to be continuous with studies started by Tarski and Paul Hertz in the 1920s). This is intended to assert both the *relativity* and the *universality* of logic: if we conceive of a logic

68. See Matthew McKeon, *The Concept of Logical Consequence: An Introduction to Philosophical Logic* (New York: Peter Lang, 2010), 126–59.

69. Graham Priest, *In Contradiction: A Study of the Transconsistent*, expanded ed. (Oxford: Clarendon, 2006), 3–6.

70. See J. C. Beall, Michael Glanzberg, and David Ripley, *Formal Theories of Truth* (Oxford: Oxford University Press, 2018), 38–108.

as a structure built over sentences closed by an operation of consequence, we should be able to start from the luxurious variety of structures which already constitute the object of study of professional logicians, and then investigate the properties and relations of various logical systems at a universal (albeit not strictly formal) level, without having to establish constraints on them (such as those of the pluralists, or even the structural "Tarskian axioms" of reflexivity, monotonicity, and transitivity).[71] On this basis, important hypotheses may be entertained and results obtained.[72] One of the most relevant issues discussed at this level is the thesis of Suszko, which states that the multiplicity of truth-values (if finite) can always be reduced to two, at least for Tarskian structural systems. Grzegorz Malinowski argues that the very distinction between designated and undesignated values (essential to the standard definition of *validity* of inference) suggests the truth of Suszko's thesis for finite-valued logics.[73] Yet even if such an approach can open the way to a broad mathematical study of logics, conceived of as a certain sort of structure, and perhaps arrive—given, quite possibly, just some minimal restrictions—at some highly general outlines for a formal theory of logics in one of the broadest acceptable senses of the word, this will still tell us very little (if anything) about the reasons we might have for approving logic's authority over philosophical rationality.

This, of course, has immediate implications for the aforementioned quest for unity, and even for the survival of standards of rationality. After all, logic is usually viewed as a basic feature of our capacity to argue and reach conclusions of any kind. If it cannot stand on its own feet, we can hardly expect to reach agreements in our evaluation of arguments, and it would seem as if reason itself could amount to little more than a matter of taste. For one thing, the identification of science and reason cannot then work. As was seen above, "scientific rationality" is too multifarious a thing to be singled out properly. Moreover, modern science's achievements and reputation do not make its epistemic status a trivial matter: as a matter of fact, it cannot even be problematized without recourse to philosophy. Whether one should adopt a realist or an anti-realist view of science (re-

71. Jean-Yves Béziau, "The Relativity and Universality of Logic," *Synthese* 192 (2015): 1939–54.

72. See Jean-Yves Béziau, "Recherches sur la logique universelle (excessivité, négativité, sequents)" (PhD diss., Department of Mathematics, Paris Diderot University, 1994).

73. Grzegorz Malinowski, "A Philosophy of Many-Valued Logic: The Third Logical Value and Beyond," in *The Golden Age of Polish Philosophy: Kazimierz Twardowski's Philosophical Legacy*, ed. Sandra Lapointe, Jan Woleński, Mathieu Marion, Wioletta Miśkiewicz (Dordrecht: Springer, 2009), 85–6.

garding theories, entities, or both), which kind of realism or anti-realism one should opt for, whether naturalism (in some sense of the word) is a coherent position, how one should deal with induction, scientific inference more generally, the nature of explanations or the status of reduction and emergence, what sort of relationship should be affirmed between science and metaphysics or between science and the domain of values—all of these are matters for philosophical discussion, and apparently for interminable discussion at that (an interminability, of course, that is never expected to keep scientists from pursuing their work). "Intuitions" and "uses" not only lack precision and reliability, but are subject to cross-cultural changes in respect of the patterns they exhibit, in a way that makes it quite arbitrary to appeal to them in the context of attempts to speak about issues such as the universal conditions of knowledge and the nature of metaphysical necessity—to state only two of many such possible scenarios. And, as was has just been seen, philosophy cannot simply call upon logic—at least as presently understood—to aid it in such a task.[74] To allude to the title of a book by Richard Mason, something must come *before logic*.[75]

3. The Religious Roots of Philosophical Rationality

The fact is that philosophy and science alike are not isolated, pure phenomena, capable of distilling *per se* an intelligible and useful notion of rational activity: they rather cooperate each with the other and with other features of complex human cultures to generate meanings and standards.[76] This, of course, works both ways: the idea that philosophically innocuous patterns of linguistic use could deliver the genuine meaning of terms, as a certain Wittgenstein-inspired approach tends to advocate, is a quite implausible artifact of abstraction, especially within cultures historically profoundly shaped by philosophical speculation.[77] This makes it quite unreasonable to search for philosophically uncontaminated meanings or uses of terms such as "cause," "explanation," "substance," "property,"

74. The currently prevalent view would generally seem to be closer to Dummett's "logical basis of metaphysics" than Heidegger's "metaphysical foundations of logic," but so fluid a concept of logic can hardly be thought to generate a solid basis.

75. Richard Mason, *Before Logic* (Albany, NY: State University of New York Press, 2000).

76. For an extended discussion of the phenomena of science, philosophy, and rationality, and their relations to those of religion and magic (which are, after all, modern constructs with a peculiar history), see Tambiah, *Magic, Science, Religion.*

77. David Oderberg, *Real Essentialism* (New York: Routledge, 2007), 43: "Natural language is permeated and saturated by metaphysics, and has been so since philosophy began with the pre-Socratics."

"virtue," or "duty" in the twenty-first century Western societies, in the hope of reaching a credible starting point for philosophical theorizing. The shape and aims of a culture (or of the relevant subcultures within it) cannot but determine to a large degree the character of the forms of rationality which flourish in a given society. Science and philosophy are social endeavors that involve agents whose "epistemic behavior" is no less culture-laden than any others'. Indeed, from the perspective of what the anthropological data shows, philosophy and science as practiced in the Western tradition show up as quite specific phenomena embedded in an idiosyncratic culture (or family of cultures), albeit one invested with strongly imperialistic aspirations. The simple fact is that this particular culture is no exception to the general rule when it comes to the religious nature of the template(s) that have shaped it.

T. S. Eliot once suggested that the boundaries between culture and religion are too vague to be clearly discerned.[78] Mircea Eliade thought that the fundamental experience of the sacred (which, unlike Rudolf Otto, he did not understand as an irruption of an irrational *numinosity*, but as something with a far greater scope) was in a sense responsible for the very *foundation of the world* of the religious man: it fixed the axis of reality, gave form and order to the cosmos, regulated human existence, and informed the patterns of speech.[79] Anthropologists and sociologists of religion have never ceased to focus on the intimate relationship between religion and the other aspects of cultures—however diverse the latter may be. In the West, of course, things were no different.

It is sometimes thought that the birth of philosophy meant a rupture with any sort of religious mentality, and that the Greek philosophers were involved in a sort of "Enlightenment" project, intended to vindicate the freedom of reason from the constraints of the inherited religious worldview. In fact, however, the speech of the early Greek philosophers is filled with references to the divine. Some scholars, such as John Burnet—even while acknowledging the role played by the religious in the emergence of such sects as the Pythagoreans—claim that this was mostly a linguistic accident. Their argument is that even as they tended towards secularization, such philosophers had to rely on a vocabulary borrowed from religion as the only one available.[80] This position has been thoroughly criticized by

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78. T. S. Eliot, *Notes towards the Definition of Culture*, in *Christianity and Culture* (San Diego: Harcourt, 1976), 100–101.

79. Mircea Eliade, *The Sacred and the Profane: The Nature of Religion*, transl. Willard R. Trask (New York: Harcourt, 1987), 8–18.

80. John Burnet, *Early Greek Philosophy*, 3rd ed. (London: A & C Black, 1920), 8–9, 60–3.

the likes of Werner Jaeger and Francis Cornford,[81] and there seem to be good reasons for asserting the existence of major continuities between the Greek religious and philosophical traditions. Indeed, that there were such continuities is supported by explicit statements throughout the works of Plato and Aristotle, who both refer in a solemn and reverential tone to the *traditions of the ancients* not only as sources of truth and wisdom, but also, sometimes, as genuine starting points.[82]

If there was, indeed, some seed of secularization germinating in the soil of Greek philosophy, it was sown by the Sophists. Giorgio Colli, while mentioning a kind of desacralization of the agonistic practices in the constitution of dialectics, and stressing the shockingly worldly character of the rhetoric of Gorgias, which is contrasted with the attitude of his philosophical contemporaries, still claims, nonetheless, that in verbal disputations there remained a sense of ritual solemnity and traces of the terrifying sacredness of ancient enigmas.[83] The mainstream of the philosophical tradition, anyhow, developed in fierce opposition to the secularizing ten-

81. Werner Jaeger, *The Theology of the Early Greek Philosophers* (Oxford: Clarendon, 1947), 1–17; and F. M. Cornford, *From Religion to Philosophy: A Study in the Origins of Western Speculation* (New York: Harper, 1957), v–x.

82. See, for instance, *Philebus* 16a1–b2: "A gift of heaven, as I conceive, the gods tossed among men by the hands of a new Prometheus, and therewith a blaze of light; and the ancients, who were our betters and nearer the gods than we are, handed down the tradition, that whatever things are said to be are composed of one and many, and have the finite and infinite implanted in them: seeing, then, that such is the order of the world, we too ought to begin by laying down one idea of that which is the subject of enquiry; this unity we shall find in everything"; *Laws* IV, 715d7–716a2: "God, holding in his hands the beginning, the middle, and the end of all that is, travels according to his nature in a straight line towards the accomplishment of his end." Aristotle, *Metaphysics* 1074b1–14: "Our forefathers in the most remote ages have handed down to their posterity a tradition, in the form of a myth, that these bodies are gods and that the divine encloses the whole of nature. The rest of the tradition has been added later in mythical form with a view to the persuasion of the multitude and to its legal and utilitarian expediency; they saw these gods in the form of men or like some of the other animals, and they say other things consequent on and similar to these which we have mentioned. But if one were to separate the first point from these additions and take it alone—that they thought the first substances to be gods, one must regard this as an inspired utterance, and reflect that, while probably each art and each science has often been developed as far as possible and has again perished, these opinions, with others, have been preserved until the present like relics of an ancient treasure." Citations from Plato here are taken from *The Dialogues of Plato and The Seventh Letter*, trans. Benjamin Jowett, J. Harward, Great Books of the Western World 7, (Chicago: Encyclopedia Britannica, Inc., 1952). The citation from Aristotle's *Metaphysics* in the translation by William David Ross follows the edition in *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Modern Library, 2001).

83. Giorgio Colli, *La nascita della filosofia*, 2nd ed. (Milano: Adelphi, 1978), 80–1, 99–100.

dencies of sophistic reason. In fact, not only did the philosophers define themselves through a way of life informed by virtue and aimed at becoming "like God,"[84] but the very development of the techniques of logic and dialectics was to a large degree aimed at dispelling precisely those sophistic misuses of *Logos* that were such as to lead human beings astray where the authentic path to Divine Wisdom was concerned.[85]

Logic was created as a tool for science conceived of as *theoria*. The (Greek) concept of theory borders on and overlaps with that of religious contemplation. As was stated by Josef Pieper,[86] both are inherently connected to leisure and a rupturing of the order of the useful. Also, both are intended to keep human beings in touch with the highest realities, and provide them with a vantage point from which to stand and watch the theater of the world and its phenomena. Aristotle was very emphatic in characterizing the peak of his philosophical edifice as *theology*,[87] it being counted a divine thing not only from the point of view of its most proper object, but also by virtue of its capacity to make humanity *godlike*.[88] It is, moreover, probably no accident that he mentioned the caste of Egyptian priests as enjoying enough leisure to dedicate themselves to the study of mathematics.[89]

We should add that although *rooted* in a religious attitude, Greek philosophy can surely in no sense be *reduced* to it. One of the most remarkable aspects of the marvelous fruit of the "Greek miracle" was its claim to universality. The great Roman scholar and encyclopaedist of the second century, Varro, established a distinction—one that was to be immortalized in the pages of St. Augustine's *City of God*[90]—between three irreducible

84. Plato, *Theaetetus*, 176a8–b3: "Wherefore we ought to fly away from earth to heaven as quick as we can; and to fly away is to become like God, as far as this is possible; and to become like him, is to become holy, just, and wise."

85. It is important to notice that the main difference, for Plato and Aristotle, between the speech of the sophist and that of the philosopher, was not a technical but an ethical one. See Marina McCoy, *Plato on the Rhetoric of Philosophers and Sophists* (Cambridge: Cambridge University Press, 2008), 3–7. Other aspects of both Platonic and Aristotelian philosophies were also clearly subordinated to ethical exigencies (which, in their turn, clearly had a religious dimension). See Gabriela Roxana Carone, *Plato's Cosmology and Its Ethical Dimension* (Cambridge: Cambridge University Press, 2005), 1–7; and Claudia Baracchi, *Aristotle's Ethics as First Philosophy* (Cambridge: Cambridge University Press, 2008), 1–15.

86. Pieper, *Leisure: The Basis of Culture*, 89–107.

87. Aristotle, *Metaphysics* 1026a19–21.

88. Ibid., 983a3–11.

89. Ibid., 981b22–4.

90. Augustine, *De civitate Dei*, CCSL 47, VI.9.107–22.

forms of religious thought. These consisted of a *mythical*, a *political*, and a *natural* theology, the first being the deliverance of the poets, the second an exigency of the social order, and the third the province of the philosopher, where this last was in fact considered the only true theological discourse—with the others, though valued by Varro, retaining a more restricted and "regional" status. St. Augustine took the third and last of these to be the genuine and enduring achievement of the Pagan genius in respect of religious truth. Its universal and "objective" character was responsible for this reception.[91] No wonder, then, that it should come to be appropriated by Christianity as a missionary religion with universal aims. In that context, the narrative and cultic aspects of religion could join with the rational in a single claim to truth, understood as unique and universal. (Of course, the interest in logic and philosophy manifested by the Jewish and Islamic traditions rests on similar considerations.)

The religious view of an ordered universe "enclosed by the divine,"[92] and of a human intellect endowed with a sparkle of that spiritual light which makes it the distinguishing faculty of a being who seeks through theorizing to accomplish a kind of godly semblance, undoubtedly set the stage for a certain epistemic "optimism" that greatly favored—to say the least—the growth and maturing of the rational endeavors of philosophy and science. This theoretical rationality could not have thrived had it not been for the recognition of the "first principles" of reason, although the latter are not to be understood as pure self-evident absolute starting points (as the Cartesian picture would have it), but rather presuppose a real grasp of being as a natural capacity, and the exercising of such a capacity as the fulfillment of the intrinsic aims of a determinate nature. In other words, as MacIntyre would put it, first principles demand final ends.[93]

4. The Religious Roots of Logical Rationality

There are a number of ways in which we can say that the framing of logical theory, and of Western rationality more broadly, has been directly informed by religious concerns. The ontology of substance and accident, deeply connected as it is in Aristotelian philosophy to the logic of subject and predicate, is clearly embedded in Aristotle's conception of the primacy of form as act—which in turn derives its ultimate reality within the Aris-

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91. See Jaeger, *The Theology of the Early Greek Philosophers.*
92. Aristotle, *Metaphysics* 1074b1–3.
93. MacIntyre, *First Principles*, 7.

totelian system from that of God as Pure Act, source of form, and origin of motion. While some authors have discerned tensions between the different presentations by Aristotle of the proper object of the science spoken of in the books of the *Metaphysics* (ultimate causes, being *qua* being, substance generally, and separate substance), and while there have certainly been different approaches to its interpretation throughout history, Joseph Owens, like most of the early Peripatetics and in opposition to most medieval and modern scholars, defends as historically correct the reading according to which the primary and focal meaning of "being," and thence the most proper object of First Philosophy, is separate substance, which corresponds to the Divine.[94] Anyway, a unitary and consistent reading should surely confer pride of place upon this dimension within the Aristotelian explanatory scheme. That such a kind of reading is possible has been an unquestioned assumption throughout the tradition of commentary—one which has only come to be questioned quite recently.[95]

Amos Funkenstein emphasizes the difference between Aristotelian and Stoic logic.[96] The latter, unlike the former, is interested not in establishing a hierarchy of forms, but rather in the connections between statements of fact (propositions), only in the context of which are the terms to acquire their meanings, and where even propositions become clearer in the context of argumentative concatenation.[97] This is to be related to the Stoic "sympathetic" view of the cosmos as a divine, organic whole permeated by *Logos*. The Middle Ages inherited both trends through Boethius, although with a predominantly Aristotelian tone,[98] the propositional "aspect" of

94. Jospeh Owens, *The Doctrine of Being in the Aristotelian Metaphysics: A Study in the Greek Background of Medieval Thought*, 3rd ed. (Toronto: Pontifical Institute of Mediaeval Studies, 1978), 455–73.

95. See ibid., 1–68, for a presentation of the historical development of discussions concerning the interpretation of the *Metaphysics*. A somewhat similar point is made by Giovanni Reale in his introductory essay to his edition of the *Metaphysics*, in which he claims that the heterogeneous literary character of the original collection notwithstanding, without the assumption of unity, Aristotle's thought is rendered unintelligible. See Giovanni Reale, "Saggio introduttivo: La metafisica de Aristotele nei suoi concetti-cardine, nella sua struttura e nei suoi rapporti con il pensiero di Platone," in Aristotle, *Metafisica di Aristotele*, transl. and ed. by Giovanni Reale, 2nd ed. (Milano: Bompiani, 2004), XV–XXIV.

96. Funkenstein, *Theology and the Scientific Imagination*, 35–9.

97. See Benson Mates, *Stoic Logic* (Berkeley, CA: University of California Press, 1953), 15–9, on the Stoic theory of complete and deficient *lekta*.

98. Sten Ebbesen suggests that many aspects of supposedly Stoic origin may have originated from Peripatetic traditions; however, it is worth noting that a more solidly Stoic provenance is to be found in the study of grammar, with sources in Apollonius and Priscian. See Sten Ebbeesen, "The Traditions of Ancient Logic-cum-Grammar in the Mid-

logic being studied under the label of "hypothetical syllogism."[99] Be that as it may, in the twelfth century, Abaelard was inclined to develop a rigorous study of "propositional logic," that is, of the hypothetical syllogism.[100] Perhaps the Christian view that combined a hierarchical conception of the cosmos (and a transcendent Deity) with a belief in an all-encompassing Providence (notoriously absent from the Aristotelian system) facilitated the combination of the two approaches that, historically, had been seen as rivals.

The very concept of consequence, which is usually taken to be the central notion in logic,[101] seems to have, in the context of the tradition that runs through Boethius right down to the late Middle Ages, the character of a formal relation having primarily to do not with grammar or structure, but rather with the actuality of informing principles in nature. Although the concept of consequence had been simply assumed (without any extended analysis being undertaken) over the course of many centuries, the issue was an explicit matter of concern for many the fourteenth century logicians. The standard notion of consequence seems to be fundamentally

dle Ages—What's the Problem?," in *The Many Roots of Medieval Logic: The Aristotelian and the Non-Aristotelian Traditions; Special Offprint of* Vivarium *45, 2–3 (2007)*, ed. John Marenbon (Leiden: Brill, 2007), 11–2. For further discussion of the sources of Boethius, see Karl Dürr, *The Propositional Logic of Boethius* (Amsterdam: Elsevier North-Holland, 1951), 4–15.

99. The expression "hypothetical syllogism" (which is not restricted to the conditional form commonly assumed as an inference rule in modern logical systems) has a certain dialectical flavor. As noted by the Kneales, in the *Topics* Aristotle studies some forms of reasoning considered later on to belong to "propositional logic"—ones which they construe as showing the groping character of his logical investigations at the time of the text's redaction (*The Development of Logic*, 33, 44). Nevertheless, this can be taken to mean that "propositional" reasoning, since it does not deal with logical relations between essences, does not belong to demonstrative science in its stricter sense. William A. Wallace argues that the centrality of propositional schemes (i.e. "dialectical" rather than "analytical" ones, in Aristotelian terms) in post-Fregean logic (which includes, for instance, the material conditional in the standard paraphrase of the categorical propositions) is a cause of the weakening of the epistemic standards of the "rational reconstructions" of scientific knowledge based on it. See William Wallace, *The Modeling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis* (Washington, DC: The Catholic University of America Press, 1996), 238–9. It might be suggestive in this respect that the Stoics generally referred to their own logical studies as "dialectics" (Kneale and Kneale, *The Development of Logic*, 113). There was, however, some weakening, in the context of late-medieval logic, in the grasp of the primacy of syllogism, and so some blurring of the boundaries between the "logical" and the "dialectical." See below.

100. See Christopher J. Martin, "Denying Conditionals: Abaelard and the Failure of Boethius' Account of Hypothetical Syllogism," in Haldane, *The Many Roots of Medieval Logic*, 31–8.

101. See McKeon, *The Concept of Logical Consequence*, 1.

inferential. Unlike modern versions of inferentialism, though, medieval logicians' approaches had little or nothing to do with patterns of ordinary language use, typically being based instead on the notion of concept-inclusion. The rules of syllogism were explicitly based on this notion, in that they dealt with the problem of how to connect or deny the connection of two terms in the conclusion through the intervention of an intermediary term. Reasoning in the "propositional" sense, which they regarded as hypothetical, was understood to be of a "second-order" or "metalinguistic" kind, with the conditional, for instance, taken as the expression of a suppositionally given consequence grounded in the "primary" use of the syllogism. (Other connectives, meanwhile, were construed as auxiliary to other forms of relational reasoning involving assumed propositions, regardless of their internal form—hence the essentially dialectical character mentioned above.)

   Those thinkers who assumed a metaphysically realist stance toward essences expressible by terms in language[102] held that the modal character of consequence (i.e. the necessary incompatibility of the truth of the antecedent with the falsity of the consequent) depended on the view that to negate the consequent was tantamount to asserting a relation of repugnance between the natures or essences being talked about (at the elementary, foundational level of categorical propositions). As the root of such connection is in natural forms, the kind of consequent spoken of was said to be *natural* or *formal*, as opposed to merely *material* or *accidental*. (Hence the difference between "All men are mortal, thus Socrates is mortal" and "The moon is made of cheese, thus the Earth is flat," there being in the latter case no conceptual connection between what is affirmed in the antecedent and in the consequent).[103] This is a plain consequence of the Aristotelian scheme mentioned above.

   There was, it is true, a "semantic turn" in medieval thought, represented by the thirteenth century's terminists, as well as their followers of the next century, who would set the agenda for the *via moderna* (with a precursor in Peter Abaelard): these thinkers went on to establish a divide between

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   102. In a sense that takes in more than just *universals*, as singular terms may also refer to (singularized) essences. See, for instance, Sandra Edwards, "The Realism of Aquinas," in *Thomas Aquinas: Contemporary Philosophical Perspectives*, ed. Brian Davies (Oxford: Oxford University Press, 2002), 97–115. Aquinas' realism is a *moderate* realism, in that it denies any reality to essences that would be independent of the things they inform and the minds that grasp them (and gives them universal *intention*).

   103. See Tuomo Aho, "Consequences, Theory of," in *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500*, ed. Henrik Lagerlund (Dordrecht: Springer, 2011), 229–33.

logic and metaphysics by taking the proposition as the primary truth-bearer and discussing consequence separately from natural forms.[104]

Their conception of consequence tended to be based on general logical rules (or forms) and the meanings of terms. Buridan even proposed a conception of formal consequence based on the structure of syncategorematic terms, so that a proposition followed from another when the consequence was warranted by the validity of all substitution instances (i.e. there being no true antecedent accompanied by a false consequent)—an understanding that closely resembled Bolzano's and Tarski's accounts of logical consequence.[105] This approach does seem to carry a lighter burden of assumption as regards metaphysics or any general worldview erected from theological premises. Yet that need not mean that its proponents rejected metaphysics or natural theology—for in fact they did not.[106] More importantly, the consolidation of this tendency as a movement in the fourteenth century nominalism, with its characteristic *apologia*, had some clear theological motivations: the strictures on reason and demonstration were strengthened as the claims of faith vindicated a larger space. Logic was to have its own, precisely delimited scope, because there was little to be known of a radically contingent world through natural reason, and a common worry of the theorists was to determine exactly where the limits to such knowledge actually fell. With God being radically free, and creation radically contingent, the necessities of human science were transferred from the world to propositions themselves, and so weakened in respect of their ontological import.[107]

Ockham's semantic project, and his nominalist "extensionalism," were thus essentially motivated by his views on God's will and the ontological dependence of creatures, which eventually led also to Nicholas of Autrecourt's criticism of causality, to the British empiricist tradition and, ul-

104. See Catarina Dutilh Novaes, "Truth, Theories of," in *Encyclopedia of Medieval Philosophy*, 1340–6.

105. See Aho, "Consequences, Theory of," 232. For Bolzano and Tarski, see John Etchemendy, *The Concept of Logical Consequence* (Stanford: CSLI Publications, 1999), 27–50.

106. See Philotheus Boehner, "The Metaphysics of William Ockham," in *Collected Articles on Ockham*, ed. Eloi Marie Buytaert (New York: The Franciscan Institute St. Bonaventure, 1958), 373–99.

107. See Étienne Gilson, *La filosofía en la Edad Media: desde los orígens patrísticos hasta el fin del siglo XIV*, trans. Arsenio Pacios and Salvador Caballero, 2nd ed. (Madrid: Gredos, 1965), 591–635; and Eileen Serene, "Demonstrative Science," in *The Cambridge History of Later Medieval Philosophy: From the Rediscovery of Aristotle to the Disintegration of Scholasticism 1100–600,* ed. Norman Kretzmann, Anthony Kenny, Jan Pinborg (Cambridge: Cambridge University Press, 1982), 496–517.

timately, to the rejection of natural teleology, the Humean account of causes, and the view of natural laws as prior to causal powers—and so to the conception of scientific explanation to whose philosophical articulation modern logic would contribute so much. The absolute freedom of God seemed, from Ockham's viewpoint, to imply both a crippling of natural necessity and a diffidence in regard to our powers of knowing, so that we could not take for granted the order of natures and secondary causes, and had no warrant in respect of finalities except that coming from revelation. All we apprehend from the physical world are individual existents, which we can signal through our concepts and relate to one another in empirical terms.[108] Nicholas of Autrecourt, in turn, even arrived at the conclusion that the events we report really hang quite loosely and separately from one another. It was thus theological absolutism that planted the seeds of that empiricism which came to shape so much of the modern logical modeling of scientific methodology and the philosophies that took it as a canon.[109]

The development of modal concepts such as necessity and possibility that took these to involve, respectively, contradictoriness of denial and non-contradictoriness of affirmation, disregarding concrete actualization in past or future time—as carried out by Scotus, in opposition to the standard "statistical" modalities to be found in Aristotle and Hellenistic philosophy[110]—is rooted in the distinction between necessary and contingent beings in Islamic and Christian philosophical theology and, more proximately, in the concept of divine omnipotence. The Christian doctrine of the *freedom* of creation was itself already a break with Greek necessitarianism, and demanded proper conceptual clarification. Boethius's distinction between *esse* (being, or that *by which* a thing is what it is) and *id quod est* (that which is, or the thing itself)[111] allowed for a sharp distinction between necessary beings (in which both realities coincided) and contingent beings (in which they did not). Avicenna's distinction between essence

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108. See Philotheus Boehner, "Introduction" to William Ockham, *Philosophical Writings: A Selection*, trans. Philotheus Boehner (Indianapolis, IN: Bobbs-Merrill, 1964), xvi–xxiii.

109. See Étienne Gilson, *The Unity of Philosophical Experience* (New York: Charles Scribner's Sons, 1950), 62–103, and Feser, *Scholastic Metaphysics*; 52–8. For a wider picture of the impact of nominalism and its theological premises on modern thought, see Gillespie, *Theological Origins*, 19–43.

110. See Jaakko Hintikka, "Aristotle on the Realization of Possibilities in Time," in *Reforging the Great Chain of Being: Studies of the History of Modal Theories*, ed. Simo Knuuttila (Dordrecht: Springer, 1981), 59–72; and Simo Knuuttila, "Time and Modality in Scholasticism," in Knuuttila, *Reforging the Great Chain of Being*, 163–257.

111. See John Marenbon, *Boethius* (Oxford: Oxford University Press, 2003), 88–90.

and existence, which recapitulates the Kalām distinction between *mawju* (existence) and *shay* (thing) in an "Aristotelized" form via the influence of Al-Farabi, cuts close to that, and was a major influence upon the metaphysical systems of both St. Thomas and Scotus.[112] The radical difference between a necessary being (the Creator) and a contingent one (the creature) entailed the further distinguishing of two orders of necessity: one based on the absolute power of God (*potentia Dei absoluta*) and the other on the given order of nature (*potentia Dei ordinata*). One of the effects of the famous Paris Prohibitions of 1277 was to emphasize the incompatibility between Greek necessitarianism and God's absolute power, giving rise not only to an acceptance of (absolute) possibilities such as those of a vacuum or an uncentered universe, which were soon to become serious hypotheses,[113] but also to a plain and explicit identification of the possible and the noncontradictory, even where never actualized.[114] Strictly logical possibility was first conceived of as possibility *relative to God's power*.

Leibniz's move of applying necessity and possibility primarily to the truth of judgments[115] and his talk of possible worlds[116]—motivated by his efforts to deal with the issues of freedom and divine providence—have not only inspired modern modal logic, but also proved conducive to the isolating of judgments (and later, on Russell's account, propositions) as

112. See Jon McGinnis, *Avicenna* (Oxford: Oxford University Press, 2010), 159–68, 251–4; and Robert Wisnovsky, *Avicenna's Metaphisics in Context* (New York: Cornell University Press, 2003), 145–263.

113. See Edward Grant, "The Effect of the Condemnation of 1277," in Kretzmann, Kenny, and Pinborg, *The Cambridge History of Later Medieval Philosophy*, 537–9, and Funkenstein, *Theology and the Scientific Imagination*, 129–74.

114. See Calvin Normore, "Duns Scotus's Modal Theory," in *The Cambridge Companion to Duns Scotus*, ed. Thomas Williams (Cambridge: Cambridge University Press, 2003), 45–55. It should be noted, however, that as, for Scotus, possibility (*potentia*) is connected to causality, there emerges the issue of the *compossibility* or mutual *repugnance* between aspects of a possible order of things (which keeps a close similarity to the notion of a possible world).

115. See Mason, *Before Logic*, 118–9. Mason suggests that Leibniz's essential motivation was to respond critically to Spinoza's pantheistic claims based on the attribution of necessity and possibility primarily to *things*. Leibniz claimed to vindicate his notions of necessity and contingency by founding them on the analysis of the ultimate justification of truths, so that necessary truths were shown to be ultimately grounded on identities, while contingent ones could not be thought of as grounded except by God's omniscient grasp or via reference to free acts of God and rational creatures. See G. H. R. Parkinson. "Philosophy and Logic," in *The Cambridge Companion to Leibniz*, ed. Nicholas Jolley (Cambridge: Cambridge University Press, 2006), 202–7.

116. Which probably owed something to the Scotist view of modalities. See Normore, "Duns Scotus's Modal Theory," 154–5.

the proper objects of affirmation and denial (rather than being *defined* as an affirmation or denial *of* a predication), and so also helped, via the Kantian classification of judgments,[117] to foster the "semantic tradition" that stems from Bolzano and is responsible for generating modern logic and analytic philosophy.[118] Indeed, Russell explicitly took the "analysis of propositions" to be the starting point of Leibniz's philosophy (as of any sound philosophy—so he claimed), but tried to minimize the theological aspects of the latter (which he deemed responsible for avoidable "inconsistencies").[119] In point of fact, it has to be said that a certain negligence towards the wider cultural (and religious) frameworks surrounding and shaping theses and arguments from past philosophers remains a feature of the analytic *milieu.* Tom Sorell's and G. A. J. Rogers collection of texts on analytic philosophy tend to confirm, the main interest analytic philosophers have when engaging with the history of philosophy would seem to be their hope of rendering it useful for the philosophical business of the time (whose own disputable commitments remain veiled).[120] MacIntyre himself, moreover, observes precisely this when commenting on such editorial accomplishments (with all their technical and scholarly brilliance) as *The Cambridge History of Later Medieval Philosophy.*[121]

The world of the medieval nominalist was already a world of isolated pieces and loosely connected events. But it was, nevertheless, still bound together by the power of a divine Creator. That very same power imparted an ontological grounding to otherwise purely abstract notions of necessity and possibility—ones that now just seem to persist on the basis of formal properties of certain mathematical models that happen to present a structural analogy of sorts with earlier concepts possessing the same names. It is not, of course, that modern and contemporary thought are necessarily, constitutionally, atheistic. It is only that they claim to be no longer founded on theistic commitments, let alone on any sort of religious allegiance. Since Descartes, it has normally been the case that it is theistic commitment that has to be legitimated in terms of some allegedly more trustworthy authority—but, alas, all such authorities are contaminated by the entire specter of miseries surrounding human condition, as religious traditions never tire of reiterating. Small wonder, then, that such legiti-

117. See Martin-Löf, "On the Meanings," 12–6.
118. See Coffa, *Semantic Tradition*, 7–40.
119. Bertrand Russell, *The Philosophy of Leibniz* (London: Routledge, 1992), 9–10, 218–24.
120. Tom Sorell and G. A. J. Rogers, eds., *Analytic Philosophy and History of Philosophy* (Oxford: Clarendon, 2005).
121. MacIntyre, *Three Rival Versions*, 160–3.

macy is often denied, not only to theistic commitment, but to all kinds of putatively solid rational standards, even in logic.

An interesting appreciation of the contemporary disintegration of logical rationality can be found in the work of Louis Rougier, a very important—though neglected—French philosopher of the last century whose contributions are currently being rehabilitated thanks to the efforts of such authors as Jean-Yves Béziau[122] and Mathieu Marion.[123] Rougier observed with interest the developments in modern logical theory—especially those connected to the Hilbertian program—that tended in the direction of seeking to establish the thesis of the total formality of logic. Furthermore, that formality, which for him involved an acceptance of the Russellian notion of propositional function as a kind of "mill of propositions," and of the early Wittgensteinian conception of tautology as a way of generating conclusions without any addition of content, was to be a matter of convention, framed according to particular theoretical or practical ends. Rougier was a pioneer defender of the relativity of logic—a thesis he took to be entailed by the latest results in the field, and which appears hardly escapable if we consider the situation described above, in Section 2. Most suggestively, he was also a convinced atheist and militantly anti-Christian, affirming explicitly that "with the discovery of the conventional and relative character of logic, humanity has finally burned down its last idol."[124]

Indeed, if a logical principle such as noncontradiction or the excluded middle is taken as nothing but a formula of no intrinsic special status, to be deduced or not within formal systems, and if mathematical logic enjoys that freedom that Cantor considered the very essence of mathematics,[125] and if, on the other hand, our contemporary account of logic is to be the ultimate ground of reason, then we can say of reason what David Lewis said of philosophy: once the menu of options is before us, it comes down to a matter of opinion—or, we might add, convenience.[126]

Of course, in an obvious sense, logic has profited from this rational

122. See Jean-Yves Béziau "Rougier: Logique et métaphysique," in "4th World Conference on Metaphysics," ed. D. G. Murray (Madrid: Fundación José Ortega y Gasset, 2010), 464–72; and Béziau, "The Relativity and Universality of Logic," 1940.

123. See Mathieu Marion, "Investigating Rougier," Cahiers d'épistémologie 314 (Montréal: Groupe de recherche en épistémologie comparée, UQAM, 2004).

124. Jean-Yves Béziau, "The Relativity and Universality of Logic," *Synthese*, 2015, Vol. 192, 1940.

125. Quoted, for instance, in José Ferreirós, *Labyrinth of Thought: A History of Set Theory and Its Role in Modern Mathematics* (Basel: Birkhäuser-Verlag, 2000), 257.

126. David Lewis, "Introduction," in *Philosophical Papers* (New York: Oxford University Press, 1983).

disintegration: its scope of application has been considerably amplified. No one would deny, either, that the dismantling of the pre-modern world has proved very useful for modern science and the changes it has helped bring about. But when it comes to the traditional problems of philosophy, and of the ultimate reality of things—and disregarding the indifference of the political or economic establishment, or even that incredibly elastic and versatile entity often referred to as "the interests of society," to these—most of the recent attempts to bring formal resources to the aid of philosophical speculation invariably seem marked by artificialism and arbitrariness. In this regard, it is sufficient to take note of the criticisms levelled by such scholastically oriented authors as James Ross, Gyula Klima, and David Oderberg[127] at modern "modalist" varieties of "essentialism" such as tend to define "essence" in terms of necessity (rather than contrariwise), or at the formal framework that aims to impart structure to this approach, where these generally tend to draw upon the broader assumptions of modern logic and analytic philosophy for their understanding of the constraints on ontology, or on the order of explanation, associated with the framing of philosophical questions themselves. The point here is that such assumptions themselves embody an entire set of commitments foreign to the tradition that fixed the meanings of the original concepts and ordered our ways of dealing with them. Given, moreover, the practically unlimited range of alternative logical apparatuses and available philosophical commitments, they mostly stand for just one approach (or class of approaches) among countless others (some of which would deny the legitimacy of the modal metaphysical enterprise altogether)—with no more solid claim than their ability to attract, maybe by virtue of a certain tidiness or circumstancial fashionableness, the sympathy of a given number of philosophers (who, furthermore, are anxious to advance their own original constructions and interpretations and secure for themselves a place in the ongoing discussion). Perhaps it just had to be that way, but acquainting oneself with the wider picture of what led to the present situation may nevertheless permit a more nuanced judgment to be made, and I would insist that this wider picture includes a theological and a religious component amongst its fundamental elements.

127. See James Ross, "The Crash of Modal Metaphysics," *Review of Metaphysics* 43 (1989): 251–79; Gyula Klima, "Contemporary 'Essentialism,'" and David Oderberg, *Real Essentialism*, 1–20.

5. A Clash of Narratives

When such concepts as those of form, predication, consequence, contingency, necessity etc., came to be incorporated into modern logic and "analytic rationality," as fragments of a devastated old edifice built from long-lost engineering techniques and with a general plan that remains mysterious to most of our contemporaries, the theological framework which furnished each one of them with their proper place and function seemed to be little more than a distant memory. But the removal of theology from the horizon of the modern mind can make the latter blind to the sources and even the value of its own commitments. As John Henry Newman argued, given the importance of theology not only as a science of its own, but as a kind of rational effort that permeates the academic disciplines and culture at large, its exclusion from universities' curricula and cultivated learning cannot but be of a great damage to the intellectual enterprise as whole.[128]

The removal of such an important (and indeed central) pillar from the edifice of knowledge leaves a vacuum that is soon filled by branches inevitably lacking in the resources needed for a proper balance to be maintained. The boundaries of disciplines are violated. Physics—or, say, political economy—comes to be invested with the competence to determine the ultimate boundaries of being and value. In a sense, this is a characteristic attitude of modernity. Where the classical view of science demanded the methodological autonomy of the different disciplines to be maintained, in accordance with a conception of their distinct formal objects, the modern project has aimed at methodological unity. Moreover, theology itself has not been immune to such regulation. Even if it was a common claim among early modern philosophers that the realms of sacred doctrine were too lofty to be dealt with through the more terrestrial canons of reason as conceived by each of them (and, indeed, that such realms were sufficiently elevated to generate a veritable chasm between the two domains), the fact is that the explorations of the pioneers of modern thought were characterized by an unprecedented mixing together (that goes far beyond mere influence or even dependence) of theology and secular reason, so that Amos Funkenstein could rightly call theirs the age of "secular theology"—secular, that is, in the twofold sense that it was typically practiced by laymen and that the reshaping of theology was brought about for the sake of a pursuit of worldly wisdom as an end.[129] Moreover, theology (or the

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128. John Henry Newman, *The Idea of a University Defined and Illustrated*, 4th ed. (London: Basil Montagu Pickering, 1875), 17–98.

129. See Funkenstein, *Theology and the Scientific Imagination*, 3–9.

theology that seemed to matter) became nonconfessional and, not much
later, altogether obsolete (at least from a strictly "rational" standpoint),
while other authorities sought precedence over religion (as the "theologi-
cal stage" of society seemed already far and remote), affirming themselves
to be backed by "common sense" or, more pompously, "science."

   This reflected the radical reordering of society that came with the tri-
umph of a capitalist mindset: the moral restrictions on profit and its means
that informed laws and institutions, connected as they were to a view
of the aims of individual and social life not reduced to the economic (or
worldly), were to be systematically evaded and then challenged by produc-
ers and traders destined to soon exert an influence over the entire ethos of
European culture. Such changes in society called for apologists amongst
the ranks of political economists and moral philosophers.[130] The Protes-
tant religious revolt, besides, ended (even if contrariwise to the original
intentions of the first "reformers") in stimulating just this kind of mental-
ity, be it through the secularization of the notion of *calling*, or the search
for justificatory indications of electedness. In any case, there was a def-
inite "this-worldly" orientation in the overall Protestant ethos, and this
constituted a strong factor in the progressive march toward seculariza-
tion, economic liberalism, and the growth of modern science.[131] When the
compromise of toleration was proposed[132] in the aftermath (or so) of the
so-called "wars of religion," so that each one took care of his or her own
(secular) business regardless of belief (something which has always exer-
cised an attraction for those of a mercantile bent), Protestantism, with its
own intrinsic tendency towards self-division, must have at least initially
felt quite at home[133]—until, that is, there was room enough for the public
marginalization of religion as such, or, as one might also put it, for the
advent of secular "political religions."[134]

130. See Michael Perelman, *The Invention of Capitalism: Classical Political Economy and
the Secret History of Primitive Accumulation* (Durham: Duke University Press, 2000).

131. See Robert K. Merton, "Science, Technology and Society in Seventeenth Century
England," *Osiris* 4 (1938): 360–632; and Peter Harrison, *The Bible, Protestantism, and the
Rise of Natural Science* (Cambridge: Cambridge University Press, 1998).

132. From the benefits of which Locke, in his 1667 essay on the matter, explicitly excludes
Catholics, anyway. See John Locke, "An Essay on Toleration," in *Political Essays*, ed. Mark
Goldie (Cambridge: Cambridge University Press, 1997), 146.

133. Of course, the individualistic and empiricistic character of late-medieval nominal-
ism, and the Renaissance's taste for both humanism and magic, also played their part. See
Gillespie, *Theological Origins*, 19–43; and Tambiah, *Magic, Science, Religion*, 24–31.

134. Eric Voegelin, in *New Science of Politics: An Introduction*, defends the view that West-
ern secular ideologies are informed by a generally Gnostic worldview combined with some

That the very same hostility toward religion that was based on a scientistic ideology actually concealed religious premises was a fact acutely perceived by Nietzsche. Not only did he credit the survival of the Judeo-Christian *ascetic ideal* and Platonic dogmatism for the persistence of the will to truth and the search for objectivity that animated the very untheological minds of secular scientists and scholars, but he also went further, devising the profound implications of the "death of God" for both morals and rationality.[135] MacIntyre argues that the Nietzschean critique captures a fundamental feature of modern developments in moral theory and enquiry: lacking reference to the tradition of enquiry from which moral vocabulary had received its sense and within which the Western view of morality had developed, the efforts to frame morality in new forms of rational setting grew more and more unconscious of their tacit premises, and the very animadversions of their proponents toward the tradition they were nevertheless parasitic upon could lead to no other result than the blind hypocrisy and utmost incoherencies Nietzsche set out to denounce.[136]

Such a critique potentially touches theoretical as well as practical rationality. As has already been noted here, MacIntyre himself highlights the close association of theoretical (first) principles with practical (final) ends.[137] This not only amounts to the registering of a deep connection between ethics and metaphysics, but also points to a common source for both of these in religion, as the assumption not only that knowledge of reality is possible for human beings, but also that its achievement is linked to ultimate, absolute value, is one unreachable through rational argument, given that it is a necessary condition, within such an understanding of rational enquiry, of all such arguments. Moreover, such a condition is accepted *on the basis of faith*: a faith, of course, that could perfectly well be thought to have arisen from some kind of evolutionary pressure, but faith nonetheless, and a faith without which the very intelligibility of such a claim (as

reformulation of Joachim of Fiore's millenarianism. See *New Science of Politics: An Introduction*, in *Modernity without Restraint: The Political Religions, The New Science of Politics, and Science, Politics, and Gnosticism*, ed. Manfred Henningsen, volume 5 of *Collected Works of Eric Voegelin* (Columbia, MO: University of Missouri Press, 2000), 175–94. Hans Jonas, in *The Gnostic Religion*, 320–40, finds important similarities between the mindset of ancient Gnostics and the thought of Nietzsche and Heidegger (which develop tensions present in modern philosophy at least since Descartes).

135. Friedrich Nietzsche, *On the Genealogy of Morality*, transl. Carol Diethe, ed. Keith Ansell-Pearson (Cambridge: Cambridge University Press, 1994), 68–120.

136. MacIntyre, *After Virtue*, 21–2.

137. MacIntyre, *First Principles*, 3–4.

with the whole of evolutionary and other sorts of theorizing which intend to speak of things as they are in themselves and satisfy a human thirst for explanation and/or self-knowledge) might quickly seem to collapse. Even though medieval thought distinguished formally the methods of philosophy from those of Sacred Science, there was no *de facto* separation of the two. Moreover, the religious worldview determined not only the limits to answers, but also the very problems to be discussed—not to mention the framing of any discussion itself. One can say, thus, that philosophical realism, as the source of trust in reason (and the objectivity of logical principles), is just one of these constraints.

The history of philosophy and the history of some religious or theological traditions overlap to such an extraordinary extent that it should be surprising that anyone could try to understand one of these endeavors without also paying considerable attention to the other. Many deep changes, to Western rationality in particular, were indeed brought about for strictly or almost strictly theological reasons. Modernity eventually came to believe in the absolute autonomy of "secular" reason, but more recent scholarship cannot but bring to light the fact that all these attempts depended on a more or less conscious inheritance of the very past they sought to dethrone—a past in which the theological component was clearly and heartily assumed. If those changes did depend on the conflict between different theological standpoints, the rightful assessment of their degree of legitimacy may imply that a proper understanding of the theological issues involved is indeed essential.

Or is it? After all, the sheer fact that, historically, the development of canons of rationality was anchored in religious traditions or ways of thinking does not, as it stands, warrant the conclusion that reason *should* be based on something like a religious attitude. It might be the case that reason feeds on religious tradition as a source of concepts, problems, and structures of thought, while still needing to proclaim its own emancipation, by shaking, as it were, the shackles that once tied it to such initial constraints of a heteronomous kind. But what could it really mean to say that reason "emancipates" itself from religion?

Such a claim is a historical one, and hence can only be properly considered if one is prepared to pay close attention to history itself. Of course, it is not a *strictly* historical thesis, at least if viewed from the perspective of modern academic history, whose delimitation presupposes the sort of disciplinary boundaries that would imply that investigations in such fields as history and philosophy are not supposed to overlap. Nonetheless, to claim that reason should emancipate itself from religion, or that, on the

contrary, religion must remain within our intellectual horizons not just as a historical antecedent, but also as a condition of intelligibility for an adequate conception of human reason itself—all this involves a recognition of the mingling of the factual and the normative, or of the impropriety of their separation. One could surely say that, given the concepts of "reason" (and "logic") and "religion," the former could be shown to be independent from the latter in a quite straightforward manner. But precisely the fulcrum of the matter lies in how we should understand the concepts relevant to both, and relations obtaining between the two of them. Since the focus of this study has been on logic and philosophical rationality, I have tried to show that current uses and intuitions are not safe guides along this path. Just as MacIntyre holds that the (social and philosophical) crisis in moral rationality cannot be properly approached at all if not from a historico-philosophical vantage point,[138] I believe this to be the case with philosophical rationality more generally.

MacIntyre believes that the contemporary impasse in moral reason has its roots in the modern rejection of Aristotelian teleology and the classical natural law tradition. This was not specifically argued for here, but one could venture the hypothesis that the wholesale abandonment of both the Aristotelian framework of thought and its embedding in the Christian tradition as represented paradigmatically by St. Thomas Aquinas—in whose area of influence,[139] by the way, MacIntyre avowedly situates himself—lies behind the modern "emancipation" of (Western) reason. The relevant Aristotelian (and medieval Christian) conceptions of reason and enquiry, however, clearly operated, as I have sought to stress above, within a theological horizon that assumes the intrinsic intelligibility of (human and physical) reality and the effective power of human reason to correctly and reliably grasp that same reality, in that both reality and reason were

138. See MacIntyre, *After Virtue*, 2–3.

139. Jacques Maritain, in *Philosophy of Nature*, trans. Imelda C. Byrne (New York: Philosophical Library, 1951), 41–3, speaks of a "tragic misunderstanding" in the attitude disseminated that regarded the triumph of modern Galilean science, which could be presented as a "mathematics of nature" (whose precise epistemic status Maritain himself, especially in *Degrees of Knowledge*, 165–240, sets out to determine in terms compatible with the Aristotelian-Thomist tradition), as a triumph of a new *philosophy* of nature over an older and now surpassed one, where this amounted to a radical philosophical change in our understanding of nature—the principal item in the ordinary apologia for rejecting Aristotelian thought generally. A recent defense of an Aristotelian approach to the philosophy of nature in the face of the findings of modern science is presented in Edward Feser, *Aristotle's Revenge: The Metaphysical Foundations of Physical and Biological Science* (Heusenstamm: Editiones Scholasticae, 2019).

ordered by an intelligent and benevolent God (in this particular, it is indifferent whether God is conceived as creator, as in Aquinas, or as universal final cause, as in Aristotle). More than this, the transition from medieval to modern patterns of rationality was determined—much more than by an internal dialectic of philosophical theses and theories—by a multitude of external influences, such as economic and political changes, social convulsions, wars, revolutions, artistic movements, colonial expansion and new cultural interchanges, and even epidemics, but on that agitated stage, moved by all these intense transformations of social and cultural circumstance, religion never stopped playing a central role.

A central thesis of MacIntyre is that Western moral language, once evicted from the traditional context within which it was originally at home and that gave it its native order and structure of meaning, fell into fundamental disarray, so that the project of rationally justifying the contents and patterns of judgment inherited from the vanished tradition must now be deemed to be doomed to necessarily fail, and thence to legitimate only a sense for generalized "emotivist" uses of moral vocabulary: that is, an impression that the use of moral judgments and reasoning really *does* nothing more than convey a personal preference for a given moral conception, even when most of the speakers claim universality and objectivity for their theses and so would reject an emotivist theory of the significance of moral speech (in the sense of an understanding of speech containing evaluative terms such as "right" and "good," or "wrong" and "evil," as *meaning* nothing more than the manifestation of a wish to express and pass on feelings of approval or reproach). That conclusion, however, could never be justified on the basis of a mere analysis of current uses of the same vocabulary, for, on the surface, current speech makes no reference to an authority borrowed from a faded tradition within which the speech that contained it *could* achieve rational justification and vindicate common allegiance. The reference to history, then, must be deemed essential, and for this reason any objection based on the charge of "genetic fallacy" proves idle. And so, as my own claim goes, also for logic and reason generally. Furthermore, above and beyond just gesturing to a definite philosophical tradition whose canons were given away, the present crisis of these can be said to be mainly due to a process whereby the religious dimension, which (as was argued here) founded philosophical realism, and along with it, the confidence in reason and the determination of its principles, came in this way to be so defaced and distorted that it ceased to serve as a ground for any coherent and integral conception of rationality. Such is the process sometimes referred to as "secularization."

As was mentioned, T. S. Eliot once stated that religion and culture are conceptual categories that are difficult to disentangle. When faced with the task of determining the nature of the relation between religion and culture, the very sense to be given to the word "relation" becomes a problem. Cultures develop together with religions. When a new religion comes to hold sway over a previously established society, it becomes expected that those elements inherited from the older religion-based order that have failed to be integrated into the more general schemes of the new religion-based order will be thought of as falling outside of the field of religion altogether. So, when a more refined, "intellectualized" religion takes over the forefront of a society and its culture, customs, beliefs, feasts and rituals that failed to be abolished or "reinterpreted" are in effect transfered from the domain of the "religious" to those of "magic," "superstition," or "mere culture." When a society complexifies, it is usual for cultural sectors to become specialized, so that even the "religious" becomes a more specific category with its own associated functions, but the more its "subcultures" become isolated from one another, the more a culture risks literal disintegration (in the form of an abstraction brought about by external influences).[140] What may characterize a culture en route to disintegration is a certain generalized lack of self-consciousness: what are really just functional specializations can be taken as autonomous and entirely uncommunicating realities, and it is not at all surprising that some sector or other that eventually comes to hypertrophy tries to exert an unconstrained dominance over the others, where this eventually issues in a new, essentially bionic form of unity.

This, of course, is a highly abstract picture of the matter, and as it stands, there is nothing in it that would forbid one from believing that everything is just alright as far as all of that is concerned. What could be wrong with the fact that a definite sector of a culture attains such a degree of development that it becomes capable of autonomy and even justifies its own regulative dominance over other sectors—especially, as seems to be the case with reason or science, when its claims are based on epistemic authority? It is necessary to add some detail to the picture and develop the argument in another direction, since, unlike Eliot's, my concern here is not with the integrity and flourishing of culture *per se*, but rather with the relation between the two sectors of religion and rationality (if it makes sense to speak, here also, of a "relation" at all).

What, then, is "religion" after all? There is deep divergence among

140. See Eliot, *Notes*, 96–101. The order of his arguments, however, is different than mine.

scholars. Some of them, like Wilfred Cantwell Smith and William Cavanaugh,[141] stress that the use of "religion" as a category univocally attachable to systems of belief and worship that include such "world religions" as Christianity, Islam, Hinduism, and Buddhism, along with specific creeds and practices within smaller ethnic groups, and detachable from other spheres of human culture and behavior such as science, politics, and the arts, is a modern European fabrication. The *word* "religion" (along with its cognates) and its associated meanings, of course, have a history of their own. This flows from a notion of ritual observance (as with the ancient Romans and St. Augustine), through that of a state of life (in primitive Christianity, a use still preserved in the Catholic tradition) and the virtue of acting with justice toward God (as with St. Thomas Aquinas), to that of a "salvific form of knowledge" (as with Calvin) and of a kind of private persuasion impervious to coertion (as with the Lockean scheme of toleration)—the list of steps set out here is far from exhaustive. As religion became an aggravating factor in the political disputes characterizing the dawn of the modern age with the decline in authority of spiritual tradition and hierarchy and the rise of an industrial and financial bourgeoisie driven by capital borrowing and investment, the conditions for a particular form of cultural specialization matured, so that a separated sphere of the "religious" made its appearance just as the "political" (in some contexts also the "economic") was enunciating *its* claims to autonomy—an autonomy founded ultimately on the authority of a laicized "reason." This authority claimed for itself epochal findings and changes in worldview and in the understanding of nature, but it overstated its own impact on former modes of philosophical (and theological) rationality,[142] and was appropriated by the self-proclaimed emancipated spheres, which sought to "rationalize" their rule and power as instances of just the kind of "instrumental reason" described by Max Weber.[143]

Religion, on a Weberian account, belongs to the realm of "values" (or "value-rationality"), which, from the emerging point of view (assumed by Weber himself), altogether lacks any means of rational justification. The

141. See Wilfred Cantwell Smith, *The Meaning and End of Religion* (Chicago: Mentor Books, 1964), 19–49; and William T. Cavanaugh, *The Myth of Religious Violence: Secular Ideology and the Roots of Modern Conflicts* (Oxford: Oxford University Press, 2009), 57–121.

142. See note 139.

143. Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, trans. Ephraim Fischop, Hans Gerth, A. M. Henderson, Ferdinand Colegar, C. Wright Mills, Talcott Parsons, Guenther Roth, Edward Shils, Claus Wittich (Berkeley, CA: University of California Press, 1978), 25–6.

rationalization characteristic of the modern world, being assimilated to the workings of capitalist economies, bureaucratic administrations, and formalized systems of legal jurisprudence, was nothing other than the assumption of a position of hegemony by instrumental rationality itself, under which banner the achievements of modern science were then vindicated. Hence, also, the fact that their actual epistemic status, in spite of all of the early modern philosophers' efforts to ground it on conditions of certainty, really remained a secondary issue—something which explains the difficulties that would be perceived later on with respect to the interpretation of scientific knowledge. (Science, of course, has passed through many major changes, but there has remained an awareness of a continuous enterprise connecting the work of Galileo, Newton and other "founding fathers" of modern science to that of present-day scientists). That has evidently not prevented claims of the epistemic sovereignty of science from being made into an important part of the official "ideology," nor does it imply that those engaged in scientific enquiry acted out of a conscious intent to be, in the main, the servants or creators of some kind of technical dominance. Nevertheless, there emerged in that scenario some of the earliest defenses of the essentially technocratic character of science,[144] as in the work of Francis Bacon.[145]

Once religion is banned from the "space of reasons," religious phenomena become apt to being explained through "epistemically respectable" concepts. The process of secularization is usually understood as precisely that of expelling the irrational incrustations of religion from the public arena by relegating them to the inner life of individuals and smaller groups, but in such a way that that very survival itself demands sociological explanation. Both MacIntyre and Charles Taylor issued vigorous criticisms of claims to value neutrality in the social sciences.[146] To invoke explanatory principles in the context of accounts of social (and psychological) phenomena is to necessarily challenge every interpretation of the same matters that happens to be incompatible with the proposed explana-

144. There have been precursors on this path, such as the thirteenth century Franciscan friar Roger Bacon, who in turn was inspired by the apocryphal "Aristotelian" *Secretum secretorum* that dealt with political advisement and "occult" sciences. See Steven J. Williams, "Roger Bacon and the *Secret of Secrets*," in *Roger Bacon and the Sciences: Comemorative Essays*, ed. Jeremiah Hackett (Leiden: Brill, 1997), 365–93.

145. Francis Bacon, *Novum Organum*, book I, aphorism III. The edition used here is Lord Bacon, *Novum Organum*, ed. Joseph Davey (New York: P. F. Collier, 1902).

146. See Jason Blakely, *Alasdair MacIntyre, Charles Taylor, and the Demise of Naturalism: Reunifying Political Theory and Social Science* (Notre Dame, IN: University of Notre Dame Press, 2016), 75–93.

tion. When a sociologist interprets, for instance, the so-called "American exception" to the secularization thesis (i.e. the thesis that religious affiliation tends to become progressively rarer and weaker in modern Western societies[147]) by appealing to a factor such as immigration, she is thereby delegitimizing (and thence devaluing) an alternative interpretation—say, in terms of spiritual awakening—that could be advanced by a member of one of the relevant religious groups. This kind of delegitimizing is often extended to philosophy itself, or at least philosophy that claims any kind of substantial knowledge, since it fails to participate in the prestige that science acquires in the light of its usefulness for improving productive efficiency and material welfare—values that, in turn, are thought "neutral" enough to transcend differences in religious, moral and metaphysical outlook, or maybe simply palpable enough to supplant them. When not occupied with a post-nihilistic apocalypticism (and perhaps in order to avoid it), it seems that philosophy must justify itself in terms of more respectful and prosaic activities, such as science and everyday language use.

Evidently, such a delegitimizing could be perfectly justified. Or it could be shown, for instance, to merit being declared unjustified—as a failure to meet some generalization condition or other. Taylor reminds us that immigration, which was part of Steve Bruce's hypothesis for explaining the American exception to the secularization thesis, is frequently taken as an accelerating factor in the secularization process[148] MacIntyre, meanwhile, is deeply critical of the use of lawlike generalizations in the social sciences, given conditions of intrinsic impredictability in human behavior, the narrative framing of human acts, and the ever-relevant character of unrepeatable historical circumstances.[149] If interpretive framing replaces the "underlying causes" approach (in which "cause" is generally taken to mean

147. Of course "secularization" may be understood in more than one sense: the lessening of religious bonds could be interpreted as pointing towards universal rejection, or towards indifference. Taylor himself sees secularization not as the twilight of religion (in either of the given senses), but rather as a breakdown, occasioned by factors such as urbanization, industrialization, population exodus, and the rupturing of communitarian bonds and of traditional forms of belief and worship—as well as something to which the standard response has been the development of new religious forms. See Charles Taylor, *A Secular Age* (Cambridge, MA: Belknap, 2007), 434–6. See also Peter Berger, *The Social Reality of Religion* (Harmondsworth: Penguin, 1973), 112–4.

148. Taylor, *A Secular Age*, 522–3.

149. MacIntyre, *After Virtue*, 88–108, 205–16; and Alasdair MacIntyre, "Hegel on Faces and Skulls," in *The Tasks of Philosophy: Selected Essays* (Cambridge: Cambridge University Press, 2006), 1:80–3.

lawlike regularity[150]) then so long as one accords this an essentially historical dimension, the intelligibility of "secularization" accounts, as well as that of relations between rationality and religion, will turn out to depend on the intelligibility of narratives. And it just so happens that MacIntyre argues that, in the context of a clash of rival traditions of enquiry that embed, precisely, rival conceptions of rationality, the comparative appropriateness of the respective narratives will be a crucial issue.[151]

The two above-mentioned historical accounts—that of an emancipation of reason from the rule of religion, and that of a loosening and ultimate dissolution of rational standards (at least of a philosophical and substantive kind) through a disintegrating process of secularization—are precisely examples of competing narratives. They are, moreover, respectively, a narrative of progress and one of degeneration. "Progress" and "degeneration" are terms whose meanings imply some sort of teleological directedness, in whose direction one can advance, or from which one can retreat.[152]

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150. That kind of narrative-interpretative account of human action is not necessarily at odds with each and every notion of causality. If, as Stefaan E. Cuypers claims (in "Thomistic Agent Causalism," in Haldane, *Mind, Metaphysics, and Value*, 90–108), in Aquinas' account of causality all causality is really agent causality, then there is a deeper sense of causality that underlies both human actions and natural events. This account approximates that of some recent discussions in analytic metaphysics and philosophy of science concerning the reality of powers and dispositions (see Feser, *Scholastic Metaphysics*, 51–79), even though such discussions typically do not deal with human actions or invoke the vocabulary of agent causality. The existence of this deeper-level common theory of human agency and natural causality, however, does not obliterate the difference between them. C. F. J. Martin (in "Voluntary Action and Non-Voluntary Causality," in Halden, *Mind, Metaphysics, and Value*, 76–89), criticizes Anthony Kenny's distinction between human action and natural causality in terms of the former's defeasibility, and instead advances another of his own, based on his recollections of a conference presentation by Peter Geach in which the latter recognized the *ceteris paribus* character of scientific laws in a way that indicates in-built final causality. The difference between the two given kinds of causality is that, unlike natural causality, human intentional action (if succeeding well) only admits of "paradigmatic" fulfillment of its ends, i.e., only accomplishes its internal tendencies when the aimed for end—through a process of rational deliberation and choice—is strictly met, while natural causality achieves its ends through spontaneously tending towards a certain state, even when that same tendency is frustrated by environmental circumstances. The assumption of a teleologically-guided agential narrative is then supposed to furnish a context for practical reasoning schemes that will allow for interpretative accounts of action—without undermining the reality of causality, but rather, indeed, presupposing it.

151. See MacIntyre, *First Principles*, 57–68.

152. Thomas S. Kuhn, in *The Structure of Scientific Revolutions*, 2nd ed. (Chicago: University of Chicago Press, 1970), 160–73, speaks of a possibility of "progress" as a cumulative capacity of puzzle-solving with no intrinsic *telos*, analogal to Darwinian adaptive increase through natural selection from random mutations. It is disputable, however,

Henceforth, whenever we speak of "progress," it will seem quite reasonable to ask, similarly to MacIntyre, "towards what?"[153] I believe that the above arguments present something like a case for thinking that even if that question does turn out to be in some way intelligible in the context of the "emancipation" narrative, the candidates for answers to it will, at the very least, prove fairly problematic.

In the "degeneration" narrative, which might well straightforwardly coincide with the Thomistic narrative MacIntyre alludes to (and defends), there seems, though, to be an answer readily to hand.[154] Enquiry progresses as human beings approximate to a state of adequate consideration of a given reality—a state that itself is a way of intentionally becoming the thing known, just as the thing itself is (as it *indeed* is) an adequate realization of the exemplar in the Divine mind, which latter gave it a being fully coextensive with its intelligibility and designed the human intellect as naturally apt for that kind of enquiry and, ultimately, for knowledge itself. This knowledge tends towards a final realization in the building of a demonstrative edifice of science, organically articulated inasmuch as the different sections of reality are made to fit into a wider picture grounded on first principles of reason that capture fundamental traits of intelligible reality, such as knowledge's being a natural end of human existence (as created by God). Reason, in a broad sense, is a faculty whereby we are able to engage in such an enquiry, even if it is also apt to be diverted from its proper end and function. A narrative of the adventures of reason in history, then, need not be some kind of Hegelian tale of inevitable triumph.[155] As a matter of fact, it has been, for ages, one of essential defeat, even if punctuated by successes in marginal issues and outsourced forms of employment.

Although I have not adopted any precise definition of the meaning of the term "religion" here, I would wish to claim that such an understanding of reason has a religious background in the sense that it presupposes a theological framework that is not established through argument, but received from tradition and accepted on the basis of faith—that same tra-

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whether the use of the word "progress" has any appeal apart from an originary understanding of progress as an approximation toward a given end. Moreover, to invoke the analogy of Darwinian evolution presupposes the view that describing natural mechanisms or laws permits to do away with talking of final causality. Étienne Gilson, *From Aristotle to Darwin and Back Again: A Journey in Final Causality, Species, and Evolution*, trans. John Lyons (Notre Dame, IN: University of Notre Dame Press, 1984) constitutes an extended argument that this is far from being the case.

153. MacIntyre, *First Principles*, 66.

154. Ibid., 23–51.

155. See MacIntyre, *Whose Justice?*, 360–1.

dition being, simultaneously and inseparably, a tradition of worship, ritual, moral guidance, and soteriological concerns.[156] Of course, at least in principle, many different religions could fit the bill (with corresponding differences of detail). At the same time, I concede that a great deal more argumentation would be required for such a thesis to be properly substantiated. Yet it is, perhaps, at least in general outline, an acceptable position—which, once again, is not to say that it is the only one. Perhaps, after all, we should just rest content with that oddly non-theological and "casual" teleology of history and enquiry that makes out the religiously-minded pioneers of successive conceptions of rationality to be sleepwalkers on a never-designed path towards an improbable though inevitable "enlightenment" on the part of purposeless beings (concerning, at least, their very condition as such), or all embrace the substance of the Nietzschean critique, and attend the funeral not just of God, but also of reason.

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156. That is not to say that arguing for the existence of God, on this conception of enquiry, is either idle or circular. The gathering of rational evidence for God's existence is a different issue from believing it *on the basis of faith*, as a precondition for the very consistency of the enquiry, and represents a real gain in actual knowledge.

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