

Extract on the links between syncretic processes, neurobiology, literate traditions, and the 'correlative' structures of premodern religious, philosophical, and cosmological systems. From S.A. [Steve] Farmer, *Syncretism in the West: Pico's 900 Theses (1486): The Evolution of Traditional Religious and Philosophical Systems* (Tempe, Ariz.: MRTS, 1998). See <http://www.safarmer.com/pico>

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iii. Theoretical Conclusions

No matter what their specific contents or origins, traditional religious, philosophical, and cosmological systems tended to become increasingly complex and formal over time, to make much of proportions and correspondences, and to favor hierarchical organization or its temporal analogues. The universality of these tendencies provides strong arguments against picturing those systems as products of unconditioned "speculative" thinking. In this chapter, I have suggested that cumulative syncretic processes, operating over centuries and even millennia, made those developments more or less inevitable. Pico provides a useful forum for discussing this thesis since his exaggerated syncretism illustrates so clearly the systematic consequences of those processes.

Certainly few premodern thinkers anywhere approached the past with the reconciliative passion that we find in Pico. If his system was an extreme one, however, his general approach was anything but unique. The goal of harmonizing texts and traditions was a perennial theme in all traditional literate societies; the syncretic products of earlier levels of tradition were typically fiercely defended even by those religious conservatives and classical purists who most violently opposed syncretic tendencies in their contemporaries.⁸⁶ The historical resilience of those tendencies, no matter what forces opposed them, ensured that in the long run their systematic effects evolved in a more or less predictable fashion.

⁸⁶ This was true even of Pico's Savonarolan opponents; see below, pp. 155–57.

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The thesis that the structures of traditional religious, philosophical, and cosmological systems were largely shaped by universal ways of reconciling—and hence misinterpreting—sacred or semisacred texts seems at first sight an odd one. It becomes less peculiar once we recognize that the syntheses that gave birth to those systems simply applied to thought “fixed” in texts hierarchically abstractive and correlative processes operative at all levels of perception, language, and cognition. Even the assignment of so-called proper names involves high-level abstraction insofar as those names are applied to objects changing continuously over time: The distinction between concrete and abstract terms out of which ancient dualistic and correlative thought originally evolved is a relative one.⁸⁷

Neurobiological evidence has accumulated in the past two decades that the neural assemblies underlying all perceptual and cognitive systems are organized in multilayered correlative (or topographical) maps—that hierarchical and correlative processes are fundamental to *all* human thinking.⁸⁸ Once sacred traditions began to accumulate in literate form, the application of these processes to reconciling conflicting textual traditions—which were paradoxically thought to hide unified meanings or even the “secret thoughts of God”—helped lift thought by its bootstraps, so to speak, to exaggerated hierarchical and correlative levels not attainable in the less stable ebb and flow of oral traditions. The differences between the fluid metaphorical models of preliterate peoples and the increasingly rigid correlative

⁸⁷ The view that syncretic processes—viewed here as neurobiological phenomena—played a key role in the growth of abstract thought was first expressed by the German psychologist Heinz Werner. See, e.g., Werner (1948). Many of Werner's ideas on abstract symbol formation can be supported by modern selectionist or “Darwinian” models of neurobiological function. See here Edelman (1987); cf. Deacon (1997), who explicitly acknowledges his debt to Werner's work.

⁸⁸ For a recent summary, see Stein and Meredith (1993). Other materials relevant to correlative brain processes can be found in Gazzaniga, ed. (1995), Edelman (1987), Churchland (1986: 412ff.), Pellionisz and Llinás (1985), and many other recent studies. On some of the cultural implications of correlative brain processes, see Brown's pioneering work (1991). Recent studies of synesthesia—the pathological condition in which subjects literally “hear” colors or “taste” sounds, etc. (see, e.g., Cytowic 1989, 1993; Baron-Cohen and Harrison, 1997)—provide further evidence that correlative systems have deep neurobiological foundations. For a survey of some of the structural symmetries in cortical architecture underlying correlative brain processes, see Mountcastle's classic paper (1978). Experimental work by Goldman-Rakic (e.g., 1987) throws light on some of the dynamic processes involved in topographical or correlative communications between different brain regions; see also the discussion of Merzenich's work in the final note to this section.

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systems of literate ones, on this view, arose simply from the greater diversity and "fixedness" of literate as opposed to oral traditions. Those differences were byproducts of what Goody in another context has labeled literacy's amplifier effect: A written source "forces one to consider contradiction"; it "can be inspected in much greater detail, in its parts as well as in its whole, backwards as well as forwards, out of context as well as in its setting."⁸⁹ It was at this heightened level of literate awareness that conflicts in sacred traditions first gave rise to demands for extensive formal reconciliation, resulting in the birth of the abstract philosophical, theological, and cosmological systems that began to emerge with the first widespread dissemination of lightweight writing materials in the middle of the first millennium BCE. These developments were followed over the next two thousand years by wave after wave of commentarial traditions, most with strong reconciliative tendencies, which added cumulatively if somewhat unevenly to correlative religious, philosophical, and cosmological systems whose complexities reached the same order of magnitude, East and West, by the later Middle Ages.

By the time of Pico's proposed Vatican debate, the cumulative effects of over two thousand years of syncretic processes had reached their most extreme levels ever. In the nine hundred theses scores of the earlier correlative principles of the warring subtraditions of Latin, Arabic, and Hebrew scholasticism, of Greek Neo-Platonism and Aristotelianism, and of a wide range of esoteric traditions—Neo-Pythagorean numerology, "Chaldean" and "Orphic" magic, pseudo-Hermetic mysticism and pseudo-Mosaic kabbalism—each the product of the repeated in-breeding of traditions of still greater antiquity, merged to give birth to the abstract concept of cosmological correspondence at the center of Pico's "new philosophy." The cumulative pressures of thousands of years of reconciling books and traditions eventually led to the elevation of the ultimate syncretic strategy as "the greatest of all" cosmic principles. Exegesis had completed its metamorphosis into cosmology; correspondence now lay at the very essence of reality: "Whatever exists in all worlds is contained in each one!"

Similar high-correlative systems emerged out of the mature syncretic traditions of late traditional China, India, and other non-Western societies.⁹⁰ The sugges-

⁸⁹ Goody (1977: 44, 109).

⁹⁰ It is noteworthy that sinologists (e.g., Berling 1980, Henderson 1984: 136) commonly place the highpoint of Chinese syncretic thinking in the Ming Dynasty, and Indologists the peak of Indian syncretism in the early Moghul period—both exactly contemporaneous with the European Renaissance. Earlier syncretic highpoints in China and India likewise existed simultaneously with the great period of Western syncretism that extended from the

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tion that all these systems were byproducts of repeated syncretic inbreeding finds strong theoretical support from an unexpected direction: As Mandelbrot and his followers have elegantly shown in the last fifteen years, correlative (or "fractal") structures of exactly the sort found in these systems can be expected in any evolving system modified by an extended series of recurrent (or "iterative") transformations. Indeed, when sixteenth-century commentators translated Pico's verbal symmetries and correspondences into visual form, the results were diagrams whose fractal structures are often immediately apparent (see Plate 1 on p. 195). The existence of cross-cultural parallels in the growth of correlative systems has profound implications for emerging mathematical and computer models of cultural evolution.⁹¹

last third of the first millennium BCE to the end of classical antiquity. Partial desynchronization in the growth of Eastern and Western correlative traditions followed in later periods from variations in the impact of the so-called barbarian invasions, from differences in literate technologies, and from variations in demographics and institutional controls over information flows; nevertheless, by the later Middle Ages the structural complexities of Eastern and Western cosmological traditions had reached roughly comparable levels. (The greater diversity of traditions available in the Mediterranean region, paradoxically arising in part from the deeper fragmentation of traditions that occurred in the West during the barbarian invasions, gave Western scholastics something of an edge here.) Sarton (1927-48) underscored a number of these structural parallels as far back as the 1920s, but the paths that he pioneered in comparative studies were largely abandoned by later generations of Renaissance scholars, due in part to ethnocentric forces unleashed by World War II.

⁹¹ Mandelbrot himself was fascinated by the fractal-like systems that he found in Leibniz and in the so-called great chain of being (Mandelbrot 1983: 405ff., 419). Misled by older historical studies (above all, Lovejoy's), Mandelbrot apparently viewed those correlative systems as unique and accidental products of Western thought; he hence failed to search for the iterative mechanisms that his own work suggests might drive the growth of such systems. Once those mechanisms have been identified in repetitive exegetical processes, the possibility arises of simulating the structural evolution of those systems using standard models of fractal growth. The obvious tuning parameter in building such models is the rate of information flow within and between traditions, which is sensitively dependent on developments in communication technologies and related demographic and institutional factors. If that rate remains similar in two isolated streams of tradition, mathematical models predict that the systematic complexities of those traditions will remain similar in successive historical periods—as was roughly the case when we compare Eastern and Western cosmological constructs in each period following the middle of the first millennium BCE. Mathematically related models of self-organized criticality (Bak, Tang, and Wiesenfeld 1988; Bak and Chen 1991) have interesting applications in modeling the collapse of correlative cosmologies in later periods of the Eastern and Western printing revolutions, when rates of information flow increased by several orders of magnitude over

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Syncretic processes and developments in literate technology were not the only forces that affected the evolution of premodern traditions. The growth of these traditions was regulated as well by institutional constraints on information flows, by attacks by religious conservatives and classical purists, by empirical discoveries, and by accidents in textual preservation and related factors. The progressive tendency towards abstractness and proportion in later strata of these traditions, moreover, was often countered by injections of more primitive preliterate and anthropomorphic levels of thought—as witnessed in the complex interplay of abstract philosophy and folk religion in popular Taoism, in Mahayana Buddhism, and in Western and Eastern cults of the saints.

But a consideration just of long-range historical patterns suggests one remarkable conclusion. Havelock has argued that the pre-Socratics' integration of conflicting concepts in the Homeric corpus led them to take "the vital step of expressing the idea of integration itself, as a governing principle of their method"—projecting into the structure of the cosmos (as in the Heraclitan *Logos*) those abstract mental processes brought to consciousness by their own exegetical acts. In the far broader commentarial systems that evolved over the next two thousand years, we find correlative models of reality that increasingly reflected not just isolated acts of textual exegesis but the cumulative history of many centuries of such acts—with the abstract cosmological principles and transcendent gods of Eastern and Western scholastics, born out of repeated syncretic inbreeding, suggesting in a sense the furthest limits of those acts. And one thinks here of the Aristotelian image of God as "thought thinking thought"—but here it was man trapped in this vicious circle, cogitating and recogitating his earliest anthropomorphic projections in texts and in attempting to harmonize those texts building ever more complex hierarchical and correlative models of reality that as traditions grew and further inbred came to reflect nothing more clearly than the nature of his own neurological processes.⁹²

those found in earlier periods. For a broader discussion of these issues and descriptions of applicable computer simulations, see Farmer and Henderson (1997).

⁹² On this point, see also the recent paper by the distinguished mathematical biologist A. L. Goldberger (1996), who similarly pictures premodern correlative or fractal structures as an "externalization of the fractal properties of our physiology in general, and of our neural architectures and neuro-dynamics, in particular." The view that the dynamic properties of premodern correlative systems are external reflections of neural processes finds extensive support in recent neurobiological discoveries. A famous series of experiments conducted by Merzenich and his colleagues in the last fifteen years (surveyed in Merzenich et

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What was needed to overthrow the views of books, traditions, and authorities underlying these developments was not the rediscovery of particular ancient traditions, as is sometimes suggested, but the unprecedented opportunities for disseminating and comparing those traditions that emerged in later stages of the printing revolution. We will return to this problem at the end of this study in reviewing certain radical shifts—or apparent ones—in Pico's later thought. In part to measure the depth of those shifts, in the next chapter we will first look more closely at that exaggerated correlative system that Pico planned to unveil in his grand debate "of everything knowable" at Rome.

al. 1990) suggests that hierarchically linked brain maps reorganize themselves in ways that are strikingly similar to those pictured in premodern correlative systems, in which all "higher" and "lower" realms of reality were believed to change in harmony. See the diagram of hierarchical brain processes in Edelman (1987: 173), who suggestively remarks that "changes in any one level must result in readjustment of all 'linked' levels"—words that could be adopted unchanged to describe the dynamics of virtually any premodern cosmological system. The implication of this and other recent neurobiological discoveries, especially those related to correlative (or topographical) brain maps, is that sufficient evidence is currently available to identify the neurobiological grounds of imitative magic, animistic religious thought, and other primitive correlative concepts including the universal microcosm/macrocosm theme. When this evidence is combined with detailed models of how these concepts were successively transformed in literate traditions, we possess the foundations for the first testable cross-cultural model of the evolution of premodern religious and philosophical systems. Mathematical models of the self-organization of complex systems current in evolutionary biology (see, e.g., Kauffman 1993) have suggestive uses here; the claim that such models can add nothing to our understanding of systems as complex as those found in premodern religious and philosophical traditions is groundless; indeed, those systems, if anything, are significantly *less* complex than those systems already being modeled by theoretical biologists. For further discussion, see Farmer and Henderson (1997). The links between neurobiology, transformations in literate technologies, and processes of cultural evolution are the subject of the sequel to this book.