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## T.S. Eliot and Michael Polanyi on Tradition in Literature and in Science

T.S. ELIOT (1888–1965) AND MICHAEL POLANYI (1891–1976) produced highly influential theories of tradition in the first half of the twentieth century. Eliot seminally expressed his theory of tradition in literature in the companion essays, “Tradition and The Individual Talent” (1919) and “The Function of Criticism” (1923). Polanyi developed his theory of tradition in science in his *Science, Faith and Society* (1946), based on the Riddell Lectures that he had given in 1945 at the University of Durham.

The present article will describe and compare Eliot and Polanyi’s theories of tradition. Such a comparison will cast light on a subject—the place of tradition in the secular life of modernity—that remains to this day no more than partly illuminated. Eliot and Polanyi are apt figures to discuss in this context, being contributors to the traditions they respectively analyzed. Eliot would become the most influential literary figure in his day in England, while the quality of the two hundred or so scientific papers that Polanyi wrote or coauthored, before moving across to philosophy, was recognized in his being appointed a Fellow of the Royal Society (1944). What will become clear in the following discussion is that Eliot and Polanyi used the idea of tradition to help explain how *order* is achievable in modern culture. Unlike the many rationalist thinkers who, since the eighteenth century Enlightenment, had looked on tradition as an impediment to progress, Eliot and Polanyi argued that in literature and in science respectively, as practiced in modernity, there could be neither order nor ordered change without tradition providing them with ballast.

Eliot’s “Tradition” essay occupies a position of particular importance in his own writings, Longenbach<sup>1</sup> representatively describing it as the “most

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<sup>1</sup> James Longenbach, *Modernist Poetics of History* (Princeton: Princeton UP, 1987) ix.

famous" of Eliot's essays, and Kramer<sup>2</sup> noting its deep and lasting effect on literary criticism. Polanyi's *Science, Faith and Society* was a pioneering work, contributing to the formation of a new understanding of, and sensibility toward, science. In *Science, Faith and Society* there occurs the first explicit, sustained analysis of tradition in science.<sup>3</sup>

*Eliot: Tradition and objective order*

Eliot's "Tradition" and "Function" essays were, like his great modernist poem, *The Waste Land* (1922), composed in the aftermath of World War I. The conflicts of class, party, and of nation that had the appearance of being endemic to the modern age, and the declared intentions of Futurists, Dadaists and others to overthrow the past, stirred Eliot's interest in ascertaining causes of decline, and conditions for order, in literature and in society.<sup>4</sup> Romanticism Eliot blamed for much of the "fragmentation" of modern culture,<sup>5</sup> romanticism focusing on the individual agent, ignoring the fact that purposeful activity always proceeds within a social-cultural heritage. Romanticism, Eliot argues, mistakes the expression of emotion for creativity, disdaining the control and discipline that tradition imposes. This effect of tradition had been stressed at Harvard University by Eliot's mentor, Irving Babbitt.<sup>6</sup> In Eliot's assessment, romanticism disrupts the continuity between classical and modern culture, making it more difficult to maintain standards in culture and order in society in the modern age. (These are ideas to which Eliot gives expression in *The Waste Land*.)

In his essay of 1919, Eliot discusses tradition in literature in the context of his "impersonal theory of poetry,"<sup>7</sup> in opposition to the prevailing

<sup>2</sup> Jürgen Kramer, "T. S. Eliot's Concept of Tradition," *New German Critique* 6 (1975): 20.

<sup>3</sup> Edward Shils, *Tradition* (Chicago: U of Chicago P, 1981) 101 n. 24.

<sup>4</sup> Michael North, "Eliot, Lukács, and the Politics of Modernism," in *T.S. Eliot: The Modernist in History*, ed. Ronald Bush (Cambridge: Cambridge UP, 1991) 174. Eugenia Gunner, *T.S. Eliot's Romantic Dilemma: Tradition's Anti-Traditional Elements* (New York: Garland Publishing, 1985) 65.

<sup>5</sup> T.S. Eliot, "Tradition and The Individual Talent," *The Sacred Wood* 7th ed. (London: Methuen, [1919]1950) 15. Sean Lucy, *T.S. Eliot and the Idea of Tradition* (London: Cohen & West 1960) 82ff.; A. David Moody, *Thomas Stearns Eliot Poet*, 2nd ed. (Cambridge: Cambridge UP, 1994) 107. There are, however, undercurrents of sympathy in Eliot toward certain aspects of romanticism, as noted by Gunner, *T.S. Eliot's Romantic Dilemma* 5-6; Edward Lobb, *T.S. Eliot and the Romantic Critical Tradition* (London: Routledge & Kegan Paul, 1981) 6-10, 60ff.; and Lucy, *T.S. Eliot and the Idea of Tradition* 82.

<sup>6</sup> John Margolis, *T.S. Eliot's Intellectual Development 1922-1939* (Chicago: U of Chicago P, 1972) 6-7.

<sup>7</sup> Eliot, "Tradition and The Individual Talent" 53.

romantic theory. In Eliot's rendering of the romantic theory, the poet's object is to express his personal feeling. As the poet expresses his individuality, the romantic theory implies, he imbues his work with originality, providing the reader with his principal source of enjoyment of the poem. Aside from taking issue with romanticism's accentuation of the individual, Eliot criticized it for conceiving of the artistic object as a unique and discrete creation.

Eliot proposes that a poem's "best," and even its most distinctive, properties owe much to the writings of "dead poets."<sup>8</sup> Individuality and originality are, for Eliot, embedded in *tradition* as the process by which achievements are handed down from the poets of one generation to those of the next. In Eliot's understanding, the poetic tradition does not involve adherents in passively receiving and submitting to the achievements of their predecessors, nor in mimicking those achievements. As with other valuable traditions, that of poetry is, for Eliot, acquired only with difficulty, and it is a *live* tradition, sustaining the creation of works from material that it provides, with the poet adding material of his own. Through receiving and participating in the literary tradition, Eliot's poet develops an "historical sense," being an extensive awareness of the past, by which he can trace out the overall development of English and European literature.<sup>9</sup> Through his historical sense, apprising him of his literary heritage, the poet understands how it is that the present has come to be informed with the past. From the synchronic standpoint, the Eliotian poet apprehends European literature as a complex *order*, representing the context in which to exercise his creativity. Using his historical sense to understand the European literary tradition, Eliot's poet effaces his personality and acknowledges the authority of the tradition in which "the mind of Europe" is embodied.<sup>10</sup> Notwithstanding that the tradition is of utmost value to the poet, he submits to it qualifiedly, retaining the freedom to innovate.

Contrary to that of the romantics, Eliot's view is that poetry represents an escape from, rather than an expression of, emotion and personality, poetic creativity, being a process of self-transcendence.<sup>11</sup> In his view of poetry as a synchronic order and in his account of poetic composition as an impersonal process, Eliot lays emphasis on their *objective* properties.

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<sup>8</sup> "Tradition and The Individual Talent" 48.

<sup>9</sup> "Tradition and The Individual Talent" 49.

<sup>10</sup> "Tradition and The Individual Talent" 51, 53; also T.S. Eliot, "The Function of Criticism," in *Selected Essays*, new ed. (New York: Harcourt, Brace & World, [1923]1950) 12–13.

<sup>11</sup> Eliot, "Tradition and The Individual Talent" 53, 56; also John Kwan-Terry, "Ash Wednesday: A Poetry of Verification," in *The Cambridge Companion to T.S. Eliot*, ed. A. David Moody (Cambridge: Cambridge UP, 1994) 132.

The tradition-as-order that Eliot's poet regards as consisting in all the poems that have been written, and as existing outside of time, indicates potentialities of form and of expression in the language that further creative work might realize; activity in "the present . . . [being] directed by the past."<sup>12</sup> The tradition-as-order provides the poet with resources, enabling his work to be produced from, and contribute to the further development of, the tradition. In his "Introduction" to *The Sacred Wood*, Eliot approvingly quotes from Matthew Arnold on the subject of poets and critics. In certain outstanding ages, "the poet lived in a current of ideas in the highest degree animating and nourishing to the creative power," and society similarly was a source of stimuli. Conditions of this description afford "the true basis for the creative power's exercise" wherein "it finds its data, its materials" at hand.<sup>13</sup>

The same order is, for Eliot, as important for poetic criticism as it is for creativity. The meaning of a poem is to be understood, and its worth ascertained, with reference to the order of poetry. A new poem is compared to, but not rated against, the writings of "the dead poets." Eliot explains that the new poem is judged by standards that have been handed down, but judged in a special sense such that the order of past poems and the new poem are compared with, and "measured" against, each other. A poem is required to be original, departing from the traditional order of poems, but the order grounds literary standards, Eliot points out, and a poem of merit will in time come to be fitted into the overall order. As Eliot sees it, the order itself undergoes alteration with the "supervention" of the new poem, with the "relations, proportions, [and] values" of works in the order undergoing readjustment with reference to the whole.<sup>14</sup> The poem has significance in relation to poems that have preceded it, while the meaning of past work is reinterpreted in light of the present. As this reinterpretation is ongoing, Eliot infers the poetic tradition is not one of improvement. Illustrating Eliot's idea of readjustment, Helen Gardner writes: "We, who have grown up with [Eliot's poetry], find that we read earlier poetry to some extent through it. It has affected our taste and judgment," making "us more critically alert to the language of poets."<sup>15</sup>

Eliot's concept of an evolving literary order broadly resembles, and was almost certainly analogized by him from, the Oxford idealist phi-

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<sup>12</sup> Eliot, "Tradition and The Individual Talent" 50; also Lucy, *T.S. Eliot and the Idea of Tradition* 8–11.

<sup>13</sup> Eliot, *The Sacred Wood* xii.

<sup>14</sup> Eliot, "Tradition and The Individual Talent" 50.

<sup>15</sup> Helen Gardner, *The Art of T.S. Eliot* (London: Faber and Faber, 1968) 3.

osopher F.H. Bradley's theory of the Absolute. That Bradley's philosophy constructively influenced Eliot is a commonplace.<sup>16</sup> Eliot's Harvard doctoral thesis, supervised by Josiah Royce, and submitted in 1916 (Eliot was never awarded the PhD, circumstances preventing him from sitting the *viva* exam), pertinently noted that, in Bradley's system, facts depend on an ordered whole: "every fact has . . . its place prepared for it before it arrives, and without the implication of a system in which it belongs the fact is not a fact at all."<sup>17</sup> Other writers may also have contributed to Eliot's development of the motif of the poetic order, the idea of literature forming an "organic unity" is expressed by several leading modernists, Ezra Pound and James Joyce included.

### *Tradition in "The Function of Criticism"*

In "The Function of Criticism" Eliot reiterates the theme of "Tradition and the Individual Talent": that the tradition of European poetry is to be understood as consisting not in "the writings of individuals" but in an *order-in-tradition* that evolves as each new work supervenes (12). Writings only have significance in relation to Europe's order of literature or to the order of each European country.

Existing externally to the poet and possessed of "spiritual authority," the literary order is described by Eliot as inspiring the poet's devotion (15, 17). The creative writer is, for Eliot, called on to "surrender and sacrifice himself" to the order as the way of attaining "his unique position" (13). Relying on "tradition and the accumulated wisdom of time," superior writers are taken by Eliot to form "an unconscious community," being united by their "common inheritance and a common cause" (13 and 18).<sup>18</sup> It is, for Eliot, the writer of real distinction who becomes sufficiently absorbed in his work as to be able to "forget himself in" it, providing his peers with collaborative support and exchanging ideas with them (13).

Eliot describes art as "autotelic," signifying that the artist is without need of an external goal, creating work for its own sake. Literary criticism, however, is not self-justifying but subordinated to the external aim of im-

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<sup>16</sup> Piers Gray, *T. S. Eliot's Intellectual and Poetic Development 1909–1922* (Sussex: The Harvester Press, 1982) xi, 164ff; Gunner, *T.S. Eliot's Romantic Dilemma* 24, 25, 39, 40; Richard Shusterman, "Eliot as Philosopher," in *The Cambridge Companion to T.S. Eliot*, ed. A. David Moody, 31, 33, 35; Margolis, *T.S. Eliot's Intellectual Development 1922–1939* 14.

<sup>17</sup> T.S. Eliot, *Knowledge and Experience in the philosophy of F. H. Bradley* (London: Faber and Faber, 1964) 60.

<sup>18</sup> The idea of tradition as having *community* for its social bearer had been expressed in the writings of Eliot's PhD supervisor, Josiah Royce.

proving the understanding of texts and correcting “taste.” As Eliot saw his contemporaries practicing it, literary criticism was of poor quality, being characterized by individualism of opinion, lack of cooperation, “personal prejudices,” disorder, and by few if any shared standards (14).

Eliot goes on to describe literary creativity as a rare skill, calling for a good deal of self-criticism as the writer engages in “sifting, combining, constructing, expunging, correcting, testing.” Eliot refers to the “conscience” of the writer that enjoins him to strive to produce “the best” work of which he is capable, reminding him that his “compositions ought to be as free from defects as possible” (18).

Literature has objective truth as a regulative ideal, Eliot believes. He writes that in “the polity of literature and of criticism” there exists among producers of worthy “critical work . . . the possibility of co-operative activity” and this may lead them to find something beyond themselves “which may provisionally be called truth” (22).

### *Polanyi: Preliminaries*

From the late 1930s, through the War years, Polanyi wrote in support of the freedom of pure science against those—under the leadership, according to Polanyi, of J. D. Bernal, Lancelot Hogben and J. G. Crowther—who called for scientific research to be planned and directed by governmental departments.<sup>19</sup> Polanyi argued that central planning would destroy pure scientific research. In the body of *Science, Faith and Society*, he refers to the social-political “crisis” into which Western civilization and science had been plunged.<sup>20</sup> With fascism defeated, the source of the crisis chiefly consisted, for Polanyi, in Soviet totalitarianism with its denial that ideals of truth, justice and charity have a reality that is independent of human will and belief. Withholding freedom from its citizens to serve these ideals, the Soviet regime comprehensively regulated science and other cultural endeavours, aiming to advance the welfare of society. In another of its dimensions, the crisis was traced by Polanyi to a serious illusion—nurtured in Western thought by the Cartesian and Lockean philosophies—that the process of achieving knowledge is unable to commence until traditional beliefs have been expunged from the mind.

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<sup>19</sup> Michael Polanyi, “The Growth of Thought in Society,” *Economica* Nov. (1941): 428.

<sup>20</sup> Michael Polanyi, *Science, Faith and Society* (Chicago: U of Chicago P, [1946] 1964) 74ff.

The notion of *tradition in science* makes its appearance in *Science, Faith and Society* in the context of Polanyi's consideration of an apparent paradox in science. On the one hand, science is characterized by "extreme individualism," on the other by "consensus" ("agreement" or "unanimity") (50, 51). How can science simultaneously possess these properties which on the face of it are diametrically opposed? Polanyi's answer to the question is presented in his depiction of science as one of a number of spontaneous social-cultural orders—common/case law and Protestant theology being other salient examples—that depend on their agents having intellectual freedom that is limited by the agents' dedication to the pursuit of ideal ends. Polanyi envisages these autonomous orders as the vital core of the free society.<sup>21</sup>

*"Extreme individualism" versus "consensus"*

There is pronounced individualism in scientific research, with Polanyian scientists exercising their personal judgment in a responsible manner within a wide sphere of freedom. It is left up to each scientist personally to decide to which propositions to assent in science, as it is left up to him to find a problem to motivate his research, and to decide how to go about trying to solve it. Again, according to Polanyi, each scientist "verifies and propounds his own results according to his personal judgement" (50). It is from individualism that the "general flux" in science results, with knowledge significantly changed by the discoveries of "each generation" of scientists (50). Its individualism notwithstanding, science is, for Polanyi (50, 54–55), a cooperative endeavour, with scientists relying on one another for ideas and information, and agreeing on most scientific matters. Polanyi highlights this interdependence by describing scientists as forming a *scientific community*. This term, which has become so important in metascience, was not, as is commonly believed, coined by Ludwik Fleck or Thomas Kuhn but, by Polanyi, following Josiah Royce.<sup>22</sup>

The unanimity that is characteristic among scientists is particularly apparent in the way they reach decisions regarding the life of science. Polanyi explains that science relies on the twofold assumption that "individual scientists are ... competent to state their views and the consensus of their opinions is ... competent to decide all questions for science as a whole" (60).

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<sup>21</sup> Struan Jacobs, "Polanyi's Analysis of Social Orders," *Emotion, Reason and Tradition*, ed. Struan Jacobs and R.T. Allen (Aldershot: Ashgate, 2005) 99–113.

<sup>22</sup> Polanyi's part in this development is documented in Struan Jacobs, "The Genesis of 'Scientific Community,'" *Social Epistemology* 16 (2002):157–68.

There is a government in Polanyi's science and it is responsible for rationally distributing opportunities and rewards, and for imposing constraints and sanctions. This government possesses authority of an unusual type, science knowing of no "official doctrinal compulsion from a center" (57). Polanyi describes the authority as general, referring to the fact that it lays basic presuppositions of thought and practice, in contrast to the specific authority of a Roman Catholic Church which reserves to itself the exclusive official right to reinterpret rules and to innovate, demanding that subordinates and adherents obey its conclusions. The general authority of science leaves agents substantially free to take initiatives and make innovations, constrained by rules that agents are permitted to interpret according to their own light, Polanyi describing this as "atomized sovereignty" (72). Through this general authority, scientists are, for Polanyi, controlled by the opinion of science, consisting in the consensus of independent minds. Decisions are taken at many different locations by scientists, each of whom participates in the sovereign rule in, and over, science. In any given instance, however, only a few scientists are directly involved in decision making, subject to the influence of the rest.

A further strand in Polanyi's theory affirms that scientific authority and influence are unequally distributed, the opinion of certain scientists ("influentials") being highly esteemed and strongly sought. As indicated by Polanyi, the governmental authority of consensual opinion in science is canalized by experts in several institutions whose functions, strategically supporting the life of the scientific community, include powers to discipline conduct that is prejudicial to the interests of science. There are educational institutions and administrative ones. Chief among the educational is the apprenticeship of trainees to masters (to be discussed below). Other institutions administer opportunities for, and uphold the standards of, scientific work. Polanyi cites journals with editors and referees enforcing standards for the publication of papers, and the authors of textbooks and editors of reference works who have the final say over whether the contents of journal articles are to be accredited as knowledge for inclusion in their works which are respectively for teaching and for dissemination to a readership beyond the research community of scientists. As noted by Polanyi, appointments to research posts are made by committees whose members base their decisions on the value that scientific opinion has put on the publications of applicants. The award of research grants, and of honours for achievements in research, is, for Polanyi, decided along similar lines.

With what considerations does Polanyi seek to establish that a consensual opinion exists among scientists? Scientists acting independently of one another as referees for papers submitted to journals or as examiners of



a PhD typically have similar estimations of their scientific value, Polanyi believes. The overwhelming majority of readers of scientific journals approve of the quality of the articles they carry. Few scientists in the scientific community dispute the calibre of members of elite scientific societies (Fellows of the Royal Society, for example), or of the incumbents of scientific professorships.

Polanyi appreciates that disagreements arise in science, but he considers that typically they are resolved within a relatively short time and it is in this very fact that he finds the strongest indication that a consensus does indeed exist in science. Even when scientists are disagreeing with one another over “revolutionary” new ideas, Polanyi notes, they have the understanding that the premises they share will equip them to settle their differences, being confident in their ability to “recognize the truth” and that scientific opinion, the final arbiter, will decide correctly (51).

The crucial passage in *Science, Faith and Society* in which Polanyi begins his explication of tradition in science deserves to be quoted at length on account of its intellectual-historical significance. Polanyi writes that a revolutionary

new discovery may involve ... a reconsideration of the traditional grounds of science, [but] the pioneer would still appeal to that tradition as the common ground between himself and his opponents; and they in their turn would always accept this premise. They would accept also in particular the pioneer's reference to the example of earlier pioneers; to the struggle of Pasteur, Semmelweis, Lister, Arrhenius, van't Hoff ... who had to brave the scientific opinion of their own times. It is part of the scientific tradition to be constantly on our guard against suppressing by mistake some great discovery, the claims of which may at first appear nonsensical on account of their novelty. Thus even in the most profound divisions that have yet occurred in science, the rebels and conservatives have alike remained firmly rooted in the same grounds. Accordingly, these conflicts have always been settled after a comparatively short time in a fashion which has proved acceptable to all scientists.” (52)

Scientific research involves, for Polanyi, specialized skills that are transmitted by, and exercised in light of, a communal tradition. So much of the knowledge in which the tradition of scientific research consists cannot, Polanyi explains, be conveyed explicitly as verbal precepts, being predominantly a tradition of practical art. Most of the tradition is passed on as practice, which is why the institution of apprenticeship, as distinct from that of formal teaching and learning, is highly important in fostering new scientific researchers. The tradition is received by the apprentice as he imitates the practice, and defers to the authority, of the master craftsman to whom he is indentured.

As envisaged by Polanyi, scientific research—analogueous to the Protestant interpretation of the Bible, and to case law—creatively renews its tradition through agents making discoveries, the thinking of researchers being projected beyond the tradition in its present state to an enhanced version of it.

Polanyi takes the general consensus of scientists (“scientific opinion”) to be grounded in their participation in the one tradition, their consensus emerging spontaneously from it. This “spontaneous order” of opinion relies on each scientist, accepting his obligation to science, carefully deliberating while paying heed to his colleagues’ opinions and to the pertinent decisions and actions of past scientists.

Polanyi’s basic reason for believing that science possesses a communal tradition, with premises that scientists share, is that science would otherwise be devoid of order, considering that “the art of scientific work is ... extensive and manifold,” and that scientists are not centrally directed in their activities but enjoy considerable freedom to exercise “an extreme individualism,” as was noted above (56). For Polanyi, the spontaneous order of science depends on scientists having sovereign authority over the interpretation and application of the tradition, being the only people who are trained and steeped in it. Maintenance of the order of science also depends on scientists trusting their colleagues to respect the tradition. Distrust of their colleagues’ experimental results and their opinions would spell the end of cooperation in science. Were scientific life not grounded in the one tradition, Polanyi affirms, all activities in the scientific community—publishing, apprenticeship, appointments, and promotions—would have to be decided arbitrarily by those in senior positions, and distinctions between science, scientific, scientist and their opposites would soon cease to mark real differences.

### *Elements of the tradition*

Polanyi envisages the tradition of science as consisting in entwined strands that indicate the point of departure, the methods and the ideal end of the art of research, the recorded exemplary research and discoveries of great scientists being an important source of methods for, and of inspiration to, the generations that follow.

Although Polanyi’s focus in *Science, Faith and Society* is on the tradition of scientific research, it is important not to overlook the fact that the existing corpus of substantive knowledge is also a part of the tradition of science (57, 60). The tradition of science, in the sense of all the knowledge that is transmitted from one generation of scientists to the next, includes substantive knowledge of reality, which is itself a source of research methods,

standards and the like. The substantive knowledge is imbedded in what Polanyi describes as the premises (presuppositions) of scientific research.

Of the various strands of the scientific tradition, these premises receive particularly close attention in *Science, Faith and Society*. According to Polanyi, the premises exist embodied in the skilled practice of the research tradition, with agents seldom aware of them. One type of premise is substantive, and is exemplified by the naturalistic, as opposed to a magical or mythological, worldview. Among historical examples of scientific premises that add flesh to the general premises of naturalism, Polanyi cites: the Pythagorean mathematical conception of nature as relied upon by Copernicus, the extension of the Pythagorean conception from the heavens to earth with laws of mathematical dynamics governing mass in motion; the assumption, based on Newton's synthesis, of the reduction of all physical processes to atoms and mechanical principles. For Polanyi, premises of the other type express beliefs about methods of discovery and of its verification.

Polanyi takes the premises of science to form a constitutional framework that governs community life, while undergoing cultivation by scientists whose passionate urge is to make discoveries. The scientific community, forming spontaneously from the voluntary submission and continued dedication of scientists to their tradition, hinges on their uncritically assenting to the premises. Polanyi doubly describes the substantive premises of science as "indicative" in guiding the intuitive judgments of scientists, and as "normative" in guiding the "conscience" of the scientist as he deliberates "between intuitive impulses and critical procedure" and in informing decisions that the "master and pupil" take in their relations with each other (54–55).

In the tradition of scientific research, Polanyi finds standards—validity, depth, relevance, and intrinsic interest—for rationally deciding, in an environment of scarce resources, as to which projects are most deserving of funds, and which new claims to knowledge are of sufficient value as to justify their publication. Polanyi notes that the standards of science are, along with the rules of research, picked up by apprentices as they emulate the skilled practice of master researchers. Informing scientific opinion, the standards are applied in its decisions, with the ideal of truth animating the researcher to satisfy the standards in his work.

The reader of *Science, Faith and Society* is struck by Polanyi's use of moral and religious language to describe the manner in which scientists adhere to their tradition and participate in it, science being likened by him to individualist, non-hierarchical Protestant Christianity. Considered in regard to the philosophical temper of the times when he wrote *Science, Faith and Society*—with logical empiricism ascendant—Polanyi's application of ethical and religious language to science would have sounded dissonant to

most of his contemporaries, and this is one reason why his ideas appealed to relatively few readers. The scientist is described by Polanyi as having surrendered to the authority of the tradition of science, a process that began with his being instructed as a pupil in the rudiments of scientific knowledge, continuing through the levels of education, apprenticeship and then into active research. Along with the assumption of physical reality underlying the tradition of science, Polanyi affirms "a spiritual reality," centered on truth and other ideals, as transcending the tradition of science while being partly expressed in it (57, 78, 80-83). Approximations to the ideal of truth are on vivid display in the practice and the achievements of outstanding past and present scientists. It is, Polanyi argues, incumbent on scientists to accept this spiritual reality on faith, dedicating themselves "to its service" (55, 57). Developing his ethical-religious analogy, Polanyi describes the specialized knowledge that scientists bring to bear in interpreting their tradition as "vouchsafed to them when acting in the full sense of their responsibility to science," Polanyi taking this to "represent . . . their final portion of grace" and "their whole duty" (60). With the "conscience" of the scientist arbitrating between his intuitions and the arguments for and against them and serving as his "guide to the truth," Polanyi looks on the decisions of scientists, when sincerely taken, as "rightful" but fallible (61, 82). Polanyi affirms the scientist's "devotion" to the general principles that ground science, and the scientist's "gift of" his or her "own person" to science (64).

### *Epilogue*

Eliot and Polanyi's theories of the nature of tradition in their domains of literature and science respectively have a number of interesting direct or indirect similarities.

In *The Idea of a Christian Society*, admittedly a later work of Eliot than those we have considered, Eliot asks whether modern society is "assembled round anything more permanent than a congeries of banks, insurance companies, and industries" and whether it has "any beliefs more essential than a belief in compound interest and the maintenance of dividends."<sup>23</sup> A pertinent question, it is much like the one Polanyi set out to answer in *Science, Faith and Society*. Polanyi's account of science, as typifying autonomous spontaneous orders that are definitional of the free society, constitutes a positive answer to a question such as Eliot's. The creative activities of scientists and the discoveries that result from research are, in each case, highly ordered

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<sup>23</sup> T.S. Eliot, *The Idea of a Christian Society* (London: Faber, 1939) 64, quoted by Peter Dale Scott, "The Social Critic and his Discontents," in *The Cambridge Companion to T.S. Eliot* 62.

and, Polanyi argues, they could never be centrally directed by scientific nor by governmental planners, but must consist in the free initiatives of scientific researchers themselves or cease to exist at all. Tradition is Polanyi's source of the consensus that binds the spontaneous order of science. Eliot's idea that the order of poetry is altered in its relations and valuations upon each supervention of a new poem is echoed by Polanyi when he writes of scientific knowledge being "profoundly remoulded" by the discoveries of "each generation."<sup>24</sup> Each of these orders is emergent in its incorporation of new creations or discoveries.

Poetic creativity is, for Eliot, a process of self-transcendence, and Polyanian scientific creativity is regulated by transcendent ideals. Eliot looks on poetic creativity as an "autotelic," self-justifying process, and Polanyi regards pure scientific research as self-purposive. In both theories, tradition conditions creative activity. The Eliotian poet and the Polyanian scientist draw resources and guidance for their creative efforts from tradition. Polanyi's researchers derive inspiration from great scientists of the past and of the present whose examples have been incorporated into the tradition. The creations that receive validation, whether in science or in literature, enter into the order of creation and into the tradition.

Polanyi and Eliot each sees a consensual community as the social bearer of tradition,<sup>25</sup> Polanyi being, as we have suggested above, the first scholar to investigate science, intensively and explicitly, in these terms. Having written in 1923 of literature being created in a community of writers that is integrated by way of a tradition, Eliot reiterated the theme of community in later writings, including *The Idea of a Christian Society* (1939), and *Notes Towards the Definition of Culture* (1948). Christian theism appears in Eliot and Polanyi's accounts of community. In *The Rock* (1934), Eliot proposes that "There is no life that is not in community, and no community not lived in praise of GOD,"<sup>26</sup> and for Polanyi "Knowledge of reality and the acceptance of obligations which guide our consciences ... will reveal to us God in man and society."<sup>27</sup>

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<sup>24</sup> Polanyi, *Science, Faith and Society* 50; Michael Polanyi, *Personal Knowledge* (London: Routledge & Kegan Paul, 1958) 208; Michael Polanyi, "The Republic of Science," in *Knowing and Being*, ed. Marjorie Grene (Chicago: U of Chicago P, 1969) 65-67; Shils, *Tradition* 196, 217.

<sup>25</sup> Shusterman "Eliot as Philosopher" 39.

<sup>26</sup> Quoted by Alan Marshall, "England and Nowhere," in *The Cambridge Companion to T.S. Eliot* 103.

<sup>27</sup> Polanyi, *Science, Faith and Society* 84.

Each man sees the respective creative processes of poetry writing and scientific investigation as demanding considerable skill, dedication, and self-criticism from agents, with Eliot's writer "sifting, combining, constructing, expunging, correcting, testing" his material.<sup>28</sup> The Eliotian poet possesses a "conscience," instructing him to produce the best work of which he is capable, "compositions" that are "as free from defects as possible."<sup>29</sup> Polanyi's scientist is compelled by his "conscience" to aspire at the ideal end of truth.

What differences exist between the theories of tradition of Eliot and Polanyi? Eliot's theory in the two essays we have considered concerns the tradition of literature, particularly its poetic dimension. Polanyi principally addresses tradition in science, but he sees this as typifying tradition in other spontaneous orders of creative activity of the free modern society, most notably case law and Protestant theology. Polanyi marks a difference between the spontaneous order of scientific activity and the tradition underlying that activity, whereas Eliot's order principally consists in literary works and it is materially the same as the literary tradition, the same entity viewed from different perspectives. In regard to adding to, and maintaining, the literary tradition, Eliot sharply distinguishes between the roles of poet and critic, suggesting they are often filled by different people.<sup>30</sup> In Polanyi's account of the tradition of science, the same people may, at different times, occupy the different roles of creator (researcher) and critic (referee). Polanyi and Eliot also differ over how many traditions exist in their respective disciplines. Polanyi is a monist in affirming the existence of only one tradition of scientific inquiry. Eliot considers that each country has a literary tradition of its own, with a European literary tradition arising out of these.

Eliot's view of science as impersonal appears on the face of it to contradict the rendering of science that Polanyi was developing but, from Eliot's very brief mention of science in his "Tradition" essay, one cannot say to what facet of science he was referring or what exactly he meant by so describing it. It is pointed out by Shusterman that from 1927, but not in "Tradition and the Individual Talent," Eliot's epistemology came to resemble Aristotle's virtue of *phronesis*, anticipating Polanyi's emphasis on the importance of the personal in achieving knowledge and also Polanyi's stressing the importance of tacit knowledge in (and out of) science.<sup>31</sup>

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<sup>28</sup> Eliot, "The Function of Criticism" 18.

<sup>29</sup> "The Function of Criticism" 18.

<sup>30</sup> Lucy, *T.S. Eliot and the Idea of Tradition* 57.

<sup>31</sup> Shusterman, "Eliot as Philosopher" 39, 40, 44-45 and notes.

It may be asked whether Polanyi's development of his theory of tradition in science owed anything to Eliot's essays, "Tradition and the Individual Talent" and "The Function of Criticism." Polanyi suggested the concept of "scientific tradition" in writings from 1940,<sup>32</sup> and he was using the expression itself by 1942.<sup>33</sup> There is no explicit textual evidence of Polanyi having read Eliot's essays by 1946, but the possibility cannot be excluded. Polanyi's deep love of poetry may have drawn him to Eliot's poetry and prose.<sup>34</sup> Polanyi and Eliot were communicating with each other by 1944 and, before then, Polanyi may have been pointed to Eliot's writings by Karl Mannheim who was mutually acquainted with both men. Eliot and Mannheim were members of the discussion group, "The Moot," formed in 1938 on the initiative of, and then led by, the acclaimed Christian ecumenist, J.H. Oldham. A major concern of The Moot was to clarify ways in which "order in British society and culture" might be re-established once the allies had won the War.<sup>35</sup> Polanyi was invited to meetings of The Moot in June and December of 1944 (the year in which he was appointed a Fellow of the Royal Society, and the year before he gave his Riddell Lectures). Eliot was unable to attend either of these meetings, but he wrote a paper on the "clerisy" for the first one, to which Polanyi and Mannheim produced written responses by invitation, with Eliot then replying to theirs.<sup>36</sup>

Eliot's essays may have assisted Polanyi to develop an explicit theory of tradition in science, as may Evans-Pritchard's *Witchcraft, Oracles and Magic Among the Azande*, wherein it is emphasized on numerous occasions that the Azande are expected to act "according to traditional rules of technique."<sup>37</sup> The likely link in this case would be Oldham with his deep interest in African affairs and anthropology. Polanyi may have read Evans-Pritchard before, or while, he composed *Science, Faith and Society*, for it

<sup>32</sup> "The Rights and Duties of Science," in *The Contempt of Freedom* (London: Watts & Co, [1939] 1940) 4–5, 14, 38; also "The Growth of Thought in Society" 436–37, 441–42.

<sup>33</sup> "Self-Government of Science," in *The Logic of Liberty* (Chicago: U of Chicago P, [1942] 1951) 55ff.

<sup>34</sup> William Taussig Scott and Martin X. Moleski, *Michael Polanyi: Scientist and Philosopher* (New York: Oxford UP, 2005) 10–11, 16–17, 227, 253, 256.

<sup>35</sup> Phil Mullins and Struan Jacobs, "T.S. Eliot's Idea of the Clerisy, and its Discussion by Karl Mannheim and Michael Polanyi in J.H. Oldham's Moot," forthcoming in *Journal of Classical Sociology*; also William Taylor and Marjorie Reeves, "Intellectuals in Debate: The Moot," *Christian Thinking and Social Order*, ed. Marjorie Reeves (London: Cassell, 1999) 24–48; Roger Kojecky, *T.S. Eliot's Social Criticism* (London: Faber and Faber, 1971) 164ff.

<sup>36</sup> These papers appear together in Mullins and Jacobs, "T.S. Eliot's idea of the Clerisy."

<sup>37</sup> E.E. Evans-Pritchard, *Witchcraft, Oracles and Magic Among the Azande* (Oxford: Clarendon Press, 1937) 79; also 80.

has references to witchcraft as a worldview, and certainly Polanyi was citing Evans-Pritchard's book in his writings through the 1950s.<sup>38</sup>

We have dealt with two theories of tradition that were of considerable importance in the history of twentieth century thought. The influence of Eliot's theory was extensive, and Polanyi's theory almost certainly penetrated deep into many minds, there being good reason to believe that Thomas Kuhn and Paul Feyerabend were in intellectual debt to Polanyi, not to mention the likes of Jerome Ravetz, Robert Merton, Barry Barnes, Harry Collins, and John Ziman.

We would also submit as evidence of the continuing importance of the two theories of tradition Edward Shils' landmark monograph, *Tradition* (1981), Eliot and Polanyi's thinking having deeply affected Shils' analysis of the topic.<sup>39</sup>

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<sup>38</sup> See Struan Jacobs, "Two Sources of Michael Polanyi's Prototypal Notion of Incommensurability: Evans-Pritchard on Azande Witchcraft and St Augustine on Conversion," *History of the Human Sciences* 16 (2003): 57–76.

<sup>39</sup> Shils, *Tradition* vii–viii, 22, 101, 116–17, 120, 149–50, 156.

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