THE DIAGNOSIS OF SCIENTISM:

ERIC VOEGELIN AND MICHAEL POLANYI ON SCIENCE AND PHILOSOPHY

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Abstract

The purpose here shall be to highlight and unpack certain key dimensions of both Michael Polanyi's and Eric Voegelin's diagnoses of scientism as an ideological movement. In doing so, it is my aspiration to distinguish scientism from science much as one might distinguish disease from health. The comparison shall be of an ideal of a closed, fully objective and self-contained system of explicit rules and propositions, to the open, active strivings to understand the real of a responsible and embodied person.

Keywords

Eric Voegelin, Michael Polanyi, science, scientism, positivism, philosophy of science, philosophy of history, consciousness, epistemology, political science, political philosophy, ideology

1. Introduction

On the first day of his 1951 Walgreen Lectures, standing before a distinguished audience at the University of Chicago, Eric Voegelin made many remarks which may have been deemed upsetting to some among his listeners. On that occasion, Voegelin let it be known how and to what extend he judged the adherents of positivism to have rooted themselves in a peculiar and anti-theoretical, self-imposed ignorance. Indeed, he proposed it to be rooted in a grandiose will-to-power which could be upheld in the face of reality only by a remarkable will to ignorance. However, his indictment of positivism for the destruction it wrought to political science was only secondary to his vituperating spiritual and psychological critique of the men and women adhering to its premises. The immediate critique would take several days to fully unfold; the larger critique would continue to unfurl onto Voegelin's last days. It would reach culmination in Volume V of *Order and History*, with his fullest exposition of the structures of consciousness, and the symptoms of spiritual derailment and revolt.[1]

In 1962, Michael Polanyi would receive a similar invitation to present at the University of California, Berkeley, under the auspices of the McEnerney Lectures.[2] Over the course of four lectures, Polanyi would deliver his own compressed (though somewhat less caustic) critique of the fateful turn in Western civilisation which had brought it before the apocalypse of totalitarian regimes. In doing so, he recapitulated, in brief, the systematic critique contained in his 1958 magnum opus, *Personal Knowledge: Towards a Post-Critical Philosophy*. His defence of civilisation in the West would take the form of a defence of the individual person and of science against the dangerous and impossible pretences he termed scientism and the Laplacean mind.

Thus, like Voegelin, Polanyi had engaged himself in the quest of rescuing and reconstructing science, particularly the sciences of man or politics, from what they perceived as an ideological derailment. This derailment, they argued, not only threatened the sciences as practices, but also, through the deformation of political science, the free and open societies in which they were embedded.

The purpose here will be to highlight and unpack certain key dimensions of both men's diagnoses. In doing so, it is my aspiration to distinguish science from scientism much as one might distinguish health from disease. The comparison shall be of an ideal of a closed, fully objective and self-contained system of explicit rules and propositions, to the open, active strivings to understand the real by a responsible and embodied person. It is the latter, living and incarnate, and seeking to dispose and to reform themselves in search of a deeper, more meaningful contact with reality, which both thinkers uphold as the paradigm both of science and of spiritual health.

A healthy *political* science shall thus manifest as a practice which can claim to deepen the experiential life of human beings, by bringing a certain clarity to the question of who man is. It would give a certain credence and clarity to his utmost aspirations—intellectual, aesthetic, and moral while providing also an understanding of his limits, and those of his fellows. We may call this the gift of prudence, in the sense of Aristotle's *phronesis*. An unhealthy political science, by contrast, would be one in which fails to attempt to inculcate either or both of these dimensions of knowing and being. Conversely, it might encourage the acceptance of their opposites: a conviction in the meaningless and mere subjectivity of individual aspirations, and the denial of prudent limits.[3]

In pursuit of this goal, I shall turn to those expressions of human existence which, those men firmly held, rooted the human person in the reality in which they were born and of which all persons

innately sought valid understanding. As such, I shall focus on expositing Voegelin's structures of consciousness, and Polanyi's structure of commitment. These can then be brought to bear on those expressions and practices which they held tended to derail the modern mind, with scientism being the primary focus.

In the course of this exposition, it will become apparent that subtle differences in emphasis separate the two men in such a way as to highlight the epoch-making revolts against reality, on the one hand, as opposed to quotidian nihilism, on the other. These I believe to be valuable, complementary, and often overlapping analyses, which may shed much light upon the avenues which they perceived for the renewal of political science.

2. Voegelin's search for order

Eric Voegelin expired on January 19th, 1985, thereby bringing to a close his own personal quest to enucleate the foundations of order in human existence. That quest had spanned approximately sixty years. By the end, his collected writing would fill thirty-four volumes, capped by the fifth and final volume of *Order and History*. Though unedited at his death, Voegelin remarked to his wife, Lissy Onken Voegelin, that he had gone as far and stated as clearly as possible, in that volume, all that could possibly be said.[4] *In Search of Order*, he well understood, would be the key to all of his other works.[5]

That being said, it cannot be claimed that grappling with Volume V is any mean feat. Though easily the shortest volume in the series, it is also easily, one suspects, the most difficult of his collected works, its nearest competition being perhaps only the later editions of *Anamnesis*. That difficulty originates in the highly meditative nature of the volume. In Volume V, Voegelin increasingly eschews the somewhat more approachable form of an exegesis of political reality, and more directly approaches the question of man in his being and his awareness of his being. The order of history, Voegelin long affirmed, was the history of order, and the source of that order originated in the human illumination of reality in the very quest for its Ground.

In his own quest for the proper means to symbolise that questing structure, Voegelin produced or recovered a panoply of concepts and symbols. He would often either find these to be useful hand-holds for deeper delvings, or else inadequate formulations to be superseded. Take, for instance, the tripartite division of history so central to *The New Science of Politics* into the emergence of cosmological, anthropological, and soteriological civilisations. That division becomes less important in later works, as the analysis shifts to the symbol 'history' itself, and to its status as a symbol proceeding from the imaginative response of concrete human beings to the ineluctable process of reality. Similarly, earlier formulations, such as '[man's] participation in being', and even his analysis of Gnosticism, he later found to be secondary expressions of more fundamental structures for which he would find satisfying insight and language only later in life.

Order and History may therefor be meaningfully read, perhaps in conjunction with *Anamnesis*, as the gradual unfolding of a meditative exercise decades in length, as the author teases-out the paradoxes of human existence in a world in tension towards the Ground of being. In Volume V, the focus of analysis had shifted almost entirely to the centrality of such meditation in itself. For Voegelin, anamnetic meditation and reflection brings to light the paradox of consiousness-reality-language, and to the modern phenomenon of the revolt against reality, of which scientism represented a persistent expression.

Central to Voegelin's elucidation of the mystery of existence was his recognition of the paradox of its tripartite structure. Stated tersely, every human being is at once aware of a reality which he or she intends, and which he or she shall tend to signify using concepts in the process of gaining and furthering an intellectual grasp of that which is intended. Thus, human *intentionality* intends reality either directly, as a whole field of 'things', or indirectly, via the 'things' which are experienced as parts littering the field. Conversely, that same concrete, flesh and blood person possesses an awareness of themselves as a predicate of reality, which is now mysteriously illuminating itself for its truth through consciousness. In the *luminosity* of consciousness, the unfolding of reality is illuminated as an intelligible mystery which cannot be pointed at with a signifier and conceptualised, but only alluded to in symbolic expression.[6] Furthermore, upon meditative reflection (i.e. *reflective distancing*), that same person calls to awareness both of these dimensions of their conscious existence as well as the dimension of reflection itself. The subject of intentionality, who intends and conceptualises reality and its 'things', is simultaneously discovered as the luminous predicate or fount of the comprehending reality. Reality is thus illuminated through consciousness, and the mortal being who now reflects upon themselves distantly, finds themselves betwixt and between the status of intending subject and luminous predicate.

For this thoroughly paradoxical structure of existence (speaking both ontologically and epistemologically), ever evident to anyone who cared

to reflect upon and symbolise it, Voegelin adopted the symbol of Metaxy.[7] All three dimensions of human consciousness or awareness, *intentionality, luminosity,* and *reflective distancing*, he noted to be a human constant in all times and persons. To distinguish the two modes in which reality is experienced, he coined the terms *thing-reality* and *It-reality*, for which we then may find corresponding expressions in, for instance, concepts and symbols, respectively.

The original structure

consciousness — reality — language

… quickly expands to:

intentionality thing-reality conceptual language
/ / /
luminosity --- It-reality --- symbolic expression
/
reflective distancing

One then quickly notes no types or modes of reality, nor of language, corresponding to reflective distancing. Nor should there be. For, reality experienced in the meditative reflection is reality simply. Reality itself is the It which is both (i) the field of things signified, and (ii.a) that which is comprehensively, luminously symbolised and re-symbolised for its truth as (ii.b) that truth is won and lost to oblivion in the process of time. In the meditation, one reflects upon the mystery of the structure itself. History is that which Voegelin often, aphoristically, referred to as 'life in the Metaxy'; it emerges as a reflective symbol called from human imagination to capture the comi-tragic character of humans winning and losing truth through the process of time.

On the one hand, truth is won through the noetic, pneumatic, or the more compact primary experiences of reality of great questioners. Those questioners may be poets, priests, prophets, or philosophers, who then symbolise the new truth, which is felt to make a compelling (if not compulsory) call upon him or herself and upon human existence generally. The new truth may find any of a variety of forms of expression, including myth and the arts as well as theoretical expositions such as those of Aristotle's treatises, which will vary in depth, breadth, and clarity. Under certain circumstances, such luminous symbols may becomes socially and politically effective. They may even become the basis for the institutional expression of a political order's existential and/or transcendental representation. Or, finding themselves in a society possessed of a different or more compact symbolisation of reality, they may find themselves ignored or even suppressed. Here we may stop to recall the fate of Plato and the Academy to be largely ignored, and Socrates to be sentenced to death by Athens, even as its transcendental representation in the tragic cult was disintegrating, and its existence threatened by the spectre of Macedonia over the horizon.

Furthermore, while the symbols engendered in the originating experience may become a precious means for educating future generations and guiding them to renewing experiences of effecting *paideia* and *periagoge* in Plato's sense there comes also a danger. The luminous symbols of life in the Metaxy will, at times, be misconstrued as metaphysical 'cncepts' or 'ideas' denoting a wholly objective thing-reality. Such 'concepts' may then themselves becomes the propositional material for the construction of a dogma which shall then be presented as 'true'.

In the worst cases, the dogmatic construction of reality as merely thing-reality intended by the human subject may even block all view of the comprehending It-reality, and of human existence in the Metaxy. Within the horizon of such a derailment, all experience of transcendence may come to be seen as instances of 'untruth', insanity, or, more subtly of 'subjective' beliefs or values. This phenomenon Voegelin referred to as the *eclipse of reality* through the erection of *Second Realities*. At its base, the philosopher saw as motive in such erections of unreality, a horror at the reality which does not bend to the intentionality of the erector.[8]

This then brings us to the matter of Voegelin's analysis of scientism. In his early, 1948 paper entitled 'The Origins of Scientism', and in *The New Science of Politics,* he turned his attention to the temporal origins of the scientistic trend in political science. He perceived among many purported practitioners of the science, the dogmatic effort to divest themselves and their students of all trappings of tradition and all 'subjective' values for the sake of studying science 'scientifically'. What was largely presented as science was the adherence to a rigorous, impersonal methodology for the sake of extracting relevant facts from the intended sub-field of reality. An orthodox methodology would then, ideally, as closely approximate the methods of physics and chemistry as was feasible, and all data which was not amenable to extraction in this manner would be deemed irrelevant or illusory. That is to say, all reality that did not bend or reveal itself through the orthodox method was *a priori* defined as subjective fancy.

But, as he observed, the mere fact that this disposition to all of reality, in which the sciences of

phenomena and of substance or essence were erroneously conflated, was stark non-sense was irrelevant. As he observed, the fact that the fallacious nature of the scientistic faith had, could, and was regularly proven to be unreasonable, illogical, and perverse, did not change the minds of its adherents. At the very least, the browbeating was not enough to prevent scientistic dogma from becoming socially effective.[9]

In 'The Origins of Scientism', Voegelin traced the first solid footholds of the movement to the reception of the *Meditations* of René Descartes, and to the *Philosophae naturalis principia mathematica* of Isaac Newton. As he observed, it was, ironically, a theoretical shortcoming or defect in both works which allowed certain Enlightenment thinkers to dispense with 'the unnecessary hypothesis of God' in their constructions of reality.[10] In the first instance, Descartes' materialisation of space, and, in the second case, Newton's positing of an absolute space, could, and would, be used to 'shut out God'. This, it was felt, would let the new scientists get on with their work without undue worries regarding substance. The fact that both the absurdity, and the logically and phenomenologically demonstrable falsity of both notions was pointed-out within Newton's lifetime was dismissed. Much the same fate befell the presentation of the means of correcting those errors through the relativisation and geometricisation of space. The working hypotheses allowed physicists to get to work, and to fend off criticism, while the philosophers' demonstrations of the contradictions were difficult to understand, and impeded progress. Centuries later, it would take an Ernst Mach and an Albert Einstein to correct, from within the discipline, those errors which had been observed from without by the philosophers.

By then, of course, the damage had been done, as every science took it upon itself to emulate physics in an attempt to emulate its enormous successes in describing phenomena. In the sciences of substance, however, such emulation was destined to miscarry by its very nature. And it did, almost immediately. In his opening speech to the Walgreen Lectures, Voegelin pointed out that the positivistic doctrine, a species of scientism so often breached in principle had reached both its apex and its inversion in the work of Max Weber. For, it was quickly discovered that to unveil 'facts' of political reality that were not completely irrelevant and meaningless, it was necessary to anchor them 'by reference to a value'. This led to a grave predicament, for a self-conscious practitioner would eventually come to worry that his facts took reference from a completely arbitrary value of their own making, thus upsetting the positivistic ethos. Often, this upsetting turn of events would be overcome by reference to an established and objective value, two of which were of particular interest: the value of the State, or that of one of the scientistically-determined Utopias. Scientism in political science led self-consistent practitioners to become either handmaidens of the State, or of the secular millenarian movements of the age.

Max Weber, for his part, rescued himself from the trap by sneaking-in the category of 'belief' into his voluminous work. Weber thus re-established in principle that a credible social scientist might study society according to the standards of its own self-illuminating transcendental standards, as represented, for instance, in its religious practices. Of course, this did not, in principle, provide the criteria for a reasonable critique of beliefs in themselves.[11]

Having traced scientism back to its earliest evident manifestations and elucidated its consequences for the very premises of political science, one is then invited to apply Voegelin's later work, in conjunction with the earlier, to fully enucleate the phenomenon. In 'The Origins of Scientism', the philosopher observed the stated desire of early enthusiasts to 'shut-out God' by imagining a fully materialised space as an infinitely closed field of things. It is those things whose natures might now be explicitly or objectively known to the human subject, according to their quantifiable translations from place to place with reference to an absolute space. Such a universe could rightly be held to do quite well without reference to a God or to substance. The fact that such a universe bears no relation to the universe in which the scientistic thinker actually inhabits cannot be put down as an unfortunate error. Even in his earlier work, Voegelin identified a stubborn refusal, at the very beginnings of the movement, to be corrected as to the errors of logic and of science which were evident even at the time, and which have only become more flagrant and obvious in modern times.

Instead, we are invited to look to the phenomenon of the pseudo or second reality which has been imaginatively substituted for the given reality, which man in his lot must grapple and reconcile with. What becomes apparent then is several deformations of the scientistic thinker's own existence. First, we should note the fallacious resolution of the paradox of consciousness- reality-language into the contracted form:

intentionality -> 'reality -> concepts, signifiers, etcetera.

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Here, we see the reality experienced by the scientistic subject as it is reduced to a process of intentionalistic acts directed towards a fully objectified 'reality', which is then conceptualised for the sake of future intentional acts. The 'reality' here is to be understood as the thing-reality of intentionalistic awareness, which conveniently omits the participatory structures of being. The scientistic thinker leaves him or herself out of the picture, holding themselves aloft and separate and independent from the pseudo-reality of their own devising. Rather than serving the purpose of illuminating reality for its truth through the responsive and responsible evocation of symbols by a receptive and reflective questioner, the imagination is turned to the task of blotting-out as much of reality as possible. That much may be accomplished by committing the more complex dimensions of experience and existence to oblivion. Into this *imaginative oblivion* is thus cast the question of whom man is, and with that question, all aspiration by the imaginer for illumination and self-knowledge. Stated poetically, she attempts to throw away her soul in favour of her will, and makes a desert of her world.

We are therefor also called to look to the roots of this turning away so opposed as it is from the *periagoge* in either Plato or Voegelin's sense in what the Austrian-born thinker termed the *egophany*, or *egophanic revolt*, in contrast with *theophany*. By theophany we are meant to understand those experiences of questioners from which issue the symbols which illuminate reality, and particularly the participatory structures of existence. By egophany, by contrast, we would understand the acts of imaginative oblivion which are meant to magically bring the quest to a close. The magic is effected in two stages: (i) By transforming the ineluctable, paradoxical process of reality into a goal or problem to be resolved by man's creative action, and, (ii) By distorting consciousness and language such that the Delphic quest to 'know thyself' is transformed in the imagination into a series of intentionalistic acts by which man creates himself in the very process of destroying and perfecting the thing-reality of his dream world, i.e. he creates for himself an 'identity'.

The pseudo or Second Reality imagined by the egophanic thinker is thus itself to be understood as a deformed symbol, or symbolic framework, evoked in response to the given, first reality. Whereas, however, from theophany issues a greater receptivity and comprehension of the comi-tragic character of existence, from egophany issues revulsion and revolt. While though, this revolt may originate in the pure *superbia* of the egophanic thinker, Voegelin does not hesitate to point-out another common, and much more human, source of the revolt: the horror of existence, of its mundane and artificial sufferings, the ruin of home, hearth, and empires, the sufferings of the just, and the rewards afforded to the bad.[12]

Scientism and its deformed symbols of progress and control thus develops out of, and is sustained, at least as much in the passionate desire to sanctify reality as to destroy it.[13] In so far, however, as *episteme*, scientific knowing, is, for Voegelin, rooted in an openness towards reality as it is given, the scientistic revolt is self-defeating. It's very closedness makes science difficult or impossible, and tends to actually undermine scientific practice. In example, Voegelin points both to the sorry state of political science in the 1950s under the sway of positivisms and behaviouralisms of various sorts, and, in the realm of physics, to three centuries of resistance to recognising the need for a theory of relativity.

2. Polanyi's commitment to reality

Michael Polanyi expired on February 22nd, 1976, at the age of eighty-four. By the time of his death, he had witnessed the disintegration of the Austro-Hungarian Empire, of which he had been a citizen, following the butchery of the Great War. Later, he had seen the rise of the Bolsheviks, Fascists, and National Socialists in Europe, the horrors of the Second World War, and the advancing nihilism of the continent's intellectual vanguard. This last, for Polanyi, seemed exemplified in the figure of Jean-Paul Sartre, his *Nausea*, his hollow, absurd freedom, and his moral capitulation to the open and honest immorality of Stalinism.

Born in the heart of the Hapsburg empire near its close, educated first as a physician, then as a chemist, Polanyi's deep unease at the disease afflicting the Continent would eventually turn him towards philosophy. His most comprehensive work, *Personal Knowledge*, while ostensibly a monograph on epistemology and the philosophy of science, quickly reveals itself as something else besides. *Personal Knowledge* ultimately bears upon the question of whom man is. It is a work of ontology as much as epistemology, and, as such, bears first upon the question of human knowing and being, before bearing on the pressing problem of how man should be.

In his reflections upon these matters, Polanyi came to focus at length upon one particular feature of knowing and being which bore both upon the fundamental existential question, but also (quite importantly for us) upon the phenomenon of

scientism. That feature is the structure of commitment as the indispensable feature of knowing, which Polanyi illustrates thus:

{ personal passion -> confident utterance -> accredited facts}

Here then, the arrows 'indicate the force of commitment, and the brackets the coherence of the elements involved in the commitment'.[14]

This seeming simple diagram, however, serves us as a shorthand or clue as to what underlies it. To bring that fully to light requires considerable unpacking of the individual elements in order to better view the structure in its depth.

To begin to do that, one must, as did Polanyi, begin with the body that most intimate part of our persons and our knowing. Far from being a convenient (or, perhaps, inconvenient) transport- ation device for conveying our minds from place to place, and for performing manipulations upon the material world, we are, for Polanyi, as much our bodies as our minds. It is in attending to the larger world outside of the immediate boundaries of our bodies that we learn to dispose ourselves *subsidiarily*, in a relatively skilled or unskilled manner, such that we come to grips with that which we wish to know and to make sense of. Knowing skilfully, or simply dealing skilfully, requires a proper disposition of our persons with regards to that which we are attending to *focally*.

Polanyi's classic example of this is of the blind man's use of a cane to build-up an understanding of the world through which he's moving, and to get where he's going. It is by *indwelling* in the cane, which he holds just so, and by allowing it to become an extension of his body to sink into his *tacit awareness* that he may experience the sidewalk at the end of the cane as he swings it back it forth. If, however, he fails for a moment to dwell bodily in the cane, if for instance he makes focal the feeling of the pressure of the cane impinging on the palm of his hand as he strikes the ground, then his perception of the world will falter. One could say the same of a piano player who starts to pay too much attention to fingers as she plays: her performance will fall apart and become clumsy as she makes the focus of her attention, the subsidiary elements of her performance, e.g. the precise movements of her body in relationship to the piano. This elementary element in the development and exercise of our personal knowledge extends from the pre-linguistic attempts of an infant to co-ordinate the muscular actions of its head, neck, and eyes for the sake of bringing an object in its field of sight into focus, all the way up to the most cultured and sophisticated performance of a piano concerto by a great master. In each case, it is only when the subsidiary elements of a comprehensive performance are brought to bear upon that which interests us be it the playing of a piano, or solving a problem which puzzles us that we may skilfully focus and dwell upon it.

With the invocation of language and culture, however, we come to those additional elements of our personal knowledge which we, as human beings, hold exclusively of all beings known to us, or which at least no other animal has been known to possess to any great extent. With language and culture, the essential forms of learning and intelligence which we share with other animals most strikingly with the higher primates to whom we are most closely related are enhanced and extended to an extent which no other animal can match.

With the ability to develop and express language comes the ability to extend ourselves, our intellectual control and comprehension, more rapidly and completely that would otherwise prove feasible. In so far as it also allows us to aid others in furthering their intellectual control and comprehension, or, conversely, to be so aided by others, it provides the basis for a certain *conviviality* of culture. Through language and indwelling, we may come to not only understand other human beings in their immediate moods and dispositions, but come to apprehend the world as they see it. Through *apprenticeship* and education, we do so in order to come to embody and reflect the understanding the very being of those whom we sense to have deeper insight than ourselves. Ultimately, we do so by disposing of ourselves in such a way as to become more as they are in our passionate desire, for instance, for deeper contact with the real, the true, the beautiful, or with justice.

Language, education, culture, and apprenticeship then form the basis for a *conceptual framework* which gives a structure to our personal knowledge and to those intrinsic passions. But, lest Polanyi's meaning of conceptual framework be mistaken for that of others, it should be observed that, for Polanyi, our frameworks are not determinate of knowledge or knowing. Rather, it would appear that they serve us in three ways: i) they give some means of expression, however limited, of what we know, but which we may not otherwise be able meaningfully to express, ii) they provide some basis from which to undertake our future impassioned gropings with reality, iii) they cultivate our intrinsic passions as well as our intrinsic intelligence.

The key to Polanyi's conception of our conceptual frameworks, then, would appear to be their very status as frameworks within which we find and give

direction to our often tacit, inexpressible knowledge, our intimations, and our heuristic passions, as well as our almost purely subjective desires, i.e. for nourishment or for sexual activity. Our conceptual frameworks, therefor, are not determinate of what we know, but form one element of our personal knowledge in service of our personal passions, which we pursue with universal intent.

Stated differently, we bring together and bringing to bear the *clues* subsisting within and without our bodies. Driven by our passion to know, and guided by both our tacit and explicit knowledge and by our conceptual frameworks, we act to apprehend and to pursue our intimations of a hidden reality, hitherto concealed from view and yet which we sense to be hinted at. This, not incidentally, is Polanyi's answer to Meno's Paradox. First comes the sensing within ourselves the open-ended and hitherto unrealised implications of what we know. From this follows our diverting of our heuristic passion towards the realisation of those implications, and bring to bear our personal knowledge, our clues, and our intimations upon the problem which we wish to illuminate. In doing so, we hope to make the *heuristic leap* across the *logical gap* which yet both separates those clues into disparate elements, and separates us from that which we perhaps only dimly perceive on the other side. If successful, we comprehend (i.e. bring together) those clues, such that they cohere as a solution to the problem which has troubled us, the implications of which may then itself come to stir us anew.

Thus, even this abbreviated summary serves to demonstrate the tremendous depth of our commitments, such that we may, I suspect, expand the diagram like so:

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{personal passion->confident utterance->accredited facts}
        ______/ \_____________
                                |
        | heuristic passion,
                                |
        | intellectual passion,
<-------------------------
        | personal knowledge...
        ______/ \_________________
        | tacit & explicit awareness,
        | tacit & explicit knowledge,
        | conceptual framework…__
        ______/ \_____________
        | language,
        | education,
        | customs, traditions,
        | apprenticeship
        | etcetera…_________
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At each stage of abstraction (represented by the successive stages of vertical expansion, or differentiation), we bring to awareness succeeding elements which give particular shape and direction to our personal passion. This giving of shape and of direction would then be what Polanyi termed our *calling*. Our calling is thus constituted, in great part, by the conceptual framework of our personal knowledge, which is itself constituted by a myriad of factors of tradition, pedagogy, and historical circumstance. Nevertheless, these give a foundation for a responsible exercising of our knowing and being in a passionate, committed pursuit of the undisclosed, but intimated, aspects of reality which yet allude us. When we find illumination, our commitment allows us to make sense of what we have found or discovered, and to accredit the facts as real. Those accredited facts themselves then becomes part of us, for every heuristic leap is the crossing of a Rubicon which cannot be uncrossed, and which changes our very way of being.

The implications of the structure of commitment for the subjects of science and scientism, is perhaps made clearer if contrasted with the structure of doubt:

Subjective belief; Declaratory sentence; Alleged facts.

Perhaps the most striking difference about the structure of doubt is its status as a non-structure. Absent is the holistic character of commitment, symbolised by the brackets enclosing its various moments and by the arrows joining them. In doubting, our knowing is taken apart, or else falls apart: its constitutive elements are rendered into free-floating parts. As such, we dispose ourselves to them separately and from the outside, rather than from the inside and as parts of a whole which gives them meaning.[15] Thus, each element of the committed pursuit of reality becomes the object of sceptical interrogation. Personal passion is analysed for subjective belief, the confident utterance judged as a declaratory statement in terms of the rules of logic and grammar, and accredited facts are transformed into alleged facts.

In the normal course of our pursuit of knowledge, however banal or rarefied, vulgar or precious, doubt serves a purpose of critical analysis, including critical self-analysis. By doubting our conclusions or those of others, we subject what is being accredited as a fact to standards of verification or of validation, according to whether the alleged fact bears upon observation or invention, or else interpretation.[16] Having submitted ourselves or others to such critique or review (of which scientific peer review is a particular species), we may [a] declare that what we

or they purported to know is true indeed, [b] find what we know clarified, perhaps in a manner which was completely unexpected, though implied, or [c] it may be declared mistaken, false, misleading, illusory, or untrue.[17]

Should we ultimately satisfy ourselves that what we know is true, the structure of commitment reasserts itself, and we allow our beings to be transformed to a greater or lesser extent. In a sense, we commit ourselves to being transformed. This, Polanyi affirms, constitutes the essence of science, and explicitly affirms the logic of Augustine's maxim: '*Nisi credideritis non intelligitis*.'[18]

If scientific practice must ultimately find purchase for scientists' open-ended exploration and discovery of reality in the personal commitment of those very scientists, and in their skilful disposition of their beings in the receptive pursuit of the object of their intellectual passions, then *scientism* must be something quite different. And indeed, scientism, by Polanyi's account, represents a sort of deformation of science in which doubt and objectivity, rather that commitment (or trust) and personal knowledge, have been granted an elevated status, at least in theory, if not always in practice.[19] Doubting and method are put forward as the means of escaping 'subjectivity', rather than as complements to scientific connoisseurship and commitment to truth.

For Polanyi, one consequence of this inversion of the relationship between trust and doubt has been the steady destruction of all knowledge which cannot be made 'objective'. That is to say that all tacit knowledge, which forever forms the greater part of what we, in our persons, truly know, is deprecated in favour of that thin slice of what we know which can be formulated in rigid, explicit maxims of great generality. Scientistic doubt, in the name of objectivity, thus tends to hollow-out the sciences in the name of their purification.

For Polanyi, the pathos of this pursuit, which is exemplified in the ideal of Laplace's Demon, has tended to destroy knowledge and meaning wherever it has been engaged in seriously and consistently. This is so, for, in reality, it is patently impossible to know anything of importance about the more complicated strata of reality, which have emerged from the dead, mechanical matter of atoms, by referring to a universal table of atomic positions.[20]

And yet, for all its impossibility, the ideal of the Laplacean mind, which purports to know everything because it doubts anything which is not quantifiable in terms of atomic positions and vectors, has been a socially effective illusion. However, whereas the natural sciences have largely continued apace by frequently ignoring in practice the doctrines of scientism to which they at least pay lip-service, the arts, humanities, theology, and social sciences suffered greatly. By Polanyi's reckoning, nihilism was the natural correlate of the scientistic dismantling of the recognition of any meaning in human life above and beyond the easily quantifiable desires for power and profit. Fascism, National Socialism, and Marxism were the honest and legitimate heirs to scientistic scepticism and of the intrinsic moral passions which it had stripped of all direction through the intrepid annihilation of all conceptual frameworks which might make moral direction thinkable. In a final irony, this scepticism, taken to its logical conclusion, denies truth itself as a mask for the lust for power, thereby denying the grounds for science itself.

3. A diagnostic science

Throughout this essay, an attempt has been made to outline two philosophers' diagnoses of scientism as a peculiarly modern malaise, which could be understood as a defective mode of science or philosophy. The analogy of a disease of substance often suggests itself in their works, even, at least in Polanyi's case, where that term is politely omitted.[21]

As such, it proved necessary first to outline a state of health, against which to compare the proposed pathology. In the case of Voegelin, the description focused upon that of the questioner in his or her open, reflective quest to know reality in its breadth and depth. *Episteme,* or science, was therein understood as the quest undertaken in these terms. The opposing figure of man in revolt against reality thus presented itself as a case of closedness, self-assertion of the intentionalistic ego. It also took on the classification of a variety of magical thinking in which the process of reality was wished-away or else hidden behind an illusory Second Reality. The deformation of consciousness in its actual structure of *intentionality-luminosity-reflective distancing* into mere modes of intent or the will, were, for Voegelin, common symptoms of modern pneumopathology, of which scientism is a particular variation.

In Polanyi's case, the standard of health in human being and knowing focused upon the structure of commitment, and upon critical doubt as a complementary but subordinate tool for its clarification and analysis. Doubt as a way of life, as envisaged in dogmatic scepticism, was then presented as destructive of all knowing and of the human person, of which knowing is an active expression. It is thus a remarkable irony that the reforms of scientism are undertaken in the name of overcoming all possibility of subjectivity, and all

possibility for doubt. In its quest wholly to substitute explicit knowledge for tacit knowledge, and to substitute methodology for apprenticeship and connoisseurship (essentially to replace education with training), scientism's adherents were held actually to be damaging or systematically destroying the sciences.

This could only be so, for a rigid objectivism rooted in a radical scepticism is not only an expression of a form of doubting which necessarily causes the elements of commitment and personal knowledge to fall apart. It also inverts the relationship between trust and doubt such that that forced incoherence of the meaningful elements of comprehensive entities, together with a radical mistrust in one's own common sense, is presented as a virtue and as the premise of 'science'. Finally, it tends to cause one to view all 'facts' which cannot be quantified and made 'objective', fully utterable and explicit, as superfluous, illusory, or 'subjective' prejudice. The fact that such a 'science' could not, by its own premises, say anything whatsoever regarding operational principles or purposes, Polanyi remarks, not only renders the human sciences and arts absurd, but also the whole of biology, the applied sciences, great swathes of theoretical physics and chemistry, and even the pure maths. This is the case, for none among them can actually be practised without some personal knowledge of principles and purposes, which inevitably must be founded upon a bedrock of tacit knowing, and lived as a particular way of being.

In both cases, one sees scientism diagnosed as a break with reality. In both cases, the human tension towards the reality of which both human beings and the tension itself are parts, becomes strangely twisted. Voegelin, however, came to focus his study upon the great egophanic revolutionaries, and, secondarily, upon the historic developments which had first made such revolt possible, and then increasingly 'normal' in the West. Polanyi, on the other hand, focused much of his attention upon the outbreak, its continuing advancement, and its treatment.

In either case, the transference of the standards of scientism to the social sciences, particularly political science proper, could only have obvious and deleterious side-effects. Asides from the aforementioned setting aside of values as a subject-matter of political science, and the supplanting of a science of phenomena for one of substance, it necessarily entails the substitution of political training for political education in the classical sense. When under the influence of scientism, political science, to use Polanyi's language, will tend to be misconstrued as a science of pure, objective observation which aims to make explicit reports on quantifiable political phenomena. Gone then is much of the impetus for the student (not to say the teacher) personally to immerse themselves deeply in the authority of a culture for the sake of understanding, and of developing personal judgement. Gone too is much of the intrinsic interest of the subject-matter, given that the standards and practices of scientism necessarily dissolve meaning in the acid of objectivity. One could then hardly expect that a student of a thoroughly positivistic political science to deepen their own persons, let alone their understandings of any society, including their own. If anything, one might be concerned for its teachings' effects on their pre-existing common-sense or prudence, and their aptitude or interest in any calling for personal political responsibility.

In this diagnosis, I believe both men to be fully in agreement, though their languages may differ. One might say that their respective approach to the same problem is somewhat reflective of their own ways of being: on the one hand, the reflective philosopher of history, and, on the other, the concerned physician. In both cases, we find a great concern expressed for the consequences of the failure, if not the refusal, to comprehend reality on its own terms was having both for the sciences, but also for what Voegelin termed the open, and Polanyi, the free society.

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Notes

1. It is worth noting that, for the duration of this essay, that I shall use the terms 'scientism' and 'positivism' somewhat interchangeably, though by the latter should be understood a particular species of the former, which has been of particular prominence in political science.
2. Copies of Polanyi's lectures are now freely available at http://www.missouriwestern.edu/orgs/polanyi/McEnerney-intro.htm.
3. In both Voegelin's and Polanyi's cases, I believe that we see two philosophers diagnosing the remarkable lack of prudence endemic in their civilisation, and which may be epitomised in the staggering will-to-power evinced in scientism. In this, I believe they parallel Thucydides, Socrates and Plato's diagnosis of the nosos or nosema endemic in Hellas at the time of the Peloponnesian War, of which the staggering polypragnosyne and lack of phronesis of the Athenians were much remarked-upon and acute examples.
4. Voegelin, Eric (1901-1985). *Order and History*, v.5. University of Louisiana Press,. 1987. foreword.

5. ibid. p.1.
6. One may be reminded here of Heraclitus' 18th fragment: 'The lord whose oracle is at Delphi neither speaks nor conceals, but gives signs.'
7. It is perhaps worth noting that Voegelin's Metaxy, though indebted to Plato, whom he indeed credits, differs quite sharply. It seems to this author at least that Voegelin uses 'Metaxy' to symbolise or denote a tension in human consciousness which is fully realised in reflective meditation. Plato's usage of the word metaxu, or equivalent symbolisations in mythological imagery, denote the ontological status, not only of human beings, but of the world as such. This much seems to be indicated, for instance, by Book V of The Republic, in which Socrates proposes that to planeton ('that which wanders between'), comprising the world and its contents in its entirety, moves between to me on, and to on.
8. Voegelin, Eric (1901-1985). *The New Science of Politics* in *Modernity Without Restraint, Collected Works*, v.5. University of Missouri Press:. 2000. . p. 224.
9. For Voegelin's reconstruction of Berkeley's psychological critique of absolute space as a notion, see Voegelin, Eric (1901-1985). 'The Origins of Scientism', *Social Research*, 15:1/4 (1948). p. 473-476. For Leibniz's critique see pp. 477-482. Compare then the response expressing confusion by Clarke and Newton to Leibniz, p. 481-482; and Carl Neumann's attempt, in the 1870s, to defend the Newtonian model against relativistic theory, and Ernst Mach's reply, p. 483.
10. We might say that this move was ironic for, as Voegelin notes both in that essay, and, with reference to Descartes, in his letter to Alfred Schütz on Edmund Husserl, that there was no attempt by either Descartes nor Newton to disprove the existence of God. Quite the opposite: the former's meditation proceeded from the self-evidence of the transcendental ego, and the second posited absolute space and rest as a means of demonstrating the existence of the divine. See 'TOoS', and Eric, Voegelin (1901-1985). 'A Letter to Alfred Schütz Concerning Edmund Husserl' in *Anamnesis, Collected Works*, v.6. University of Missouri Press: United States of America. . p. 45-50, which is also now accessible at (www.voegelinview.com/letter-to- alfred -schutz-on-husserl-pt-1.html).
11. See, for example, O&H, v.5, p. 35-37. Cf. TNSoP, p. 187-189.
12. See TNSoP, p. 223, 229; and O&H, v.5, pp. 37-39.
14. See PK p. 303.
15. ibid, p. 303-304.
16. For the sake of space and scope, we shall set aside the additional problems of authenticating facts bearing upon more or less purely subjective (as opposed to personal) experience. For Polanyi's fine distinction between the personal and subjective, and the concomitant distinction between verification and validation, on the one hand, and authentication, on the other, see ibid, p. 201-202.
17. See ibid, p. 303-304. Cf. ibid, p. 120-121, 125-127, 320-321, 373-374.
18. ibid, p. 267. Incidentally, it should be noted that Polanyi's picture of science is largely commensurate with the traditional understanding of philosophy of the Platonic or Aristotelian variety. In the preface to PK, Polanyi himself alludes to the similarities.
19. Ibid, p. 274-276. Cf. p. 160-167, 269-271, and 306-308, in particular, for Polanyi's analysis of *pseudo-substitutes* for truth in the sciences and philosophy, in, for instance, the forms of 'working hypotheses' or 'simplicity', which are used as means of pursuing truth, without appearing to commit oneself to stating that there is such a thing.
20. Unfortunately, a larger exposition of Polanyi's ontology would be impossible in any brief article. One can, however, make reference to part 4 of PK and to the issues of equipotentiality, morphogenesis, and evolution within the context of *emergence* to gain insight into the matter.
21. A lexicon and index of the terminology employed by Voegelin, ranging from the scientific and scholarly (e.g. Thucydides' *nosos*, Plato's *nosema*, Augustine's *libido dominandi* and *amor sui*), to the polemical (e.g. 'pneumopathological' or 'spiritually diseased'), would likely take several pages on its own.

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