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Was Esotericism rejected at the Foundation of The Royal Society? Utopian themes in the Intellectual Revolution of the Seventeenth Century

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Abstract

This paper examines whether esotericism was specifically rejected at the foundation of the Royal Society, or whether the prevalent turbulent religious, political, and rapidly changing scientific endeavours in seventeenth century Europe merely rendered it irrelevant. The question arises from the esoteric interests held by a large proportion of the Founding members of the Royal Society, such as Robert Boyle, compared to the almost exclusively secular experimental science undertaken from its inception. It is necessary to consider the definition of esotericism based on recent scholarship in the field, and posit an updated designation, critically enhancing some of the existing characteristics. Esotericism in this work is restricted to the utopian, and millenarian themes of religious and educational reform, largely driven by the Renaissance revival of Hermeticism, and German and English Puritanism. Influenced by Plato's *Republic* and More's *Utopia*, the themes of universal reformation are given form by the seventeenth century works and activities of, Campanella, Bacon, Andreae, Comenius, Hartlib, and their associates, amongst others. Many of the members of the various scientific groups who met from the mid-1640s, and were later integral to the foundation of the Royal Society, were either acquainted with, or influenced by, this collection of reformists. Following periodic political interference, first during the English Civil War, and then at the Restoration, these scientific meetings developed through a complex and circuitous manner until those held at Gresham College in London manifested as the Royal Society in 1660. While some of these natural philosophers were clearly influenced by the utopian aspirations of the prior decades, it had proved fruitful for them to circumvent contentious political and religious issues in order to further their collaborative scientific activities. As a consequence of this, and against a backdrop of greater political stability, which made the need for universal reform largely irrelevant, esotericism was largely avoided by them at this time, but not intentionally rejected.

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I Introduction

This work attempts to answer the question of whether esotericism was rejected at the foundation of The Royal Society, with specific reference to the utopian themes prevalent at the time. It will become evident that there are three principal strands of analysis that naturally stem from this inquiry. The first of these is the consideration of the definition of *esotericism* itself, both now and in the seventeenth century. This leads on to the second strand of the examination, being the investigation of the specific utopian elements of esotericism which are relevant to the intellectual revolution that took place in the seventeenth century. Here, esotericism does not refer specifically to Hermeticism, magic, or occultism, but reference is made to the contributions of these philosophies as part of the traditions which helped to shape utopian and reformist thinking at this time. The third, and final, strand is the appraisal of the interaction and overlap between the individuals encountered in this study, and their intellectual pursuits, with those prominent in the formation of the Royal Society of London, with a brief analysis of its early character. It is this third element which defines two subsidiary, but essential, questions which will be considered before proceeding onto a detailed assessment of the three main threads outlined here. The first of these is: why is it important to ask about the question of the rejection of esotericism during this time period? The second is: what are the criteria for deciding upon a verdict of the rejection of esotericism, or otherwise?

There have been a number of attempts made in recent times to define either the term *esotericism*, or esotericism as a scholarly discipline. The first major component in this work

will initially look at five key examples of these.[1] The first individual whose work in this field will be examined is Henry Corbin (1903-1978), primarily with reference to his *Alone with the Alone: Creative Imagination in the Sufism of Ibn 'Arabi* (1997). Philosophical and spiritual in his approach, he introduced the dual concept of a 'creative imagination' and the 'imagining creature'.[2] The next approach, also philosophical, and incorporating some of Corbin's themes, but in a more formal and analytical manner, is that developed by Antoine Faivre (b. 1934) in his 'six characteristics of esoteric spirituality'.[3] A version of this framework is detailed in *Modern Esoteric Spirituality* (1993), co-edited with Jacob Needleman. Following on from Faivre, Wouter Hanegraaff (b. 1961) has highlighted different approaches, ranging from the emic religionist and essentialist, to the etic theoretical and historical. While strongly favouring the latter methodology, he nevertheless advocates an understanding of the former one, in *Western Esotericism and the Science of Religion* (1998), co-edited with Antoine Faivre, and in his *New Age Religion and Western Culture: Esotericism in the Mirror of Secular Thought* (1998).[4] Arthur Versluis (b. 1958) is somewhat critical of both Faivre's and Hanegraaff's methodologies, however. While appreciating that Faivre's characteristics are cosmologically comprehensive, he notes that the methodology ignores the importance of *gnosis*, or spiritual revelation. With regards to Hanegraaff's predominantly etic approach, Versluis comments in the online journal *Esoterica* (2002) that the consequent reductionism may lead to the inappropriate imposition of a particular contemporary ideology, and not apply

[1] Nicholas Goodrick-Clarke, *The Western Esoteric Traditions* (New York: Oxford University Press, 2008), pp. 3-14. A good summary is made here of these, and other, recent scholarly approaches to the definition and classification of esotericism.
[2] Henry Corbin, *Alone with the Alone: Creative Imagination in the Sufism of Ibn 'Arabi* (Princeton, N.J.: Princeton University Press, 1997), p. 4. This work was initially published in French in 1958.
[3] Antoine Faivre, 'Introduction I', in *Modern Esoteric Spirituality*, ed. by Antoine Faivre and Jacob Needleman (London: SCM Press, 1993), pp. xv-xx.
[4] Wouter Hanegraaff, 'On the Construction of 'Esoteric Traditions,'' *in Western Esotericism and the Science of Religion*, ed. by Antoine Faivre and Wouter J. Hanegraaff (Leuven: Peeters, 1998), pp. 42-61. Also, Wouter J. Hanegraaff, *New Age Religion and Western Culture: Esotericism in the Mirror of Secular Thought* (Albany, N.Y.: State University of New York Press, 1998), pp. 384-386.

to the discipline the objective respect which it deserves.[5] In his *Western Esotericism: A Brief History of Secret Knowledge* (2005), Kocku von Stuckrad (b. 1966) proposes yet another interpretation, a socio-cultural perspective in which esotericism is only a scholarly definition, with no autonomous historical reality.[6] Following an appraisal of these various approaches, I will promote an enhanced definition of my own, primarily with the intention of focussing intellectual efforts within this work, although others may find its subsequent use appropriate in their own studies. My own definition is not a radical departure from recent themes, but a versatile hybrid that suggests appropriately adjusted approaches for different purposes, with both emic and etic elements. An important consideration coming out of this definition will be to ask whether esotericism was perceived as distinct in the seventeenth century, or if it is merely a modern scholarly construct along the lines that Stuckrad proposes. I postulate that the reality is neither of these extremes, but a complex, tangible, yet nebulous philosophy, without a name at the time. I will then introduce the utopian themes prevalent during this important period of intellectual growth and determine if their characteristics conform to my own definition. These esoteric intellectual reformist ideas are the main focus of enquiry within this work, rather than the interest in overt Hermeticism, or alchemy, shown by early Royal Society Fellows such as Sir Isaac Newton (1642-1727) and Robert Boyle (1627-1691). While acknowledging that some of these ideas clearly derive from the Renaissance revival of Hermeticism and humanism of the previous century, the detail of this intellectual revitalization remains outside of the scope of this work.[7]

An investigation of the development of these utopian themes forms the second key component of this work. Beginning in antiquity, with Plato's *Republic and Timaeus*, followed

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[5] Arthur Versluis, 'What is Esoteric? Methods in the Study of Western Esotericism,' *Esoterica* 4 (2002), 1-15, <http://www.esoteric.msu.edu/VolumeIV/Methods.htm>.
[6] Kocku von Stuckrad, *Western Esotericism: A Brief History of Secret Knowledge*, trans. by Nicholas Goodrick-Clarke (London: Equinox, 2005), pp. 9-10.
[7] K. Theodore Hoppen, 'The Nature of the Early Royal Society: Part I', *The British Journal for the History of Science*, 9 (1976), 1-24 (pp. 19-20).

by Sir Thomas More's *Utopia*, some early utopian influences are briefly considered. Emphasis then shifts to the early seventeenth century with Tommaso Campanella (1568-1639), whose *City of the Sun* (1602) provides an example of the Hermetic themes prevalent within the works on the creation of ideal societies. Francis Bacon (1561-1626), the oft-called 'Father of Modern Science', proposed widespread intellectual reform which will be investigated through some of his major works. These include *The Advancement of Learning* (1605), *The Great Instauration* (1620), and *The New Atlantis* (1624). These are *Fama Fraternitatis, or a Discovery of the Most Noble Order of the Rosy Cross* (1614), *Confessio Fraternitatis or The Confession of the Most Laudable Fraternity of the Most Honorable Order of the Rosy Cross, written to all the Learned of Europe* (1615), and the *Chemical Wedding of Christian Rosencreutz* (1616). While authorship of the manifestos cannot be proven conclusively, it is likely that a Tübingen Protestant theologian, Johann Valentin Andreae (1586-1654), was responsible – he almost certainly penned the German *Fama* and *Chemical Wedding,* but it is less certain that he wrote the Latin *Confessio*.[8] It is therefore also appropriate to examine Andreae's utopian *Christianopolis* (1619) in conjunction with these Rosicrucian manifestoes. The writings of the noted Czech educator Jan Amos Comenius (1592-1670) will be then be referenced with respect to his educational, reformist, and pansophic ideas. He was interested in, and influenced by, the Rosicrucian manifestos and Andreae himself. The next individual who helped shape the theme of utopian educational reform in the seventeenth century was the German born educator, Samuel Hartlib (1600-1662). Hartlib was a key player in the nexus of those involved in the intellectual revolution taking place in England at this time. Those within his wide sphere of influence included some of the original and founding members of the Royal Society, such as the natural philosopher and scientist, Robert Boyle, and educational reformists such as Comenius. Hartlib's activities

[8] Christopher McIntosh, *The Rosicrucians: The History, Mythology, and Rituals of an Esoteric Order* (San Francisco, CA: Weiser Books, 1998), p. xix.

and ideas are examined through selected correspondence found in the collection of his papers, known collectively as the *Hartlib Papers*, held in the University of Sheffield, together with secondary sources such as *Samuel Hartlib & Universal Reformation: Studies in Intellectual Communication* (1994), an important series of essays edited by Mark Greengrass, Michael Leslie, and Timothy Raylor. More general commentaries on the seventeenth century intellectual revolution consulted include *Samuel Hartlib and the Advancement of Learning* (1970), *The Intellectual Revolution of the Seventeenth Century* (1974), *The Great Instauration: Science, Medicine and Reform 1626-1660* (1975), all written or edited by Charles Webster, still the main authority in this area, and who I have drawn extensively from, and *English Science, Bacon to Newton* (1987), edited by Brian Vickers.

The third major section in this work looks at the formation of the Royal Society, in 1660, and the activities and dynamics of its precursors, the Invisible College, the 1645 Group at Gresham College, and the Oxford Group. The way in which this iconic scientific organization came about, set against the backdrop of reform established in the preceding chapter, will be considered with regard to the myriad individuals involved, and their motivations. The nature and attitudes exhibited in the very early years of the Society's existence are considered with reference to the esoteric utopian ideas discussed earlier. A variety of sources are used to these ends, most notably the *Notes and records of the Royal Society,* published by the Society itself. These include articles by R. H. Syfret, *The Origins of The Royal Society* (1948), G. H. Turnbull, *Samuel Hartlib's Influence on the Early History of the Royal Society* (1953), Douglas McKie, *The Origins and Foundation of the Royal Society of London* (1960), P. M. Rattansi, *The Intellectual Origins of the Royal Soc*iety (1968), and A. Rupert Hall and Marie Boas Hall, *The Intellectual Origins of the Royal Society- London and Oxford* (1968). Other articles referenced are those by K. Theodore Hoppen, *The Nature of the Early Royal Society: Part I* (1976), Peter Dear, *Totius in Verba: Rhetoric and Authority in the Early Royal Society* (1985), and Michael Hunter, *Robert Boyle and the early Royal*

Society: a reciprocal exchange in the making of Baconian science (2007). Also consulted are the aforementioned *Hartlib Papers*, as well as Thomas Sprat's *History of The Royal Society* (1667). We will see that many of the intellectuals, educators, scientists, and commentators of the time that we come across, were either part of, or had interactions with, both the Hartlib Circle and some of the Founding and Original members of the Royal Society. This then answers the question of why we should be interested in the rejection of esotericism at this juncture. With so much overlap in the personnel and attitudes of these different camps, one may have expected to see more of an esoteric influence in the early tenets of the Royal Society than is immediately discernible. A determination of how much esoteric utopian influence, if any, found its way into the early organization, is made. This will help ascertain to what extent esotericism was rejected at the foundation of the Royal Society. The criteria for reaching our verdict must firstly assume an acceptance of, if only in the narrow confines of this work, both my proposed definition of, and the existence of, *esotericism* as a concept, whether one considers it purely as a scholarly construct, or not. Given this, a determination should be made of whether a conscious, intentional dismissal of esotericism was made at the time, or whether the narrower experimental focus of the Royal Society was inevitable due to the prevalent external religio-political influences, and possibly other factors outside of the scope of this investigation, such as the new emerging language of science. It must be decided whether an individual, or group of people, intrinsically connected with the formation of the Royal Society, specifically rejected the reformist and utopian ideas influenced by Hermeticism, Rosicrucianism, and millenarianism, or not. The verdict reached has no bearing on the clearly observable continued existence of the wider definitions of esotericism, as generally agreed amongst current scholars within the field, or specific elements of it, such as alchemy, or Rosicrucianism, as practitioners and advocates of both still exist today.

II What is meant by Esotericism?

Hidden Knowledge

The definition of the term *esotericism*, and the scholarly field of *esotericism*, particularly with reference to the Hermetic and neo-Platonic traditions of Western esotericism, can still be regarded as being in its infancy. The Greek source of the word, meaning something like *hidden*, *inner*, or *secret*, which implies a special knowledge reserved for the initiates of a particular group (usually a religious group), is no longer sufficient to describe the vast spectrum of intellectual themes and activities which come under the banner of esotericism. On the other hand, the inclusion of all theological or spiritual concepts that posit a strange or non-mainstream view, without some clarification or classification, is equally as inadequate. A number of attempts have been made by scholars to reconcile these two extreme positions, and efforts are still currently being undertaken to this end. While this sort of activity will often naturally lead to the formation of very polarized views, what follows is a selective appraisal of some of the main approaches, with the intention of creating some sensible amalgam to be referred to in this particular work.

Philosophical Perspective

Henry Corbin's *Alone with the Alone: Creative Imagination in the Sufism of Ibn 'Arabi* primarily discusses Sufi and Persian spirituality, but in the second part of the book he highlights clear underlying links between Islam and Christianity. These parallel themes, evident to Corbin in the works and activities of Renaissance mystics such as Jacob Boehme (1575-1624), include the Hermetic 'as above, so below' concept, linking the macrocosm of the cosmos to the microcosm of Man, and the existence of an active deity, whose will is the ultimate creative force. He describes the first of these spiritual ideas as necessitating "an intermediate universe between reality according to physical laws and the 'kingdom of spirits'", in order to satisfy Man's "need to surpass given reality". The second philosophy is

what Corbin terms his titular 'Creative Imagination', which assumes both the existence of a Godhead, and the Godhead's 'power of Imagination', which creates the universe itself.[9] He then goes on to discuss the two-fold function of this theme, which he describes as a 'Theophany', and this neatly parallels the microcosm-macrocosm duality concept. The Creative Imagination of the Godhead imagines the Creation, while the Creatural Imagination of Man imagines the Creator. In this way, Man is reflected in God, and God is reflected in Man.[10] Corbin defends his clearly emic approach in two ways, addressing both the need for the correct understanding of his use of the term 'Creative Imagination', and a warning against "psychologism, historicism, or sociologism", which pre-empts some more recent arguments against this stance.[11] Here, Corbin insists, the word 'Imagination' should not be confused with 'fantasy'. Rather, imagination actually creates being, or reality. Consequently, an inference could be made that one should not confuse 'esotericism', as we might term Corbin's philosophy now, with superstition or irrationalism. Prayer, meditation, or magical practices, are thus not undertaken in vain. Further, his highlighting of the problem of the potential scholarly categorization of this type of field as a purely historical phenomenon, for example, (likewise psychological, or sociological) is not an attack on the discipline of history itself, but made as a note of caution against ignoring the unique epistemological nature of religious studies, and the like, within which esotericism surely sits.

Essentialist View

Antoine Faivre's approach in trying to define esotericism is also a philosophical one, but he delineates his essentialist position through six distinct characteristics. What he calls a "form of thought" rather than a "domain" is outlined by four intrinsic elements, all of which

[9] Corbin, *Alone with the Alone*, pp. 179-183.
[10] Corbin, *Alone with the Alone*, pp. 184-195.
[11] Corbin, *Alone with the Alone*, pp. 179-183. We will see later that Stuckrad proposes just this sort of socio-cultural approach which Corbin warns against, in Stuckrad, *Western Esotericism*, pp. 1-2.

must exist concurrently, and two further elements which often appear in conjunction with the first four, but are not intrinsic. These are presented as the intrinsic: 1. correspondences, 2. living nature, 3. imagination and mediation, and 4. transmutation; followed by the non-intrinsic: 5. concordance, and 6. transmission.[12] The first four of these attributes clearly mirror Corbin's philosophies. Faivre's ancient "as above, so below" 'correspondences' parallel Corbin's macrocosm-microcosm duality. The hierarchical cosmic framework he calls 'living nature' is akin to the Godhead's creation of the Universe as described by Corbin as 'Epiphany'. Faivre's third characteristic, the two-fold 'imagination and mediation', brings together both Corbin's 'Creative Imagination' and his intermediate universe, where "spirits become more physical, and bodies become more spiritual". Of the four intrinsic characteristics, it is only the fourth, 'transmutation', which is not explicitly defined by Corbin, yet its existence is implied by him. Faivre expresses the 'transmutation' as the metamorphosis that takes place in individuals (and possibly in Nature itself), during the initiatic path travelled in order to receive the illuminated knowledge, or "gnosis", culminating in the esoteric concept of "second birth".[13] In the quest to adequately define the seventeenth century intellectual and educational reforms in esoteric terms, Faivre's fifth theme, that of 'concordance', and his sixth, 'transmission', are two of the most relevant. Concordance, here, is the inclination to identify cohesive elements in two, or more, different traditions while trying to discover an enhanced illuminated knowledge. In more uncompromising examples, this has led to efforts to establish a complete harmony between all different religious or esoteric traditions, an all-embracing gnosis, assuming the existence of a "primordial Tradition", or in the late fifteenth and early sixteenth centuries, a *philosophia perennis*. Faivre expresses 'transmission' as the initiatory teaching of authentic esoteric knowledge, via

[12] Faivre, *Modern Esoteric Spirituality*, pp. xi-xv.
[13] Faivre, *Modern Esoteric Spirituality*, pp. xi-xviii, compared to Corbin, *Alone with the Alone*, pp. 179-195.

a master-disciple relationship, according to established processes.[14] This last characteristic, as narrowly defined by Faivre, emphasizes only the secret element of this teaching. If one assumes the existence of an underlying *philosophia perennis* (or any secret knowledge), then I would question the requirement that the dissemination of this knowledge should be restricted to being transmitted from master to disciple alone. The concept of teaching itself, the transmission of knowledge by whatever means are appropriate, may be more significant than the nature of the communication itself. As will be highlighted later, many seventeenth century educators were motivated to spread their knowledge far and wide. However, rather than the pansophical principle of 'advocating all things to all men', the motivation of some at the time was to advance that which they considered appropriate areas of learning for appropriate groups of people. Thus came about proposals for 'common and mechanical Schools', more vocational than academic in their curriculums.[15] This might imply that Faivre's master-disciple concept, of teaching to the 'worthy', as found in the Rosicrucian writings which influenced Comenius, for one, is indeed critical for our purposes. The end of the *Confessio Fraternitatis* states the paradoxical eagerness of the secret Brotherhood described therein, to share their knowledge, but *only* to a select few. It is through the willingness of God that only worthy individuals will be able to gain all the secret knowledge of God, Nature, Man, and therefore of the true Philosophy.[16]

Empirical Approach

In *Western Esotericism and the Science of Religion*, Wouter J. Hanegraaff presents an outline of the discipline in general terms, but also a more detailed discourse on his own approach to esotericism, commenting succinctly on various important scholarly positions

[14] Faivre, *Modern Esoteric Spirituality*, pp. xix-xx.
[15] Charles Webster, *Samuel Hartlib and the Advancement of Learning*, ed. by Charles Webster (Cambridge: Cambridge University Press, 1970), pp. 56-58.
[16] *Confessio Fraternitatis*, trans. by Thomas Vaughan (London, 1652), in Frances Yates, *The Rosicrucian Enlightenment* (London: Routledge & Kegan Paul, 1972), pp. 320-321.

along the way.[17] Unlike Faivre, Hanegraaff suggests that esotericism is a scholarly construct, and introduces the concepts of *emic* and *etic* approaches to the discipline. The emic perspective is the believer's point of view, entirely necessary, but little more than descriptive without further explanation, while the etic view is an interpretive scholarly one.[18] Hanegraaff describes his own empirical approach as a "continuing and (self-) critical dialectics of *emic* material and *etic* interpretation", which he says should be a continuous and open-ended process.[19] He describes the construed nature of esotericism using the examples of alchemists and Rosicrucians, stating that as they exist historically, they do so on an emic level. Further, in attempting to understand and highlight certain characteristics these groups may share with some historical traditions, an etic interpretation is made. This is done, states Hanegraaff, by stressing certain common themes, and disregarding particular inconsistencies, according to each scholar's individual interpretation and motivations. If this is correct, then as long as what he calls "commonalities and continuities" versus "differences and discontinuities" are stated adequately, then any consistent, cohesive proposal may be considered valid, if only for the purposes of use in a particular piece of work, with the caveat that the approach should not be considered as conclusive.[20] This, in fact, is close to my own approach within the current work, by attempting to highlight certain themes which I propose fall within the currently accepted, admittedly broad, rubric of esotericism, without trying to demarcate the field in any radical fashion.

Hybrid Methodology

In the academic online journal *Esoterica*, Arthur Versluis critically appraises both Faivre's essentialist classification of Western Esotericism, and Hanegraaff's empiricist

[17] Wouter J. Hanegraaff, 'Introduction', in *Western Esotericism and the Science of Religion*, ed. by Antoine Faivre and Wouter Hanegraaff, (Leuven: Peeters, 1998), pp. vii-xvii, and Hanegraaff, "On the Construction of Esoteric Traditions", in *Western Esotericism*, pp. 11-61.
[18] Hanegraaff, *Western Esotericism*, pp. 11-13, 61.
[19] Hanegraaff, *Western Esotericism*, p. 13.
[20] Hanegraaff, *Western Esotericism*, pp. 13-15.

approach to the discipline, before positing his own hybrid methodology.[21] While finding both have useful elements, he highlights deficiencies in each of their approaches. Versluis' main issue with Faivre's six characteristics is the omission of revelatory gnosis within them. He suggests that Faivre believes that gnosis should not form part of Western Esotericism because this visionary, or direct perception of the fundamental elements of the cosmos and the dynamics between them, is little more than 'mysticism'. Versluis challenges this view by stating that one cannot adequately appreciate or comment on the esotericism of such visionaries as Pseudo-Dionysius the Areopagite from the fifth to sixth centuries, or Jacob Boehme (1575-1624), from the sixteenth to seventeenth centuries, without contemplating the importance of gnosticism in their lives. He describes Faivre's esotericism as a 'cosmological domain', but not a 'metaphysical gnostic one', and that while his narrowly historical approach is very useful, the characteristics need reworking. Versluis accepts Hanegraaff's motivation to be a 'studiously neutral commentator', by empirical analysis of all the various dimensions of a subject - these being social, ritual, experiential, doctrinal, mythic, ethical, and symbolic – but he questions his acute division between the emic "religionist" and the etic "empiricist" approaches. He cites the example of an alchemical treatise which may only be able to be understood with an emic approach, therefore Hanegraaff's purely historiographic analysis would be inadequate here, despite his reference to the emic. Versluis thus proposes a "sympathetic empiricist" methodology, an intermediate position, like anthropologists, understanding both the cultural context and being an objective analyst. He warns that too extreme an emic approach to esotericism could lead to a scholar becoming an apologist, while too extreme an etic process may expose an ignorance of the subject, and even hostility to it.[22]

[21] Versluis, 'What is Esoteric?', (pp. 2-4).
[22] Versluis, 'What is Esoteric?', (pp. 3-4).

Socio-cultural Construct

Kocku von Stuckrad, in his *Western Esotericism: A Brief History of Secret Knowledge*, takes the more extreme position that esotericism has no independent historical reality, only being manifest as a constructed socio-cultural perspective based on current scholarly pursuits. The dimensions necessary for this analysis, similar to Hanegraaff's, include social, political, economic, legal, and cultural considerations.[23] What arises from this is a world-view which encompasses natural philosophy, as well as religious, and literary traditions, presenting esotericism as an element of European history of religion and culture. Stuckrad dismisses the detail of any 'exotic, marginal, or obscure' aspects of esotericism, whether Christian heresies, or polytheistic and pantheistic models that dissent from orthodox monotheism, as less important and less interesting than the interrelationships between these *holistic* or *monistic motifs*, or themes. This interplay, he suggests, "demonstrates the complexity of European cultural history, without setting off religion vs. science, Christianity vs. paganism, or reason vs. superstition". [24] This stance rejects Corbin's warning of the pitfalls of an interpretation of esotericism based exclusively on "psychologism, historicism, or sociologism". While it validates Stuckrad's own observation that "History is always a construction of the past in the light of present interests", his marginalization of the marginal within esotericism, completely avoiding an attempt to fundamentally understand the heterodox views often manifest in the discipline (which he himself states: "form a spectrum of deviant religious options"), perhaps neglects important themes, in just the unwitting manner suggested by Versluis.[25]

[23] Stuckrad, *Western Esotericism*, p. 6.
[24] Stuckrad, *Western Esotericism*, pp. 1-11.
[25] Stuckrad, *Western Esotericism*, pp. 6, 10.

Spirituality-Knowledge-Interpretation

My own stance, at least for the purposes of the present work, is a constructed, cohesive model based on some of the elements highlighted in the brief analysis undertaken herein. It is important to stress that the intention here is not to create a methodology simply in order to accommodate, without question, the pansophic and utopian themes which are discussed later. Nor is it, as already stated, an attempt to conclusively redefine the field of esotericism. The two-fold objective began with the critical appraisal of recent scholarly thinking around the discipline, emphasizing, enhancing, and modifying essential elements where appropriate, contrasted by highlighting points which cannot fit within this paradigm without it becoming inconsistent. This is followed by the consideration of how utopian reformist intellectual thinking fits within this construction. One might assume that the acceptance of the existence of a *Godhead*, or at the very least, of a *divine realm*, must underpin all subsequent thinking about esotericism. This does not mean that a scholar must believe in God himself, just that he or she accepts that some others have this belief, and that this acceptance is necessary for esotericism to be relevant. Faivre's first characteristic of *correspondences*, summarized by the familiar Hermetic 'as above, so below' epithet, would have no meaning if the 'above' did not exist. Philosophically, however, one way for this not to be the case, would be the belief that the underlying interconnectedness prevalent in the cosmos was not describing correspondences between man and the divine, but only between man and the universe at large. Knowledge of the nature of this universe and its workings would allow man to manipulate it in a similar fashion to that more commonly attempted through prayer, or magic, thus becoming more unified with the universe and everything within it, but without the desire to become more divine, as such. Some may argue that the universe in this philosophical construct is actually a divine God, however. This is then a spiritual, or metaphysical realm, not a rationalistic, materialistic, or atheistic one. Thus, *spirituality,* or an acceptance of a belief in esoteric metaphysical spirituality by others, is the

first key attribute of my approach, whether the scholar believes in the concept in an emic manner, or only interprets it in an etic way.

The second key attribute of my approach to esotericism is *knowledge*, similar to Versluis' description of *gnosis*. Here, *knowledge* denotes an understanding of all the interconnected, and largely hidden, workings of the cosmos. This naturally incorporates Faivre's themes of *correspondences* and *concordance*, but in a broader manner than in his essentialist classification, as it can include the quest for this knowledge, received through mystic vision, divine revelation, as well as direct teaching. This quest is motivated by the assumption that man's current knowledge is incomplete, and therefore imperfect, requiring either an individual, or global (or both) reform to rectify this. Once received and understood, this knowledge can then be used, through magic, prayer, mediation, or meditation. It can also be communicated through teaching, to bolster the necessary reform, whether via a master-disciple initiatory path accessible only to the worthy, or through the creation of a pansophic educational framework appropriate for all men, thus combining elements of Faivre's characteristics of *transmutation* and *transmission*.[26] Thus, none of Faivre's characteristics are invalid, but they are incomplete. By insisting on a metaphysical element, and the possibility of receipt and distribution of hidden knowledge in *any* manner, including revelatory, the essentialist elements are both strengthened, and become more versatile.

I believe it is necessary to temper these two emic attributes with the use of empirical scholarship, therefore *interpretation* is the third key attribute in this methodology. The often obscure, or marginal nature of esoteric subjects needs to be observed through a combination of the socio-religious lenses already suggested via Hanegraaff, Versluis, and Stuckrad. These include, social, cultural, political, economic, legal, ritual, experiential, doctrinal, mythical,

[26] Faivre, *Modern Esoteric Spirituality*, pp. xv-xx.

ethical, and symbolic filters, to be utilized depending on the specific topic to be studied.[27] In this way, the esoteric philosophies, previously regarded as deviant, can effectively be documented historically. I thus propose to use this three-fold *Spirituality-Knowledge-Interpretation* definition of esotericism for the remainder of this work.

Before deliberating on the second part of our objective in this section, the introduction of and consideration of the relevance of utopian themes to esotericism, it is worthwhile briefly examining whether esotericism was perceived as a distinct philosophy in the seventeenth century. The distinct terms of "esotericism" and "occultism" were not introduced into Europe until the nineteenth century, by the writer and magician Eliphas Lévi (1810-1875), and it was not until the publication if *Esoteric Buddhism* (1883), by the scholar and theosophist A. P. Sinnett (1840-1921), that the term "esotericism" was first found in English.[28] It may have been in the seventeenth century, however, that "differences" to the new materialistic norm began to be seen by some as a cohesive entity, whether to attack or defend these marginal themes. An example of this might be the conflict between the French theologian and philosopher Marin Mersenne (1588-1648) and the Rosicrucian apologist Robert Fludd (1574-1637).[29] Accepting that some seventeenth century commentators were cognisant of these heterodox "differences", as Hanegraaff calls them, or "otherness", according to Stuckrad, or Goodrick-Clarke's "survivals of superstition and irrationalism", which dissented from the accepted beliefs at the time, is perhaps as far as one can go along this intellectual path.[30] Therefore, I suggest that esotericism was not perceived as entirely

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[27] A comparison against the three approaches and criteria for interpretation of Hanegraaff, Versluis, and Stuckrad, found in Hanegraaff, *Western Esotericism*, pp. 13-15; Versluis, 'What is Esoteric?', (pp. 3-4); and, Stuckrad, *Western Esotericism*, p. 6.
[28] Hanegraaff, *Western Esotericism*, p. 14.
[29] Hanegraaff, *Western Esotericism*, p. viii. Frances Yates also discusses this important time in the 1620s, detailing how Mersenne collectively attacked Renaissance Hermeticism, Magia, Cabalism, animism, and Rosicrucianism, describing the Brotherhood of the Rosy Cross as a 'diabolical, magical, secret society.' in Yates, *The Rosicrucian Enlightenment*, pp. 148-149.
[30] Hanegraaff, *Western Esotericism*, p. viii; Stuckrad, *Western Esotericism*, pp. 10-11; and Goodrick-Clarke, *The Western Esoteric Traditions*, p. 4.

distinct at the time, and thus it is a more modern scholarly construct as some have suggested, yet it had an existence of sorts, elements of which were tangible enough to cause religious, philosophical, and intellectual conflicts. This does not, however, invalidate the academic use of the term now, with the caveat that the parameters of one's own definition of esotericism should be made clear, as has been attempted in the present work.

Intellectual Reformation in the Seventeenth Century

The synthesis of the two most important utopian themes of *millenarianism* and the *revival of learning* are fundamental to the philosophies and activities of the English intellectual Puritans who created the environment in which the Royal Society was later founded. Millenarian eschatology shaped the Puritan conviction that the Reformation against Catholicism was mandated by God. In addition, The Counter-Reformation, The Thirty Years' War, and Laudian persecution of Puritans in England, created an environment in which reform and the prospect of a utopia was considered as highly attractive. Tied to this, the concept of a reformation of learning based on the new methods of experience and observation, in order to develop a 'new philosophy', sat very well with the quest for a religious reformation, and would help achieve the desired utopia.[31]

The intellectual revolution that took place in seventeenth century Europe owed much to the writings and activities of Comenius and Hartlib, and their associates. Both displaced by the Thirty Years' War, their pansophic and utopian aspirations were an "idealistic, unified and international vision of knowledge". Their motivations included the bringing together of the Protestant churches, and the standardization of the physical sciences, all in the context of a cohesive dynamism between the material and spiritual worlds.[32] Their quest for a utopian

[31] Charles Webster, *The Great Instauration: Science, Medicine and Reform 1626-1660* (London: Duckworth, 1975), p. 1.
[32] Mark Greengrass, Michael Leslie and Timothy Raylor, *Samuel Hartlib & Universal Reformation: Studies in Intellectual Communication*, ed. by Mark Greengrass, Michael Leslie, and Timothy Raylor (Cambridge: Cambridge University Press, 1994), pp. 2-3.

universal reform was partly influenced by Rosicrucianism, and there is a good deal of evidence regarding the connection between Comenius, Hartlib, Andreae, and Rosicrucianism, set against the backdrop of the religious and political crisis of the time.[33] It is clear that this German and English Puritan driven motivation for universal intellectual reform has a place within the definition of esotericism as stated earlier. I would suggest that it is the universal nature of both the spirituality, and of the knowledge underpinning this intellectual and theological reform, tied together with the intention of disseminating this knowledge as wide as possible for the utilitarian common good of man, which positions it firmly within the boundaries of the *Spirituality-Knowledge-Interpretation* esoteric framework outlined. That the intellectual revolution at this time was heavily influenced by the millenarian combination of a scripture-based science, studied and propagated for the benefit of all, has long been understood.[34] With the intention of understanding any possible links to the formation of the Royal Society, there follows a more detailed examination of the key utopian themes and the important individuals involved in their promotion.

[33] Clare Goodrick-Clarke, in 'The Rosicrucian Afterglow: The Life and Influence of Comenius', in *The Rosicrucian Enlightenment Revisited*, ed. by Ralph White (Hudson, NY: Lindisfarne, 1999), pp. 206-213.
[34] P. M. Rattansi, 'The Intellectual Origins of the Royal Society', *Notes and Records of the Royal Society of London*, 23 (1968), 129-143 (p. 131).

III What were the Utopian themes that influenced the Intellectual Revolution of the Seventeenth Century?

Early Utopianism - Plato

While the present work is not the correct forum in which to present an entire history of the intellectual theme of utopia, it would be remiss not to briefly mention some early works by Plato (427-347 BC), written prior to the activities of our seventeenth century educational reformers, and which they certainly would have been aware of. Plato was a high-born Athenian with early political ambitions, but these appear to have been set aside following both his poor perception of Athenian activities during its war with Sparta (Peloponnesian War, 431-404 BC), and the increasingly important influence of Socrates (469-399 BC) on his life and thinking.[35] Beginning with *Republic* (c. 380 BC) and *Timaeus* (c. 360 BC), two of his Socratic dialogues, we can see that the dual physical-metaphysical philosophy of man and God, the movement from the profane to the divine, the journey along this spiritual path with the help of educational reform within a wider utopian context, have their roots in antiquity.[36] And, it is Neoplatonism, together with Gnosticism and Hermeticism, which are regarded by many scholars of the field as the bedrock of the tradition of Western esotericism.[37]

The *Republic* as a whole is a debate about what characteristics would be desirable within an ideal community, and the Philosopher Kings who are best placed to run this community. Plato presents his arguments from a moralistic and virtuous perspective

[35] Robin Waterfield, 'Introduction', in Plato, *Republic*, trans. by Robin Waterfield (New York: Oxford University Press, 2008), pp. xxii-xxiii.
[36] Plato, *Republic*, trans. by Robin Waterfield (New York: Oxford University Press, 2008), pp. 1-379, and Plato, *Timaeus*, trans. by Benjamin Jowett (Kindle Edition, 2012), pp. 1-160.
[37] Goodrick-Clarke, *The Western Esoteric Traditions*, p. 3, 245. "Ever since Plato's separation of the body and the soul, Western esotericism has traced a path in which the soul has been granted some share in divinity."

throughout, and integrates this morality with the eternal God.[38] Four of the chapters deal specifically with education and, in part, with its relationship to spirituality, which are the most interesting in the context this work.[39] In chapter four, the important theme of *worthiness* is presented, significant in relation to the works and activities that contributed to the advancement of learning up to and including the seventeenth century. This concept is paralleled centuries later in the Rosicrucian manifestos which influenced many of the educators already introduced, such as Comenius. Despite the motivation being the creation of an ideal community, or a utopia state, Plato establishes the need for some differentiation of teaching, rather than disseminating the entire truth to everyone. In trying to protect individuals from stories and lies with no redeeming moralistic attributes, he has Socrates state:

> Now, I think that even if these stories are true, they oughtn't to be told so casually to young people and people who lack discrimination; it's better to keep silent, and if one absolutely has to speak, to make them esoteric secrets told to as few people as possible…[40]

Herein lies a paradox we will come across again, that in trying to create a perfect existence for man, it is not necessarily desirable for everyone to have access to and understand the underlying truth, whether spiritual, moral, or both. So, whereas Plato's motivation for universal reform may be similar to that of later commentators, namely the

[38] Waterfield, in Plato, *Republic*, pp. xx-xxi.
[39] Chap. 4, Books II, III, 376d-412b; Chap. 8, Books V, VI, 471d-501c; Chap. 10, Book VII, 521c-541b; and Chap. 14, Book X, 608c-621d, Plato, *Republic*.
[40] Chap. 4, Book III, 378a, Plato, *Republic*.

spiritual and physical improvement of all men, his methodology is not, with discrimination of available learning based on social status and gender.

In *Timaeus*, Plato describes the deliberate creation of the universe by a divine Intellect, and the importance of understanding and mirroring this model by individual souls in order to transcend once more to a perfect state, having lost this perfection through their incarnation. In this metaphysical discourse, the theme of fallen man striving to reunite with divinity, via personal and collective reform through the understanding of the universal truth, is central. Comprehension of the correspondences between the macrocosm and the microcosm are thus an integral part of this spiritual journey.[41]

The Scientific Utopias – Campanella and Bacon

Before what Allen G. Debus (1926-2009) called 'The Scientific Utopias' began to circulate at the beginning of the seventeenth century, another important utopian work that preceded this time was Sir Thomas More's *Utopia* (1516), which possibly gave its name to the genre. The canonized More was a highly respected scholar, having been sent to Oxford by Archbishop Morton, within whose household he worked. He became a barrister, member of Parliament, privy councillor of Henry VIII, and eventually became Lord Chancellor, but resigned for refusing to accept the sovereign as head of the church. He also refused to denounce the pope's authority, or accept Henry VIII's divorce from Catherine of Aragon, and was executed in 1535. While central to the entire theme of ideal states, More's work is primarily a political satire, rarely touching upon educational reform, and so is less relevant for the present study. It does, however, introduce the idea of a far flung ideal state, mirrored by later utopian works, and also promotes religious tolerance, which is not surprising given the experiences in his life.[42]

[41] Plato, *Timaeus*, pp. 1-160.
[42] Sir Thomas More, *Utopia*, trans. by Paul Turner (London: Penguin Classics, 1965), pp. 1, 16, 37-132. This interpretation of More's work is similar to that of Felix Emil Held, in

Tommaso Campanella

Not as well-known as Bacon's slightly later works, which will be considered presently, the magically influenced Tommaso Campanella's *The City of the Sun*, provides a 'new philosophy' not yet completely overcome by the materialists who were coming so strongly to the fore at the time, instead showing explicit Hermetic influences.[43] Campanella was a student of the natural philosopher Bernardino Telesio (1509-1588), who promoted the idea of sense-driven understanding. It was during his long imprisonment for his part in planning to oust the Spanish from Naples, driven by his desire to create an ideal state, that he wrote many works, including *The City of the Sun*. Campanella's city was a rich and complex mix of both magic and materiality. The familiar motif of a central temple is found in the city, constructed on a hill, topped with a huge cosmic dome, and surrounded by seven concentric walls. On these walls was revealed all the knowledge of the world, spanning animal, vegetable, and mineral subjects, often with samples embedded therein. Important religious figures, including Moses, Osiris, Jupiter, Mercury, Muhammad, and Christ, were portrayed alongside lawgivers and inventors. This may suggest an affinity with the theme of *perennialism*, which contains elements of both the *spirituality* and *knowledge* attributes of the aforementioned definition of esotericism. The city was wisely governed by a small group of Hermetic priests, who combined their astrological understanding of the stars with natural magic.[44] In this utopian work, Campanella thus presents a cohesive summary of nearly all of the esoteric and educational reformist themes that remained prevalent throughout the seventeenth century. Here, the dissemination of all physical and metaphysical knowledge

'Introduction', in Johann Valentin Andreae, *Christianopolis*, trans. by Felix Emil Held (New York: Oxford University Press, 1916), p. 22.

[43] Allen G. Debus, *Man and Nature in the Renaissance* (Cambridge: Cambridge University Press, 1978), p. 116.

[44] Debus, *Man and Nature*, p, 118, and Paul Oskar Kristeller, *Eight Philosophers of the Italian Renaissance* (Stanford, California.: Stanford University Press, 1964), p. 107.

occurs through the wisdom and activities of an elite group of religious masters, using illustration and symbolism, but also magic.

Francis Bacon

Francis Bacon's reformist works are of particular significance with respect to both his contribution to the utopian genre, but perhaps more importantly, because of the legacy of the influence of scientific method and organization they left behind. At Cambridge, he was a brilliant scholar, being recognized as such from an early age. Elizabeth I soon made him Queen's Counsel, after which he became a member of Parliament in 1584, still only twenty-three years old. His rapid rise continued with the next monarch, James I, who appointed him Attorney General in 1613, Lord Keeper of the Seal in 1617, Lord Chancellor and Baron of Verulam in 1618, and finally, Viscount St. Albans in 1618. His glittering political career came to an abrupt halt, however, following his imprisonment in the Tower of London for bribery. He was quickly freed, after which time he wrote prolifically until his death four years later. During this late period Bacon wrote the utopian *New Atlantis* (1624, published posthumously in 1627).[45] Before this, he had written two important works on intellectual organisation which presaged his explicitly utopian work, which were *The Advancement of Learning* (1605) and *The Great Instauration* (1620). Bacon, through these three works, is generally regarded by recent scholars as one of the key influences underpinning the foundation of the Royal Society of London nearly half a century later.[46] As we will see, however, the emergence of the Society did not come about as a strictly linear progression from Bacon, isolated from other influences, but through a mixture of intertwined complex philosophical, religious, and political currents. It is therefore appropriate to consider which of

[45] Roland Edighoffer, 'Francis Bacon' in *Dictionary of Gnosis & Western Esotericism*, ed. by Wouter J. Hanegraaff, with Antoine Faivre, Roelof van den Broek and Jean-Pierre Brach (Leiden and Boston: Brill, 2006), pp. 154-156 (p. 154).
[46] Debus, *Man and Nature*, p, 117.

these themes are found within Bacon's works, as well as the nature of his overall message. In the first of the two books of *The Advancement of Learning*, dedicated to King James I, Bacon outlined his justifications for intellectual reformation, and in the second he presented the method by which this advancement could be achieved.[47] In attempting to destroy the negative preconceptions about learning which Bacon saw as existing at the time, familiar esoteric themes are presented in the first book. The importance of universality, especially universal knowledge, linking the divine realm with the human one, is introduced. The discovery, or rediscovery, of this universal knowledge is the means by which man can recover his original status, with dominion over nature, following the fall of man. Bacon insists that it was not learning that was the cause of man's demise, but the gaining of the knowledge of good and evil alone, and therefore learning, especially universal, is vitally important to redress this situation. While this universal knowledge ultimately stems from God's Divine Truth, Bacon highlights the importance of understanding the difference between the sacred and human understanding.[48] Bacon attempts to address this ambiguity explicitly, yet throughout his works he rarely mentions learning without reference to its divine source: "…that in probation of the dignity of knowledge or learning, I did in the beginning separate divine testimony from human, which method I have pursued, and so handled them both apart."[49] Despite asserting this separate approach, Bacon never actually severs the link from the physical to the inescapably metaphysical. Bacon describes the sciences of alchemy, natural magic, and astrology, as having noble pretences, even though he considers them degenerate.[50] Whether he was influenced by explicitly Hermetic texts such as *The City of the Sun*, or whether there was a partially common philosophical source of both, such as Renaissance Hermeticism and humanism, is difficult to ascertain. He was certainly aware of Telesio's work, which he

[47] Francis Bacon, *The Advancement of Learning*, ed. by G. W. Kitchin, (London: Heron Books, 1975), pp. 1, 61.
[48] Bacon, *Advancement*, pp. 2-5, 14, 37.
[49] Bacon, *Advancement*, p. 60.
[50] Bacon, *Advancement*, p. 29.

criticized heavily, but acknowledged positively his similar intellectual departure from Aristotle, when he referred to him as 'the first of the moderns'.[51] That Bacon, in line with other reformers, had utopian aspirations for the advancement of learning, and that their activities helped in the development of the Royal Society, may be sufficient to affirm. There is a telling passage in the first book of *The Advancement of Learning* in which Bacon cohesively brings together the millennial, religious, and intellectual reformation themes, while presenting his case for the advancement of learning, as well as an anti-Catholic diatribe similar in tone to other reformists of the time, including the anti-Papal ones found in the Rosicrucian manifestos:

> And we see before our eyes, that in the age of ourselves and our fathers, when it pleased God to call the Church of Rome to account for their degenerate manners and ceremonies, and sundry doctrines obnoxious and framed to uphold the same abuses, at one and the same time it was ordained by the Divine Providence that there should attend withal a renovation and new spring of all other knowledges.[52]

As part of his appeal to King James I, Bacon linked his reformist philosophies to antiquity by presenting correspondences between his monarch and other successful learned 'Philosopher Kings' (after Plato's *Republic*) of the past, such as Alexander the Great and Julius Caesar. He contends that they were successful because they used their learning in all

[51] Kristeller, *Eight Philosophers*, p. 105.
[52] Bacon, *Advancement*, p. 41. An example of the anti-Papal position in the Rosicrucian manifestos can be found in *Confessio*, in *The Rosicrucian Enlightenment*, p. 312.

aspects of their lives, including personal, military, political, moral, as well as many others. He also reiterates this point at the beginning of the second book.[53]

Bacon's methodology for achieving his aspirational intellectual reformation, as outlined in the second book, focusses on understanding and improvement of what he calls 'three objects': the *places* of learning, *books* of learning, and the *persons* of learning. With respect to these objects, certain 'works' are highlighted. For places of learning, these works encompass foundations and buildings, endowments with revenues, endowments with franchises and privileges, institutions and ordinances for government. We see here Bacon's first attempts at establishing the idea of places of learning outside of the universities, which he said had 'many defects', an opinion later espoused by Comenius and Hartlib. The works to do with books are two-fold: firstly, libraries, containing existing works of merit, and secondly, new works, with improvements over those already existing. Thus, extant learning does not lose its importance, but no assumption is made about its completeness. The works relating to persons of learning are also two-fold, and concern 'readers of sciences' of subjects which are already known, and 'writers and enquirers' of those areas not yet adequately understood.[54] While not describing the actual structure and workings of the subsequent Royal Society, this early methodology nevertheless illustrates the possibility of a government backed institution which would have the mandate to maintain, investigate, and document the sciences, undertaken by appropriately rewarded individuals, outside of the deficient university system. Bacon proposes a "fraternity in learning and illumination, relating to that paternity which is attributed to God, who is called the Father of illuminations or lights."[55]

The detail of the different parts of human learning which Bacon goes on to describe in the remainder of *The Advancement of Learning* are history, poesy, and philosophy, which are

[53] Bacon, *Advancement*, pp. 48-53, 61.
[54] Bacon, *Advancement*, pp. 62-33, 67-68.
[55] Bacon, *Advancement*, p. 67.

akin to memory, imagination, and reason, respectively.[56] Despite his insistence on separating the divine from human, Bacon constantly refers to human learning in religious and metaphysical terms, somewhat ambiguously. While attacking the heathen view (possibly Paracelsian, possibly Neoplatonic, or Hermetic) that the world was the image of God, and man likewise an image of the world, he declares unsafe the human contemplation of nature as a basis for understanding points of faith. However, by stating "So as we ought not to attempt to draw down or submit the mysteries of God to our reason; but contrariwise to raise and advance our reason to the divine truth", Bacon either misunderstands the synonymous Hermetic concept of becoming more divine through man's spiritual journey, or ignores it. He somewhat labours the point, claiming that the mixture of religion and philosophy would either create "an heretical religion, and an imaginary and fabulous philosophy".[57] Yet, he goes on to declare a purely physical approach to learning as too narrow, and a metaphysical element as vital, being ultimately a sacred reflection of "His works", referring all things to the glory of God, exclaiming: "Sancte, sancte, sancte!". [58] Bacon even mirrors the three-fold Hermetic cosmological concept of God, Nature, and Man, in his 'three beams of man's knowledge'.[59]

Bacon's next major work connected to the reformation of learning was *The Great Instauration*, published in 1620, the title itself explicitly promoting the now familiar aspirational theme of renovation. As with the preceding brief analysis, it is only possible to consider some points of content which emphasize the reformist, utopian, intellectual, and religious currents contained therein, but being cognisant not to present a biased representation of Bacon's motivations. The intention of this work was to detail the reformation required of all the processes of knowledge in order to effect the advancement of learning, both divine and

[56] Bacon, *Advancement*, p. 69.
[57] Bacon, *Advancement*, pp. 88-89.
[58] Bacon, *Advancement*, pp. 95-97.
[59] Bacon, *Advancement*, p. 105.

human. Paralleling the biblical six days of creation from the book of Genesis, Bacon lists the components of his methodology: 1. Partitions of Sciences, 2. New Method, 3. Natural History, 4. Ladder of the Intellect, 5. Anticipations of the 2nd Philosophy, and 6. The Second Philosophy, or Active Science, after which man's dominion over nature, lost following his fall, would be restored once more on the Seventh Day.[60] Despite ambiguously stating in *The Advancement of Learning* that he was not looking for change, merely improvement, Bacon again contradicts himself in the very first line of the preface of *The Great Instauration*: "That the state of knowledge is not prosperous nor greatly advancing, and that a way must be opened for the human understanding entirely different from any hither to known…".[61]

Two of the most important ideas of the book can be found within the list of *Aphorisms*, which read rather like a constitution of sorts. The first we have seen before, and is Bacon's statement of the deficiency of the incomplete and static position of both contemporary knowledge and the method by which it was possible to investigate new knowledge. This reiteration of the need for renovation then leads on to Bacon's famous induction method for scientific learning. Rather than assuming that general axioms are known, and specific experimentation undertaken to subsequently prove these, Bacon's method reverses this process by using evidence from one's senses and experiments at a detailed level, then gradually builds up to the general axioms. It is then possible to focus experimentation on specific areas once the general axioms are discovered.[62] This was a very important shift in scientific methodology, and one that has lasted to the present day.

That Bacon's reformist philosophies had a distinct millenarian and utopian influence is shown conclusively by his explicitly utopian *The New Atlantis*, written in 1624. This was late in Bacon's life, and in fact it wasn't published until after his death, by his friend William Rawley (1588-1667). It was he who was said to have suggested that the work intended to

[60] Francis Bacon, *The Great Instauration* (Radford, VA: Wilder Publications, 2012), p. 19.
[61] Bacon, *Great Instauration*, p. 11.
[62] Aphorisms XI, and XIX, in Bacon, *Great Instauration*, pp. 34-35.

illustrate a college, or similar institution, for the understanding of, and writing about, nature 'for the benefit of men'. *The New Atlantis* was widely distributed and digested in the seventeenth century, and as Debus notes, it was clearly one of the main inspirations for the Royal Society.[63] With similar characteristics to other utopian works of the time, the voyagers of the narrative come across an unknown land while travelling from Peru to Japan. The inhabitants of this land eventually relate to the voyagers the nature of the secret work undertaken there, which is the quest for an understanding of heaven, through the study of the physical world about them. This is obviously analogous to man's desire to become more divine through an understanding of God's created universe, as we have seen previously. The research takes place in the vast "Solomon's House", similar to Campanella's central temple, which has numerous facilities for observation, experiment, and production. The Bensalem, as the inhabitants are named, also describe to the voyagers their scholarly method, which is the Baconian system of observation, analysis, and interpretation, as set out in *The Great Instauration*. The enhanced observations, axioms, and aphorisms produced by the last part of the procedure are developed by three 'Interpreters of Nature'. The entire complex approach is deeply couched in a chemical and natural magic context.[64] Again, Bacon pulls back somewhat from his anti-magical stance (which he previously described as 'noble but degenerate'), recognizing that despite the aspiration that the universal knowledge should be for the common good of man, some of it should remain secret.[65] As well as an 'Oath of Secrecy', mention of Novices and Apprentices is made.[66] While Bacon was far removed from the activities of the Renaissance Magi, and would never have considered himself esoteric in

[63] Debus, *Man and Nature*, pp. 116-117.
[64] Debus, *Man and Nature*, p. 117.
[65] Brian Vickers, *English Science, Bacon to Newton*, ed. by Brian Vickers (Cambridge: Cambridge University Press, 1987), p. 6.
[66] From a reproduction of Francis Bacon's *The New Atlantis*, in *English Science, Bacon to Newton*, ed. by Brian Vickers (Cambridge: Cambridge University Press, 1987), pp. 34-44, (p. 43).

the way in which we might understand the term today, his philosophies and aspirations were perhaps much more in line with them than he would ever admit to.

Rosicrucianism

Bacon's philosophies had many similarities to some of those of the Rosicrucian movement, which was becoming popular at around the same time that his works were published. The reformist ideas presented by Rosicrucianism in the seventeenth century can to a large extent be gleaned from some of the content of the famous triad of manifestos, the *Fama Fraternitatis,* (1614), *Confessio Fraternitatis* (1615), and the *Chemical Wedding of Christian Rosencreutz* (1616).

German-speaking regions of Europe in the early seventeenth century were a breeding ground of esoteric themes, and it is here that Rosicrucianism came into being. Through the myth of Christian Rosencreutz and his secret brotherhood, the Fraternity of the Rosy Cross, articulated in the three manifestos (hereafter the *Fama*, the *Confessio*, and the *Chemical Wedding*), the reformist Rosicrucian ideas began to be disseminated.[67] As already stated, it is unclear whether Johann Valentin Andreae was solely responsible for these works, but it is very likely that he wrote the German *Fama* and *Chemical Wedding,* but he may have been only one of a small number who helped to compile the Latin *Confessio*.[68] Thus, a consideration of his utopian *Christianopolis* follows that of the three manifestos. Considering first the *Fama*, published by Adam Haselmayer within a collection of three works, in Kassel, Hesse, in 1614, it becomes clear that it had existed in some form in Europe since 1610, placing it after Bacon's *The Advancement of Learning*, but before *The Great Instauration*, and *The New Atlantis*. The work introduces the mythical hero, brother C.R. (presumably akin to, if not the same Christian Rosencreutz who is later explicitly named in *Chemical*

[67] Goodrick-Clarke, *The Western Esoteric Traditions*, p. 107.
[68] McIntosh, *The Rosicrucians*, p. xix.

Wedding), before outlining Rosicrucian doctrine.[69] From the very outset, the reformist intentions and motivations are made clear:

> …whereby we do attain more and more to the perfect knowledge of his Son Jesus Christ and Nature, that justly we may boast of the happy time, wherein there is not only discovered unto us the half part of the world, which was heretofore unknown and hidden, but he hath also made manifest unto us many wonderful, and never heretofore seen, works and creatures of Nature, and moreover hath raised men, imbued with great wisdom, who might partly renew and reduce all arts (in this our age spotted and imperfect) to perfection; so that finally man might thereby understand his own nobleness and worth, and why he is called Microcosmus, and how far his knowledge extendeth into Nature.[70]

This extract explicitly asserts the ultimate importance of a Christian God through the truth of Jesus Christ, implying that the currently imperfect world can be rejuvenated by the discovery of hidden knowledge. The understanding of this hidden wisdom will enable the individual to understand the relationship between man, nature, and therefore God, but is only attainable by those 'with great wisdom'. This tri-fold dynamism of the microcosm, the macrocosm, and God, is inherently Hermetic in its 'as above, so below' construction.[71] The desired reform takes many forms: religious reform ('more and more to the perfect knowledge

[69] Roland Edighoffer, 'Rosicrucianism: From the Seventeenth Century to the Twentieth Century' in *Modern Esoteric Spirituality*, ed. by Antoine Faivre and Jacob Needleman (London: SCM Press, 1993), pp. 186-187.
[70] *Fama*, in *The Rosicrucian Enlightenment*, pp. 297-298.
[71] McIntosh, *The Rosicrucians*, pp. 1-6. McIntosh argues that this concept ultimately derives from the ancient tradition of Gnosticism.

of his Son Jesus Christ'), spiritual reform ('so that finally man might thereby understand his own nobleness'), and educational reform ('partly renew and reduce all arts'), all leading to a 'happy time', akin to other utopias we have seen. Further, this wide-reaching reform is to be instigated by those who have access to the hidden knowledge, and are members of a select group ('men, imbued with great wisdom'), thus helping to promote the idea of a secret brotherhood, so prevalent in the whole work.[72] The concepts of educational and theological reform are further enhanced in the *Fama* by stating that "Our Philosophy also is not a new invention…", linking them to the philosophy of the ancients: "And wherein Plato, Aristotle, Pythagoras and others did hit the mark, and wherein Enoch, Abraham, Moses, Solomon did excel, but especially wherewith that wonderful book the Bible agreeth."[73] An important figure who influenced the inherent themes contained within the Rosicrucian writings is Paracelsus.[74] The *Fama* introduces the reader to a clear sympathy with Paracelsianism.[75] He is even mentioned by name: "Such a one likewise hath Theophrastus (Paracelsus) been in vocation and callings…whereby his sharp *ingenium* was exalted…"[76]

Even though the *Confessio* is markedly different in style to the *Fama*, being intentionally ambiguous in its biblical and millenarian motivations, many of the same themes can be found within it.[77] It is overtly Christian like the *Fama*, but it is distinctly anti-Papal.[78] The core tenet that the world is imperfect, with man being prevented from gaining knowledge of the true Philosophy because of the deficient spiritual and intellectual state, and the consequent need for reform, is combined with the millenarian concept of the lighting of the

[72] The importance of the idea of this secret brotherhood cannot be overstated, with the 'Fraternity' explicitly mentioned in the title itself, and throughout the entire work, in *Fama*, in *The Rosicrucian Enlightenment*, pp. 297-298, 302-305.
[73] *Fama*, in *The Rosicrucian Enlightenment*, p. 310.
[74] Goodrick-Clarke, *The Western Esoteric Traditions*, p. 109.
[75] Edighoffer, *Modern Esoteric Spirituality*, pp. 186-187.
[76] *Fama*, in *The Rosicrucian Enlightenment*, p. 301.
[77] Edighoffer, *Modern Esoteric Spirituality*, p. 188.
[78] *Confessio*, in *The Rosicrucian Enlightenment*, p. 312.

"sixth candlestick", at the end of the sixth millennium, after Joachim of Floris,[79] in the following passage early in the *Confessio*:

> For it is to be taught and believed, that this our unhoped (for) willing offer will raise many and divers thoughts in men, unto whom (as yet) be unknown *Miranda sexta aetatis*, or those which by reason of the course of the world, esteem the things to come like unto the present, and are hindered through all manner of importunities of this our time, so that they live no otherwise in the world, than blind fools, who can, in the clear sun-shine day discern and know nothing, than only by feeling.[80]

The quest for a return to a divine state, a 'happy time' to come, lost after the now familiar concept of the fall of man, achieved through a spiritual and educational reformation, is further expounded upon later in the *Confessio*: "…that God hath certainly and most assuredly concluded to grant to the world before her end, which presently thereupon shall ensue, such a truth, light, life and glory, as the first man Adam had, which he lost in Paradise…", and this is continued in "…that many principal men by their writings will be a great furtherance unto this Reformation which is to come…"[81]

Like the *Fama*, the *Confessio* tells that reader that it is only through the secret Brotherhood of the Rosy Cross that one can be part of this reformation, and so acquire the secrets of the true Philosophy. This is to be achieved by a combination of the biblical Scripture and the Brotherhood's magical writings, so it is similar to Campanella, but not to More or Bacon, but there is a warning to be wary of False Alchemists.[82] While the Fraternity

[79] Edighoffer, *Modern Esoteric Spirituality*, p. 188.
[80] *Confessio*, in *The Rosicrucian Enlightenment*, pp. 313-314.
[81] *Confessio*, in *The Rosicrucian Enlightenment*, p. 317.
[82] *Confessio*, in *The Rosicrucian Enlightenment*, pp. 316-320.

is willing to help teach the secret knowledge which they have access to, they will only do this to the worthy who join them in their striving for this knowledge, and not those who are blinded by "the glittering of gold".[83] The end of the *Confessio* restates this dichotomy of an eagerness to share their knowledge, yet only to a select few. It reiterates that it is through the willingness of God that only worthy individuals will be able to join the Fraternity of the Rosy Cross and gain all the secret knowledge of God, Nature, and Man, and therefore of the true Philosophy.[84]

The third facet in the triad of the seminal Rosicrucian writings, the *Chemical Wedding*, is even more different to the *Fama* and *Confessio* than they are to each other. Written as an autobiographical, allegorical, alchemical novel, it was published in Strasbourg in 1616. Its central character, Christian Rosencreutz, also has a different story from the Brother C. R. of the two earlier works, but the themes the text helps to deliver are still familiar.[85] The *Chemical Wedding* is a complex initiatory tale of the travels of a hero who has been invited by an angel to the "Wedding of the King".[86] While not a utopian tract, one can take the description of the physical journey over seven days of one man detailed in the text as an allegory of the spiritual journey of man in general in order to gain divine truth, and similar to the journeys in *Utopia*, *City of the Sun*, and *New Atlantis*.[87] An exhaustive analysis of the plot and the symbolism in this dense story is not possible within the present work, but the exposition of some key extracts from the text will help to show how the themes contained therein have some parallel to those found in the first two manifestos.

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[83] *Confessio*, in *The Rosicrucian Enlightenment*, pp. 315-317, 321.
[84] *Confessio*, in *The Rosicrucian Enlightenment*, pp. 320-321.
[85] Edighoffer, *Modern Esoteric Spirituality*, p. 188.
[86] Edighoffer, *Modern Esoteric Spirituality*, pp. 188-189.
[87] *The Chemical Wedding of Christian Rosenkreutz*, trans. by Joscelyn Godwin, (Boston: Phanes Press, 1991), pp. 14-104.

The concept of worthiness, found in both the *Fama* and *Confessio*, is again an intrinsic element of the *Chemical Wedding*. On reading the invitation to the wedding, Christian questions his own worthiness, leaving the reader with little doubt as to the true purpose of the wedding: "…how much less was I born for the investigation and discovery of nature's secrets"[88] Again we see the importance of understanding nature in order to better understand God. The secret nature of the both the knowledge and the brotherhood are further implied a number of times within the text. An example of this, which also reinforces the importance of worthiness again, is discovered by Christian on the second day of his travels, on a large stone tablet: "[Away, away from here profane ones!], and other things which it is strictly forbidden me to tell."[89] Thus, it could be speculated that a contemporary reader may well have been led to understand that the only way to gain this secret knowledge was to join the secret brotherhood, the reading of the manifestos alone not being sufficient. Additionally, there is an important initiatory aspect of two chivalric orders that Christian is admitted to during his travels which are not found in non-Hermetic utopias.[90] Being led to the secret knowledge, by one who already has access to it, but also the importance of learning, is implied at various times during the entire journey. A succinct example of this, which also reaffirms the ancient aspect of the secret wisdom, occurs on the third day, after Christian has chosen to be guided by his assigned page: "…for among many wonderful antiquities I was also shown the Tombs of Kings, where I learned more than is to be found in all the books in the world."[91] The concept of reform, so prevalent in the first two manifestos, can also be found in the *Chemical Wedding*. A gruesome allusion to this occurs on the fourth day when the old King, amongst six others, is beheaded, before all the corpses are sent far away across

[88] *The Chemical Wedding*, pp. 16-17.
[89] *The Chemical Wedding*, p. 26. The third day of the journey also introduces another important element in the concept determining whether an individual should be allowed to proceed, that of the scales which 'weighed the adequacy' of all the invited guests still present, in *The Chemical Wedding*, pp. 37-48.
[90] Edighoffer, *Modern Esoteric Spirituality*, pp. 188-189.
[91] *The Chemical Wedding*, p. 49.

the sea. Christian is told by 'our Virgin' not to worry for those killed, perhaps implying a millennial or apocalyptic concept, the required reformation leading to a utopia.[92] Numerous examples can be found that the Rosicrucian ideas, couched in complex allegory throughout this last work of the triad, are a magical and occult interpretation of the underlying, explicit Christianity, as in the *Fama* and *Confessio*. These comprise many alchemical references, too intricate to attempt to decipher here.

Thus, the multi-faceted Rosicrucian philosophy can be surmised to be one of reform (religious, spiritual, educational, and political), only achievable by membership of a secret brotherhood of worthy individuals striving to understand the true Philosophy, an ancient wisdom, through their magical and occult works and activities, combined with Christian Bible scripture. As we have seen, these first three Rosicrucian works certainly generated much debate and controversy in addition to the obvious enthusiasm aroused in readers, and this may have helped its dissemination across Europe.[93]

There was an immense volume of written works arising from the publication of the manifestos. However, many of the approximately two hundred books and pamphlets, published between 1614 and 1620, were written against the ideas of the Rosicrucian fraternity. As a consequence of this, the maelstrom of responses in Germany is known as the 'Rosicrucian Furor'.[94] Those speaking in favour of the themes contained in the manifestos were, of course, Protestant, given the anti-Papal comments therein.[95] Those commentators who expressed antagonism towards the philosophies of the fictitious brotherhood mainly

[92] *The Chemical Wedding*, pp. 70-71.
[93] Edighoffer, *Modern Esoteric Spirituality*, pp. 196, 202-203.
[94] Goodrick-Clarke, *The Western Esoteric Traditions*, pp. 118-120. Further commentary on both the appeal and the derision with which the manifestos were considered, includes that by Yates, when she speaks of "the wild excitement which broke out in response", in Yates, *The Rosicrucian Enlightenment*, p. 126. Also, Edighoffer uses the term "extraordinary success of these writings" in Edighoffer, *Modern Esoteric Spirituality*, p. 196.
[95] McIntosh, *The Rosicrucians*, p. 31.

came from Lutherans, rather than Catholics, however.[96] Andreae himself wrote about the manifestos later, but his ambiguous writings appeared on one hand an attempt to deny any involvement with their creation, probably as a consequence of the developing furor, and on the other, a continuing aspiration to establish a German Christian utopia.[97]

Additional evidence for the power of the Rosicrucian reformist message comes from the vast number of people who wished to join the secret fraternity, even though it was itself non-existent. This was possibly in order to gain an alchemical understanding of the transmutation of metals, even though the brotherhood explicitly warned against false alchemy. This may to some extent have stemmed from the esoteric interests prevalent in the area at the time.[98] These were a broad church of native German mystical themes overlaid by the influence of the Italian Renaissance, with millenarianism and utopian thinking common throughout. In addition to Paracelsus, the mystical and occult works of other important German thinkers such as Meister Eckhart (1260-1327), Johannes Reuchlin (1455-1522), and Heinrich Cornelius Agrippa von Nettesheim (1486-1533) helped create an atmosphere highly conducive to the resurgence of the Hermetic-Qabalistic-Neoplatonic tradition stemming from the Italian Renaissance humanists and magi. Their writings on a wide variety of themes, from pantheism, Qabalah, magic, alchemy, prophecy, cosmology, and medicine, helped shape Rosicrucianism when it began to emerge from the religious and social turmoil in Germany at the time. The concept of a pansophic reform, a 'new golden age', was thus readily propagated in the region in the early seventeenth century.[99] The manifestos' exposition of the spiritual crisis in Europe (at the beginning if the Thirty Years' War, which began in 1618), with the

[96] Goodrick-Clarke, *The Western Esoteric Traditions*, pp. 118-120.
[97] Goodrick-Clarke, *The Western Esoteric Traditions*, p. 120. Also, Edighoffer, *Modern Esoteric Spirituality*, pp. 197-202.
[98] Goodrick-Clarke, *The Western Esoteric Traditions*, p. 118.
[99] McIntosh, *The Rosicrucians*, pp. 9-18. "These…intellectual currents which lay behind the emergence of the Rosicrucian movement help to explain both the excitement with which the movement was greeted…and the vehemence with which it was opposed…"

offer of potential salvation via a 'universal spiritual science', fused with thinking from the occultist tradition, was very appealing to many.[100] I suggest that it would not be unusual to assume that many individuals severely affected by these tumultuous religious and political times in Europe would have found that the Rosicrucian philosophy resonated strongly within them. Two such impacted individuals, both educators who proposed a pansophic unity throughout their lives, were Comenius and Hartlib, both of whom will considered in more detail later.[101] One could infer that this is also likely to have been the case with many others who did not have such wide spheres of influence across Europe, about whom there is less documentation available for study, and therefore about whom we know much less.

The Rosicrucian philosophy was thus intricately intertwined with the motivations to write the manifestos in the first place, given the milieu of reform prevalent at the time. The philosophy was a multi-faceted one of religious, spiritual, and educational reform, delivered through the teaching of a hidden ancient wisdom by a secret magical initiatory brotherhood. The imperfect world of the seventeenth century needed to be changed in order for a 'happy time' to exist once again. The complex fusion of Christian and esoteric doctrine was the 'True Philosophy', and was given only to those who were considered worthy, by God's will, to receive such knowledge. Presumably those seeking a solution to the spiritual crisis, which came to a head during the Thirty Years' War, would want to be considered worthy, and so needed to join the Fraternity of the Rosy Cross to confirm this. Set against the intellectual desire for universal reformation, stemming from the hermetic Renaissance humanists, the Rosicrucian message seemed to provide a method by which these pansophic ideas could

[100] Antoine Faivre, *Access to Western Esotericism* (Albany, NY: State University of New York Press, 1994), p.64. Also, Edighoffer, *Modern Esoteric Spirituality*, pp. 200, 202.
[101] Greengrass, Leslie and Raylor, *Samuel* Hartlib, pp. 2-3. Evidence of the connection between Andreae, Comenius, Hartlib, and Rosicrucianism, as well as concurring with the theme that the Rosicrucian message was attractive to many as a result of the religious and political crisis of the period, is concisely presented by Clare Goodrick-Clarke, in 'The Rosicrucian Afterglow: The Life and Influence of Comenius', in *The Rosicrucian Enlightenment Revisited*, ed. by Ralph White (Hudson, NY: Lindisfarne, 1999), pp. 206-213.

become manifest. Despite the dissenting tone of some of the writings in the furore following the publication of the Rosicrucian manifestoes, and the eventual petering out of the pansophic aspirations later in the century, as a consequence of the growth of materialist science and the English Restoration, amongst many other factors, the Rosicrucianism was still spread far and wide.

Johann Valentin Andreae

Johann Valentin Andreae was a scholarly Protestant pastor from Tübingen in Germany.[102] While there remain many questions relating to the truth about their authorship, and it is certainly possible that the *Fama Fraternitatis* and *Confessio Fraternitatis* were written by more than one person, likely to be Andreae and his compatriots, a group often referred to as the Tübingen circle, Andreae himself admitted he wrote *The Chemical Wedding* in his autobiography.[103] This group consisted of Tobias Hess (1568-1614), a Paracelsian physician, drawn to theology, philosophy, and science, and Christoph Besold (1577-1638), a jurist, with knowledge of nine languages, and a thorough understanding of theology, medieval mysticism, and Hermetic thought.[104] The three other members of the circle were Abraham Hölzel (1580-1651), Tobias Adami (1581-1643), and Wilhelm Wense (1586-1641), the last two of whom were disciples of Campanella.[105] Through Adami, Wense, and with Besold's fascination with Campanella's Hermetic utopia, *The City of the Sun*, and his own *Signatura temporum* (1614) and Axiomata Philosopico-Theologica (1616), we begin to see the important themes of utopia and reformation, which have also been shown to be prevalent

[102] McIntosh, *The Rosicrucians*, p. 19. Also, Yates, *The Rosicrucian Enlightenment*, pp. 178, 218-9.
[103] McIntosh, *The Rosicrucians*, p. 19.
[104] Goodrick-Clarke, *The Western Esoteric Traditions*, p.115.
[105] McIntosh, *The Rosicrucians*, p. 21.

in the Rosicrucian manifestos.[106] Andreae's overtly utopian, but no so explicitly Rosicrucian, *Christianopolis* of 1619 undoubtedly gained some influence from More's *Utopia*, but is much more similar to Campanella's *The City of the Sun*, and Bacon's *The New Atlantis*.[107] In Andreae's opening address to the 'Christian Reader', he makes positive reference to the Lutheran Reformation, but suggests both the need and the possibility of another reformation happening, attacking not only the churches, but also the courts and the universities.[108] In an attempt to distance himself from the recent Rosicrucian furore, Andreae dismisses the secret Fraternity of the Rosy Cross as a joke, yet ambiguously attacks those who don't want the reform that the Brotherhood offered.[109] This might suggest that Andreae was trying to maintain his own reputation as much as he was trying to demonstrate his negative position against the Rosicrucian Brotherhood. This may be borne out by his later attack on "imposters who falsely call themselves Brothers of the Rosicrucians".[110] Whether Andreae is attacking the imposters for trying to be associated with a fraternity which is 'a joke', or because they are not pious enough, or sufficiently worthy to be members of the Brotherhood, is difficult to say. However, given that reform was still clearly uppermost in Andreae's thinking, and he was clearly associated with the Rosicrucian manifestos to some degree, I interpret his ambiguous statements in *Christianopolis* as thinly veiled attempts to mask his true feelings concerning the Brotherhood, for the purposes of self-preservation.

The story of *Christianopolis* references familiar influences and themes, including Plato's *Republic*, More's *Utopia*, the journey motif (indicative of both man's spiritual path to divinity, and the quest for general reformation), the shipwreck (analogous to a millenarian event, leading to reformation or enlightenment), pansophic education, and the idea of a

[106] Goodrick-Clarke, *The Western Esoteric Traditions*, p.115.
[107] Held, in 'More's 'Utopia,' Campanella's 'Civitas Solis' and the 'Christianopolis'', in Andreae, *Christianopolis*, pp. 16-17.
[108] Andreae, *Christianopolis*, pp. 133-135.
[109] Andreae, *Christianopolis*, pp. 137-138.
[110] Andreae, *Christianopolis*, p. 145.

'college' of religion, justice, and learning (run by an aristocratic Triumvirate), as well as the idea of The Temple.[111] The scope of the different subjects of learning undertaken is vast, including Grammar, Logic, Arithmetic, Music, Astronomy, Natural Science, Ethics, and Theology.[112] This is very similar to the activities of learning within both Campanella's and Bacon's ideal states, and the city contains a library, and laboratories for examination and experimentation. Here, the teachers are the elite of society, Masters with the greatest understanding following "…observation of the heavens and the earth, in the close examination of nature, in instruments of the arts, in the history and origin of languages, the harmony of all the world."[113] The initiatory theme implied here is illustrated by the series of examinations of the stranger, undertaken to determine his worthiness to be shown the secret knowledge of the city, his subsequent acceptance into the fraternity of the city, and the permission to invite other 'excellent men' from throughout the world to experience the wonders of learning.[114]

Thus, in Bacon's works, especially *The New Atlantis*, and Andreae's *Christianopolis*, influenced by the Rosicrucian manifestos, we see the early philosophical and intellectual themes that helped shape the idea of a fraternity, college, or institution of universal learning, later manifest in a diluted form as the Royal Society. Both outlined the principles of a general reformation of education and learning, with similar laboratories, both physical and chemical, similar subject areas for study, as well as allusions to a cohesive learned Fraternity, all couched in Christian terms. Where the two writers differ is mainly in the areas of the use of non-scriptural texts (the magical and occult works referred to in the Rosicrucian manifestos), and the importance of individual freedom, especially within the context of their respective political structures, Bacon's being a much more restrictive centralized system of

[111] Andreae, *Christianopolis*, pp. 140-142, 148, 173-174, 249.
[112] Andreae, *Christianopolis*, pp. 210-240.
[113] Andreae, *Christianopolis*, pp. 148, 207.
[114] Andreae, *Christianopolis*, pp. 145-148, 279-280.

monarchy.[115] These similarities are not unexpected, given the reformist background prevalent at the time, and the familiarity of each other's works that must have existed. Bacon certainly knew of Campanella's *The City of the Sun*, and will undoubtedly have heard of Andreae's writings, even if we cannot prove he read them.[116]

Intellectual Reformists – Comenius and Hartlib

The next two educational reformists who had a more direct influence on the formation of the Royal Society, are the Czech Jan Amos Comenius and the German born Samuel Hartlib. We will see that the writings and philosophies of Comenius, together with the political, religious, and academic activities of Hartlib, and his wide circle of friends, acquaintances, and correspondents, helped shaped the formation of the early Society. Despite being little known now, Comenius has left a great legacy. His philosophical, educational, and intellectual heritage spans ideas for primary and secondary education, including the subjects of geography, foreign languages, and natural sciences, and the importance of vocational training, so that every individual has the potential to improve their life, all undertaken in a fun manner, rather than in the punishing environment he himself encountered at school, to establishing the aspirational ideals which may now be considered manifest in the United Nations Educational, Scientific, and Cultural Organisation (UNESCO).[117] In his own time, Comenius was very well regarded across Europe, and his expertise was requested to help reform the organization of education in Sweden, France, Holland, and Hungary. Similar plans in England were halted by the outbreak of the Civil War (1642-1651). This complex teacher, priest, mystic (with interests in astrology, mediumship, and prediction), historian, philosopher, pansophist, linguist, cartographer, and prolific writer, was born in Bohemia in

[115] Held, in Andreae, *Christianopolis*, pp. 15, 70, 72-73.
[116] Held, in Andreae, *Christianopolis*, pp. 47-54.
[117] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, p. 195.

1592, studied at the German universities of Herborn and Heidelberg, and later lived in Poland, England, and Sweden, dying in Amsterdam at the age of seventy-eight.[118]

Of most relevance here are Comenius' thoughts on pansophy and education. He considered that learning was for everyone, regardless of gender, or social status. What motivated this belief was the Protestant and humanist ideal of the renovation of human life, now left immoral, unenlightened, and degenerate, following man's fall.[119] His reformist aspirations were influenced, like so many others in the region at that time, by the religious and political fallout from the Thirty Years' War, although the Czechs had their own Protestant Reformation tradition going back two centuries earlier. As a result of this conflict, Comenius had to leave his homeland in 1628, heading first to Leszno in Poland, to join a refugee community of the Unity of Brethren.[120] This was a difficult time for Comenius, having been ousted from his homeland, the ruin of his library, the loss of his religious freedom, and the death of his young family as a result of the plague, all of which led to his increased inner contemplation. His awareness of the opposing spiritual themes of secular disorder, hatred, and selfishness, as compared to harmony, love, tolerance, and empathy, helped shape his desire for universal reformation. Consequently, it was during this tumultuous period in his life that he wrote his anti-utopian *The Labyrinth of the World and the Paradise of the Heart*, followed by his *Open Gate of Languages* (*Janua linguarum reserata*), both in 1631, once he was a little more established in Leszno.[121] It was also during this time that Comenius began corresponding with Samuel Hartlib, a German-speaking Pole, who had established himself in London in 1628, and was a close friend of John Dury (1595-1680), a Scottish theologian and intellectual, both of whom had similar educational and

[118] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 196-197.
[119] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, p. 198.
[120] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 200-204.
[121] Dagmar Ćapková, in 'Comenius and his ideals', in Mark Greengrass, Michael Leslie and Timothy Raylor, *Samuel Hartlib & Universal Reformation: Studies in Intellectual Communication*, ed. by Mark Greengrass, Michael Leslie, and Timothy Raylor (Cambridge: Cambridge University Press, 1994), pp. 77-78.

philanthropic motivations to himself.[122] The importance of this trio, and their associates, on the proposed establishment of educational reforms in England, and the eventual formation of the Royal Society, is fundamental to this account, but first, more analysis of Comenius' intellectual influences is required in order to more fully describe the breadth of his aspirations in this context.

Comenius' key interests are neatly summarised by Clare Goodricke-Clarke as pansophy, Rosicrucianism, utopianism, and a universal Christian organization of education.[123] These themes grew cohesively from his knowledge of Renaissance culture and the revival of humanism, a fascination with Christian Antiquity, his own country's Reformation, and the works of numerous Neoplatonic writers, including Cusanus, Paracelsus, Patrizzi, Campanella, and Fludd, as well as the writings of Boehme and Andreae.[124] His formal education at Herborn and Heidelberg exposed him to the Renaissance tradition of Hermetic and pansophic themes dating from a century earlier, through his teacher Johann Heinrich Alsted (1588-1638). Comenius was no doubt motivated by Alsted's aspirations for a pansophic universal encyclopaedia of knowledge (eventually published in 1630 as *Encyclopaedia Omnium Scientiarum*), to be used to aid human reform. The classification of knowledge into encyclopaedias had become very popular in the seventeenth century, and was one of the major activities proposed in Bacon's works, as has already been shown. As well as Alsted and Bacon, Comenius also explicitly stated that Andreae was his intellectual mentor, and an inspiration for his educational reform. It is therefore no surprise that his universal reformation is an inescapable fusion of Christianity and pansophy, the moral and spiritual improvement of man (both individually, and universally), via the quest for an understanding of the true divine nature of God by learning about the workings of nature and its parallels to man, akin to the Neoplatonic concept of the links between the microcosm and the

[122] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 200-204.
[123] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, p. 207.
[124] Ćapková, in *Samuel Hartlib*, pp. 76-77.

macrocosm. Where Bacon's ideas stopped at the advancement of the scientific mind and method, Comenius' reformation required the metaphysical aspect of spiritual growth in order to unify man, nature, and God, firmly placing his renovating philosophies within the *Spirituality-Knowledge* axis of the definition of esotericism introduced earlier.[125] Comenius' pansophic philosophy was given form by the three books of Nature, Man, and God (the physical world, man's individual and global characteristics, and Scriptural truth, respectively).[126] His interests in Rosicrucianism, utopianism, and the establishment of a universal college of learning, only serve to bolster this position, as well as providing an aspirational link to the Royal Society. Comenius was very familiar with the Rosicrucian manifestos, referencing them in his *The Labyrinth of the World and the Paradise of the Heart*, undoubtedly drawing a clear parallel to the political and religious turmoil in his own Bohemia, and maybe also indicating a familiarity with other examples of esoteric and Hermetic literature. Comenius' utopian ideals would certainly have been inspired by the works of More, Campanella, and Andreae, which he would have had access to, and the latter's intermittent, and ultimately unsuccessful, attempts to found an intellectual Christian group called "Societas Christiana", which was the subject of correspondence between the two of them.[127] It was in Comenius' *Way of Light* (1641), in which he described his ideas for a college that brought together the already intertwined strands of his philosophies into a cohesive all-encompassing model. His Christian pansophic academy was designed to exist as a primarily correspondence-driven global network of scientists and other intellectuals, researching and educating, in order to advance the physical and spiritual good of all man, with the ultimate millennial goal of achieving universal redemption.[128] While much more elaborate and far reaching than the eventual structure and nature of the Royal Society,

[125] Ćapková, in *Samuel Hartlib*, p. 84.
[126] Ćapková, in *Samuel Hartlib*, p. 79.
[127] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 211-212.
[128] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 212-213.

Comenius' college was undoubtedly never far from the thoughts of many of those who were key to its formation.

It was at this time that Comenius' association with Hartlib and Dury began to coalesce into a more practical application of his ideals. Motivated by their own millenarian ideals and their desire for educational reform, the efforts of Hartlib and Dury led to Comenius being invited to England to discuss the establishment of a new educational structure there.[129] The concept of millenarianism had become more accepted at this time, and was commonly written about explicitly after 1640, but this had not been the case during the earlier decades of the century.[130] While visiting England, which he found to be an appealingly pious state, the idea of establishing a "college of light" was shared with the highly receptive Comenius, with both Hartlib and Andreae considering him as the natural choice as its leader. However, the outbreak of the Civil War in 1642 brought a swift halt to the millenarian aspirations of Hartlib, Dury, and Comenius, with the latter leaving England in June 1642.[131]

In addition to Hartlib and Dury, Comenius' writings were well received by the English Puritans, as were those of Bacon. Both expressed a divine and millenarian view, but with Comenius conveying these aspects within his pansophic philosophy somewhat more forcefully than Bacon. Comenius' complex philosophy was a synthesis of a number of key themes. Outlined in *Via Lucis, Vestigata & Vestiganda* (1641), *Schola pansophica* (1650-1651), and later in his *De rerum humanarum emendatione consultatio catholica* (1666), this began with the intellectual liberation from Greek philosophy, considered to have been damaging to Christianity, despite his ideas retaining obvious Neoplatonic elements. Comenius combined aspects from rational, empirical, and biblical sources with millenarian, reformist, and utopian ones, such as the Rosicrucian manifestos. He proposed the renovation of man by means of the reformation of knowledge and learning, through plans for a Universal

[129] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, p. 204.
[130] Webster, *The Great Instauration*, pp. 5, 19-20.
[131] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, pp. 204, 213-214.

College, Universal Schools, Universal Knowledge, and Universal Language. Like Bacon, Comenius wanted to restore man's dominion over nature, lost at the fall, to usher in a new 'golden age'.[132]

Comenius continued to be a close friend and correspondent of Samuel Hartlib, who, despite producing no important theological, scientific, political, or reformist works of his own throughout his life, was uniquely influential as a result of the breadth of his intellectual acquaintances, and in the activities which he promoted. He was the nexus for a diverse group of scholars, scientists, theologians, and educators, and provided a cohesive environment in which their issues and concerns could be dealt with, within what has become known as the Hartlib circle.[133] John Winthrop Jr, who was the first Governor of Connecticut referred to him as 'the Great Intelligencer of Europe'.[134] Much of what we now know about Hartlib comes from his diary of information, known as the *Ephemerides*, which is part of the wider collection of his correspondence, known as *The Hartlib Papers*, held at the University of Sheffield.[135] Hartlib shared the pansophic aspirations of Comenius, and as already stated their motivations included the bringing together of the Protestant churches, and the standardization of the physical sciences, all in the context of a cohesive dynamism between the material and spiritual worlds.[136] Hartlib had arrived in England, following the Catholic conquest of Elbing in Polish Prussia, where he had been part of a mystical and philanthropic group.[137]

With the Puritan influence in universities lessening throughout the early 1600s, Hartlib attempted to establish his own academy in Chichester, in Sussex, in 1630, assisted by a recent graduate of Trinity College, Cambridge, John Pell (1611-1685), clearly showing his desire for educational reform. However, this college to promote 'Piety, Learning, Moralitie

[132] Webster, *The Great Instauration*, pp. 25-27.
[133] Greengrass, Leslie and Raylor, *Samuel Hartlib*, pp. 1-2.
[134] Webster, *Samuel Hartlib*, p. 2.
[135] *The Hartlib Papers* 2nd Edition (Sheffield, HROnline, 2002).
[136] Greengrass, Leslie and Raylor, *Samuel Hartlib*, pp. 2-3.
[137] Yates, *The Rosicrucian Enlightenment*, p. 227.

and other Exercises of Industrie' lasted only a short while, perhaps because there still remained a strong Puritan influence in colleges such as Emmanuel College, Cambridge. He later tried to garner support for a new academy but this never came to fruition. Hartlib remained central to the Puritan intellectual milieu. He had access to the long millenarian correspondence between the theologian William Twisse (1578-1646) and the scholar Joseph Mede (1586-1639), supporting and advocating the latter, and with whom he shared works by Alsted and Comenius, amongst others.[138] Hartlib's activities also included the dissemination of reformist, puritan, pansophic, and millennial ideas in print. He undertook fundraising in 1634 in order to publish Comenius' pansophic work.[139] He also oversaw the posthumous publication of John Stoughton's millenarian *Felicitas ultimi saeculi* in 1640, who was heavily influenced by Mede.[140]

The importance of Puritan church patronage at the time was very important. Many sons of clergymen became the natural philosophers of this mid-century period, and as such, English science contained a strong religious core. However, as a foreign layman, Hartlib suffered from not being able to utilize this valuable means of professional development and progression, and found it hard to secure appropriate positions of note. Despite this, Hartlib's influence continued to grow, and his associations with well-regarded intellectuals, such as Comenius, helped in gaining significant support from the likes of the reformist Sir Cheney Culpeper (1601-1663), and the politician Nicholas Stoughton (1592-1648). Consequently, it was in an intellectually and politically fertile environment that a number of the members of the hugely influential Hartlib circle found themselves active in, and this provided a suitable stimulus for the establishment of a Universal College of learning. As previously stated, with the support, and co-operative impetus of Hartlib, Comenius proposed that such a college should be established in London, comprising of six or seven members, dividing duties

[138] Webster, *The Great Instauration*, pp. 37.
[139] Goodrick-Clarke, in *The Rosicrucian Enlightenment Revisited*, p. 204.
[140] Webster, *The Great Instauration*, pp. 32-33.

between them. They would be tasked with maintaining a global network of correspondence amongst intellectuals to discuss new discoveries and inventions, as outlined in his *Via Lucis*. Pre-empting the foundation of the college, Hartlib, Comenius, and Dury shared the responsibilities between them, and this was later amended by Hartlib to include John Pell.[141] There was much correspondence between various members of the Hartlib circle regarding both the idea of universal knowledge and the establishment of a universal college.[142]

Of course, because of the commencement of the Civil War, this aspirational Universal College never materialized, with both Comenius and Dury both leaving for Europe. This religio-political conflict meant that a state sponsored college of learning was no longer an attractive proposition for the English Parliament, and despite there being undoubted continued interest in millenarian, utopian, and utilitarian ideas during the decade long war, the propagation of millenarian and pansophic ideas at this time never fully recovered from this immediate interruption of momentum. I suggest that this move away from pansophic themes at this time was one of the early reasons that the Royal Society did not adopt these more esoteric tenets at its foundation, nearly two decades later. While there was a renewed impetus in intellectual and social reform evident from 1645, in the middle of this conflict, the aspirational and idealistic void was filled with more practical and scientific activities.[143] Hartlib was still trying to promote an international correspondency of scholars at this time, not wanting to completely give up on the idea of a Universal College. Inspired by the Parisian *Bureau d'adresse* of Theosphraste Renaudot (1586-1653), Hartlib put together a proposal for an Office of Address, which was still intended to be state funded. In addition to the

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[141] Webster, *The Great Instauration*, pp. 39-44, 48-50.
[142] Examples of such correspondence include a letter from John Dury to Sir Cheney Culpeper which outlined some methods of both spiritual contemplation of the 'Grace of God', and the human speculation about the "hidden Trueths in natural thinges; and to propose orderly unto others, that which they have found", in HP 1/4/17B and 1/4/18A, *Hartlib Papers* 2nd Edition (Sheffield, HROnline, 2002). Also, there is mention of universal learning in letters from Dury to Hartlib in 1647, in HP 1/6/1A-2B, HP 1/6/11A-14B.
[143] Webster, *The Great Instauration*, p. 51.

correspondency element, its other aim was to promote the activities of inventors. Even early on, this entity was referred to as a college, as can be seen in a letter from Dury to Hartlib in February 1641, which refers to "…the Colledge of Reformation…such as I conceive Sir Cheney desired".[144] Dury first presented the idea more publicly in 1647, by which time two distinct functions became apparent. The first, the Office of Address for Accommodations, was a section somewhat mirroring Renaudot's Bureau, while the second, the Office of Address for Communications, was the maintenance of a suppository of information relating to religion, learning, and 'ingenuities'. This entity, designed to match the Universal College of Comenius, promoted the notion of a national academy for the development of science and technology. Utopian inclinations were still clearly evident, and the Office was publicised using recently translated documents referring to Andreae's "Societas Christiana". The Office, intended to be in London (although Dury had previously suggested Oxford), was increasingly referred to as a 'College', alluding to Bacon and Comenius, but this also distinguished it from the Office for Accommodations. The religious responsibilities were discarded, prompting Dury to consider establishing his own independent protestant correspondency to further his own specifically theological aspirations. Culpeper had agreed to promote the proposal, and it was presented to Parliament by Ralph Cudworth (1617-1688), Master of Clare College, Cambridge, on 21st March 1647. Well regarded by many, the Office of Address changed over the years to advance primarily secular learning, and by 1655 was focussed on Baconian science. This trend towards science and technology continued, and further proposals were accepted which seemed to confirm an income for the Office, related to activities in the newly taken Ireland. Fierce rivalry between Petty and Worsley, however, augured the inevitable end of this entity as state-sponsored by 1659. It continued as a private group, however, with Hartlib, Boyle, Dury, Sadler, Worsley, and Beale, still using it as a utopian focus for

[144] 2/7/1A-2B, *Hartlib Papers*.

scientific and technological advancement and organisation.[145]

The utopian themes which helped to shape the intellectual revolution in the seventeenth century were an intricate mixture of German and English Puritanism, Neoplatonism, scriptural teaching, Hermeticism, Rosicrucianism, and millenarianism. The political and religious turmoil which motivated the creation of a number of utopian texts promoted religious and educational reform, specifically with the aspiration of restoring man's dominion over nature, through a greater understanding of the physical world around him. Thus, those reformist individuals, many of whom were natural philosophers, saw the advancement of science and technology as an obvious way to develop their spirituality and so prove their worthiness for the imminent golden age to come, as well as promoting more utilitarian ideas for the common good of man. It seemed entirely appropriate to them that the establishment of some sort of Christian college, academy, or institution, would be the ideal forum in which the desired combination of religious and educational reform could take place, whether through physical meetings, or a widespread intellectual correspondence.

[145] Webster, *The Great Instauration*, pp. 67-77.

IV The formation of the Royal Society and its precursors

Complex Beginnings

To consider that the foundation of the Royal Society of London came about from the natural progression of the intellectual activities of an unbroken line of English Puritan natural philosophers, stemming solely from the reformist, educational, scientific ideas of Bacon, as detailed in his *Great Instauration*, would clearly be erroneous. Equally, to place too much emphasis on the esoteric themes of Rosicrucianism, Paracelsianism, Hermeticism, and Neoplatonism, that influenced the pansophic, millenarian, and utopian themes prevalent amongst some of the German and English Puritan reformists, would also be flawed. There is still much scholarly work needed to unravel these complexities, despite the stimulus provided by the greater dissemination of sources such as the *Hartlib Papers*.[146] What is closer to the truth is that there was a complex web of activists and intellectuals who embraced the common goals of religious and educational reform, and were active in various private academic groups, many of them also heavily associated with the Hartlib circle, in the two decades prior to the granting of the Royal Society's first Royal Charter on 15th July 1662.[147] Further, that a high proportion of the founding or original Fellows of the Royal Society were members of these groups, is also accurate. As some scholars have contended, this does not prove any direct link from Hartlib to the foundation of the Royal Society, but he must be considered as a strong influence on the intellectual milieu in the two decades before this time.[148] The overlapping groups are referred to by scholars as the Invisible College, the 1645 Group, which sometimes met at Gresham College, the Oxford Group, made up of Oxford

[146] Hoppen, 'The Nature of the Early Royal Society: Part I', (pp. 1-2).
[147] Details of the four Royal Charters can be found online at: <http://royalsociety.org/about-us/history/royal-charters/>.
[148] A. Rupert Hall and Marie Boas Hall, 'The Intellectual Origins of the Royal Society-London and Oxford', *Notes and Records of the Royal Society of London*, 23 (1968), 157-168 (pp. 157-158).

academics, and the 1660 Group, which is made up of those present at what is considered the inaugural meeting of the Royal Society as we know it today, on 28th November 1660, all with certain connections with the wider Hartlib circle introduced in the previous chapter.[149]

The Invisible College

The *History* section of the Royal Society's own website only vaguely refers to its origins, saying that they "lie in an 'invisible college' of natural philosophers who began meeting in the mid-1640s to discuss the new philosophy of promoting knowledge of the natural world through observation and experiment, which we now call science."[150] This statement appears to combine the 1645 Group with the Invisible College referred to in correspondence by Robert Boyle, but these were distinct entities, and there is some disagreement as to whether the latter had any provable links to the formation of the Royal Society, other than having some members in common with the other groups.[151] This confusion may arise from earlier commentators on the Royal Society not fully appreciating the overlapping timelines involved, with some making no distinction between members of the Invisible College, and with those we know to have met at Gresham College.[152] However, Webster asserts that despite the close association between Boyle and Hartlib after 1647, their combined activities had no bearing on the establishment of the Royal Society. Boyle learned of Hartlib's idea of an Office of Address, a state-regulated institution attempting to breathe new life into his proposals for an international correspondency of learning, as well as guiding the activities of inventors, akin to Comenius' Universal College, and became one of its most vigorous advocates. In return, Hartlib was introduced to the Invisible College, a primarily

[149] Webster, *The Great Instauration*, pp. 51-99.
[150] <http://royalsociety.org/about-us/history/>, (accessed 2nd August 2013).
[151] Douglas McKie, 'The Origins and Foundation of the Royal Society of London', *Notes and Records of the Royal Society of London*, 15 (1960), 1-37 (pp. 22-23).
[152] A.C.S., 'Notes on the Foundation and History of The Royal Society', *Notes and Records of the Royal Society of London*, 1 (1938), 32-36 (pp. 35-36).

informal group of natural philosophers, possibly driven by the innovative Benjamin Worsley, who had interests in economic and social reform, especially in Ireland. Consequently, the members of the Invisible College, such as Boyle, Worsley, and the Dutch physician Gerard Boate (1604-1650), many with aspirations to re-establish lucrative Irish plantations, ultimately became associated with the Hartlib circle, but given the dearth of specific documentation, it is difficult to conclude whether the entirety of its membership falls within this wide group of correspondents, or not.[153] The Invisible College certainly did not stem from the Hartlib circle, but following the introduction of Boyle and Hartlib in 1647, its members may subsequently be confidently regarded as belonging to this ever-growing intellectual network of correspondents, but it cannot be considered as Hartlib's Invisible College.[154] The Hartlib circle was not a distinct group who called themselves as such, and who met regularly and formally, but it is a more modern scholarly term to describe a group of individuals with common reformist goals, all connected via each other in some manner through Hartlib. Ultimately, the Invisible College and the Office of Address were short-lived entities, but both were highly influential in a number of ways. Through the Invisible College, Boyle's scientific activities were instigated, as were Worsley's more wide-reaching economic proposals, and Boate's economic survey of Ireland, *Irelands Natural History* (1652), co-authored with Hartlib.[155] Through the Office of Address, and its many transformations up until the end of the Protectorate, which moved its focus more towards the promotion of science and technology, the utopian ideals of universal learning were kept alive, both politically, and amongst scientific intellectuals, and consequently, so was the importance of the idea of a national scientific institution.[156] Thus, Webster's opinion regarding the lack of a

[153] Webster, *The Great Instauration*, pp. 57-67, and Vickers, *English Science*, pp. 5-6.
[154] Charles Webster, 'Benjamin Worsley: engineering for universal reform from the Invisible College to the Navigation Act', in *Samuel Hartlib & Universal Reformation: Studies in Intellectual Communication*, ed. by Mark Greengrass, Michael Leslie, and Timothy Raylor (Cambridge: Cambridge University Press, 1994), p. 219.
[155] Webster, *The Great Instauration*, pp. 57-67.
[156] Webster, *The Great Instauration*, pp. 67-77.

direct route from these two entities on the formation of the Royal Society, while technically correct, should not mask the utopian intellectual environment of which they were a part, and to which they contributed. As such, I suggest that to entirely exclude the influence of the individuals, common to these and the other groups to be considered, even if some of their interactions occurred after the earliest known existence of the distinct entities, is not wholly appropriate. This was a complicated intellectual time in England, with many strands of ideas and individuals having been inextricably intertwined.[157]

The 1645 Group – Early Gresham College Meetings

More evidence of the complex interactions between these various entities emerges when the membership and the activities of the next group are considered. This is the so-called 1645 group, made up of scientists and mathematicians who began meeting in London in that year, sometimes at Gresham College.[158] Gresham College had been instituted in 1596, and lectures had begun there in 1598 following a donation by Sir Thomas Gresham (1519-1579), a prosperous merchant, financial agent to Queen Elizabeth I, and for a time, ambassador to the Netherlands. He was also the builder of the Royal Exchange and founder at Osterley of the first English paper-mill.[159] Some of the members of the 1645 Group included the mathematician John Wallis (1616-1703), the theologian and natural philosopher John Wilkins (1614-1672), the physician and experimental natural philosopher Jonathan Goddard (1617-1675), and the German Calvinist scholar Theodore Haak (1605-1690).[160] According to Wallis, the idea for the meetings was originally that of Haak.[161] He was part of the Hartlib circle, as, of course, was Boyle, who was introduced to members of the 1645 group at a later

[157] Hall and Hall, 'The Intellectual Origins of the Royal Society- London and Oxford', (p. 167).
[158] Vickers, *English Science*, p. 5.
[159] McKie, 'The Origins and Foundation of the Royal Society of London', (p. 4).
[160] Vickers, *English Science*, p. 5.
[161] McKie, 'The Origins and Foundation of the Royal Society of London', (p. 15).

date at Oxford, as was fellow Hartlib associate, the scientist William Petty (1623-1687).[162] The number of attendees at the meetings fluctuated, but grew over time. Wallis' accounts of the meetings, written in both 1678 and 1697, imply a level of formality greater than that employed by the more geographically dispersed Invisible College. They had definite schedules, rules, and the expectation of financial contributions for their experiments. Despite emphasis on Gresham College, the 1645 Group meetings took place in many places, including the rooms of Goddard, in Wood Street, and the public houses, the nearby Mitre, and the Bull-head in Cheapside. The Gresham lectures of the mathematician and astronomer Samuel Foster (?-1652), another member of the group, often appear to have been the gathering point for attendees. Other members included the scientist George Ent (1604-1689), and the physicians Francis Glisson (1599-1677), Charles Scarborough (1615-1693), and Christopher Merret (1614-1695).[163]

The broad subjects explored by the 1645 Group, with a view to advancing their 'New Philosophy or Experimental Philosophy', included physics, anatomy, geometry, astronomy, magnetism, chemistry, mechanics, and what Wallis called 'Natural Experiments'. The group's intention was to tackle new areas for research, or those subjects about which they considered that not enough was yet known. The advancement of some of this work was undoubtedly increased by the employment of a microscope and telescope lens grinder, by Goddard at his home. Political machinations again had an influence on the burgeoning 'New Philosophy', but this time positively, as parliament began to oust scholars from Oxford in 1648. The academic void left in Oxford enabled some members of this scientifically influential, and politically preferable group, Wilkins, Wallis, and Goddard, to take up prominent posts there. Here they recommenced their scientific meetings, and became the

[162] Vickers, *English Science*, p. 5, and Webster, *The Great Instauration*, p. 58.
[163] Webster, *The Great Instauration*, p. 56.

Oxford Group. As for some of the others, Glisson was already at Cambridge, Foster remained at Gresham, while the royalists Scarborough and Ent also remained in London.[164]

The Oxford Group

It was John Wilkins, newly appointed as Warden of Wadham College, who was the focus for the resurrected scientific meetings, which later became known as the Oxford Experimental Philosophy Club, effectively an offshoot off the London based 1645 Group. Along with Wilkins, the other natural philosophers nominated for senior academic posts at this time tempered any overt religiosity, were politically dependable, and together with their experience of experimental science, were highly regarded. This accommodating atmosphere certainly helped the development of the ambitious scientific activities that took place at Oxford. The protective and tolerant environment within the university enabled scholars of highly disparate political and religious leanings to undertake scientific investigations very effectively. This liberal mood was promoted by Wilkins in Wadham College, and in the wider university, as he became one of its more prominent administrators, but this upset many of his fellow puritan academics.[165] Thus, while the commencement of the Civil War halted the impetus for the aspirational state-sponsored universal colleges of Hartlib and Comenius, the religious and political tolerance prevalent at Oxford, where many of the most important natural philosophers operated, promoted a more experimental and technological 'new philosophy', to the further detriment of the Puritan intellectual utopian themes which had helped inspire it, and perhaps became more Baconian in the process.

Despite this, the activities of various members of the distinct groups, not now all active in the same manner as previously, if at all, namely the Invisible College, the 1645 Group, the Oxford Group, and the Hartlib circle, became further intertwined in the 1650s,

[164] Webster, *The Great Instauration*, pp. 56-57.
[165] Webster, *The Great Instauration*, pp. 153-155.

with some of them becoming founding members at the formation of the Royal Society a decade later. During his brief, but successful, fellowship at Brasenose College, Oxford, secured with support from Dury and Hartlib, William Petty had also established regular scientific meetings, focussing more on medical sciences and chemistry, balancing somewhat Wadham's emphasis on physical sciences. These meetings continued until Petty left Oxford to become Physician-General to the army in Ireland in 1652. The Oxford Group developed into what became known as the Oxford Experimental Philosophy Club, later referred to as the 'Greate Clubb' by Wilkins' friend, Seth Ward (1617-1689). A list of eight rules, drawn up in 1651, governed this formal society, ranging from admission criteria, subscriptions, expected levels of attendance, rules of experiments undertaken, and meeting schedules. With a passion for the 'new philosophy', and with access to the newest instruments, the creation of laboratories, and an observatory, the Oxford Club looked to undertake scientific experiments and create 'a Magneticall, Mechanicall, and Optick Schoole'. Mirroring the aspirations of the Hartlib circle, the prominent members of the Oxford Club also insisted on creating a religious foundation for their scientific investigations, which is not surprising given their theological backgrounds. Unfortunately, there are no subsequent records of membership, other than it began with thirty members. Webster attempts a tentative list of likely fellows of the Club from subsequent correspondence, but concedes that it is less than comprehensive for the early part of the Club's existence, and says little about the level of activity of its members.[166]

Of particular interest within this list are those who subsequently went on to become founding members of the Royal Society. These are Wilkins, Goddard, Petty, Boyle (then a private resident at Oxford, never having accepted an official university position), the mature mathematician Laurence Rooke (1622-1662), the astronomer William Balle (1631-1690), and

[166] Webster, *The Great Instauration*, pp. 155-178, and Rattansi, 'The Intellectual Origins of the Royal Society', (p. 130). However, it appears that Ward specifically rejected Hermeticism at this time, in G. H. Turnbull, 'Samuel Hartlib's Influence on the Early History of the Royal Society', *Notes and Records of the Royal Society of London*, 10 (1953), 101-130 (pp. 136-137).

the young Christopher Wren (1632-1723). Wilkins and Boyle were the driving forces behind the Oxford Club, Wilkins especially so at its inception and the early part of its existence, and Boyle in its later years after his move to Oxford in 1654. Here, Boyle became increasingly influential in the university's scientific activities, and may have helped revitalise the Oxford Club, hosting meetings at his lodgings by the end of the decade. Boyle and Petty were also members of the Hartlib circle, and Boyle was also instrumental in the activities of the Invisible College. Wilkins and Goddard were, of course, members of the original 1645 Group, and perhaps of equal significance, Rooke and Wren became professors at Gresham College after they left Oxford, in 1652, and 1657, respectively. There is evidence to suggest that they helped the continuation of the scientific meetings at Gresham College, which Foster had continued to run after the academic exodus to Oxford in 1648. This was important, because there was a later migration of many of the prominent members of the Oxford Club to London. This was in response to the increased levels of dissent about the Puritan driven educational and religious reforms in the universities, a mood which became especially prevalent at Oxford. Much of this opinion was provoked by the writings of the physician Henry Stubbe (1632-1676), who was especially fierce in attacking the work of Wallis.[167] Stubbe subsequently directed his vehement attacks towards the Royal Society after its foundation.[168] Then, following the crumbling of the Protectorate, and the consequent Restoration of the monarchy in 1660, most parliamentarian academics were ousted from their positions. As a result, those who had moved to London had an existing scientific gathering at Gresham College to which they could attach, or reattach, themselves.

[167] Webster, *The Great Instauration*, pp. 155-178, and McKie, 'The Origins and Foundation of the Royal Society of London', (p. 13).
[168] R. H. Syfret, 'Some Early Critics of the Royal Society', *Notes and Records of the Royal Society of London*, 8 (1950), 20-64 (p. 20).

Later Gresham College Meetings and the 1660 Group

Thus, these meetings in London became hugely significant again, while the Oxford Club continued, but now on a less formal basis. So, an offshoot of the 1645 Group, the Oxford Group, developed into the Oxford Experimental Philosophy Club by 1651, with many of its members subsequently joining the meetings which had continued in London, but now with aspirations of greater formalization and institutionalisation.[169] Thus, Gresham College was key to providing a suitable fertile environment in which the Royal Society, as it is known today, could take seed.[170]

These meetings crystallized on 28th November 1660 at Gresham College, with the decision taken by the twelve individuals present to formally establish a society to meet regularly on Wednesday afternoons, in Rooke's rooms during term-time, and at Balle's rooms in the Temple outside of these times. Wilkins became Chairman, Balle was made Treasurer, and the physician William Croune (1633-1684), not present, was appointed as Registrar. This mixture of parliamentarians, royalists, theologians, and laymen, was completed by Boyle, the four resident Gresham professors, Goddard, Wren, Petty, and Rooke, the inventor Alexander Bruce (1629-1681), the merchant Abraham Hill (1633-1721), the statesman and natural philosopher Sir Robert Moray (1609-1673), the mathematician Lord William Brouncker (1620-1684), and the astronomer and politician Sir Paul Neile (1613-1686). At the meeting, a list of forty other prospective fellows was drawn up, presumably including some of those who would have been expected to attend this inaugural meeting, but were unable to. At a second meeting the following week, a number of rules were established, including those for subscriptions. At this time, the society's aims were stated as 'the promotion of experimental learning'. The true scientific meetings following official

[169] Webster, *The Great Instauration*, pp. 155-178. The meetings in London not only continued, but were attended by some of those who had left for Oxford when they happened to be in London: McKie, 'The Origins and Foundation of the Royal Society of London', (pp. 13, 31).
[170] McKie, 'The Origins and Foundation of the Royal Society of London', (p. 8).

constitution began on 19th December 1660. The first charter was granted on 15th July 1662, when the name the Royal Society was first used. The second charter was awarded on 22nd April 1663, superseding the first, and the formal name of The Royal Society of London for Improving of Natural Knowledge was established. The Society's aims were revised to include 'the advancement of knowledge of natural things and useful arts by experiments, to the glory of God the creator and for application to the good of mankind'.[171]

Early Character of the Royal Society

There is a distinct similitude between the words of the declared ambitions of the Royal Society and the aspirations of Bacon, Andreae, Comenius, and Hartlib, but what evidence was there of the influence of pansophy, millenarianism, or utopianism within its activities? This is not the forum to undertake a detailed analysis of the day to activities of the formative years of the Royal Society, but some interesting points of interest are presented.

Despite Comenius' dedication to the Society in 1668, the mood of political and religious tolerance which enabled its foundation in the manner described would have precluded any overt spirituality.[172] In fact, it explicitly excluded investigations relating to 'man's moral nature, and the mysteries of revealed religion'.[173] Also, there were certainly those who held strong rationalist and mechanical views within the early Society.[174] It has been suggested that Boyle's early philosophy, however, was more like Telesio and Campanella than Bacon, and that Petty's influences included Paracelsus and Campanella, indicating a continued strong influence of Renaissance Hermeticism, and both were members

[171] The bias was probably more towards royalists than parliamentarians, McKie, 'The Origins and Foundation of the Royal Society of London', (pp. 1, 32-33), and Webster, *The Great Instauration*, pp. 88-89.
[172] McKie, 'The Origins and Foundation of the Royal Society of London', (p. 15), and Ćapková, *Samuel Hartlib*, p. 84.
[173] R. H. Syfret, 'Some Early Reactions to the Royal Society', *Notes and Records of the Royal Society of London*, 7 (1950), 207-258 (p. 215), and Mikuláš Teich, 'The Two Cultures, Comenius and the Royal Society', *Paedagogica Europaea*, 4 (1968), 147-153 (p. 4).
[174] Hoppen, 'The Nature of the Early Royal Society: Part I', (p. 3).

of the Hartlib circle.[175] It is known that Boyle and Newton, amongst others, had interests in alchemy, but these appeared to be motivated by private interests, rather than being endorsed by the Royal Society. Also, it would be difficult to determine to what extent these interests in alchemy derived from any esoteric fascination or from its obvious importance to the growing science of chemistry, although there was certainly a Rosicrucian presence in the Society, both from royalists and parliamentarians.[176] It has been shown that Hartlib held an important position at the heart of the scientific endeavours which led to the Society's formation. He was certainly acquainted with most of the members of the 1645 Group, and the Oxford Group, although only with Haak before 1645. Their scientific meetings clearly foreshadowed the Royal Society, as has been detailed. These entities were made up of the individuals who drove the formal Society from its inception in 1660 through to its second charter in 1663, with Hartlib having assisted many of them over time, primarily as a conduit of information regarding their scientific activities, but without being a scientist himself. While he may have been interested in their science in a utilitarian and reformist sense, he would have been unlikely to stimulate the direction of any of their work.[177]

The scientific activities of the early Society were broadly two-fold: physical experimentation and data-gathering. This systematic information gathering is clearly Baconian in influence, and was at the core of its early endeavours.[178] While Boyle was seen by many as the chief proponent of both streams of activity, with his 'heads' and 'inquiries' ideas for choosing subject areas for investigation, and his method of structuring the

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[175] Michael Hunter, 'Robert Boyle and the early Royal Society: a reciprocal exchange in the making of Baconian science', *The British Journal for the History of Science*, 40 (2007), 1-23 (p. 7), and Rattansi, 'The Intellectual Origins of the Royal Society', (pp. 130-132).
[176] Hoppen, 'The Nature of the Early Royal Society: Part I', (pp. 10-15), also, K. Theodore Hoppen, 'The Nature of the Early Royal Society: Part II', *The British Journal for the History of Science*, 9 (1976), 243-273, and Donald R. Dickson, 'Thomas Henshaw and Sir Robert Paston's Pursuit of the Red Elixir: An Early Collaboration between Fellows of the Royal Society', *Notes and Records of the Royal Society of London*, 51 (1997), 57-76.
[177] Turnbull, 'Samuel Hartlib's Influence', (pp. 129-130), and Hoppen, 'The Nature of the Early Royal Society: Part I', (p. 3).
[178] Hunter, 'Robert Boyle' (pp. 1-7, 19).

information, used as examples of the latter pursuit. Some recent scholars argue, however, that he was an erratic attendee of the Society's meetings, and that the driving force behind some of this work lay with others within the Society. There is evidence to suggest that it was Moray and Brouncker who helped to make the setting of the scientific objectives in the early Society more of a mutual exercise, rather than being pushed by certain individuals, and this specifically included the importance of data-gathering. Neither of these individuals had been part of the Oxford Group, and so it could be argued that, if true, their activities helped to shape the early characteristics of the Society while it was trying to find its own identity, perhaps more so than the individual scientists who are now famous.[179]

It is Bacon's influence on the Royal Society that is emphasized in one of the earliest documented histories, Thomas Sprat's *History of The Royal Society*, published in 1667. While the facts contained therein appear largely accurate, it has a strong Baconian bias, which takes little account of the influence of those other individuals who have been considered in this work, and so it is rendered of limited use in examining the broader scope of significant intellectual influences which are evident.[180] Sprat states: "I shall onely mention one great Man, who had the true Imagination of the whole extent of this Enterprize, as it is now set on foot; and that is, the *Lord Bacon*."[181] While many of the historical details referenced in secondary sources have originated from Sprat's book, there are key omissions in it. An example of this is his insistence that the meetings of the scientific group which ultimately became the Royal Society derived only from those at Oxford:

[179] Hunter, 'Robert Boyle', (pp. 13-14), and K. Theodore Hoppen, 'The Nature of the Early Royal Society: Part II', (p. 247). Hoppen also mentions that Moray was also a noted patron of Rosicrucianism.
[180] Hoppen, 'The Nature of the Early Royal Society: Part I', (pp. 2-3). Sprat refers to "*my* Lord Bacon" (my emphasis) throughout the book, in Thomas Sprat, *The history of the Royal Society of London for the improving of natural knowledge* (London, 1667), pp. 98, 144, 151, 245, 351, 416, 429.
[181] Sprat, *The history of the Royal Society*, p. 35.

> It was therefore, some space after the end of the Civil Wars at *Oxford*, in *Dr. Wilkins* his Lodgings, in *Wadham College*, which was then the place of Resort for Vertuous, and Learned Men, that the first meetings were made, which laid the foundation of all this that follow'd.[182]

This was part of the politically motivated attempt by Sprat to lessen the influence of the Puritan intellectual revolution on the Royal Society, as well as highlighting the importance of Wilkins, his mentor.[183]

This increased collaboration amongst the active early Fellows, despite their vast philosophical differences, was perhaps made more cohesive by the obvious metaphor of Bacon's 'Solomon's House' to the Society, although it has been described as more of a club than a college, or academy, certainly in its early days.[184] Another factor which may have helped define the nature of the early Society was that of language. While some works in its first few years of existence were still translated into Latin, it was English that became the predominant language of science. In addition, the way in which the investigations soon came to be documented, as specific, discrete 'experiences' with a standard form and standard elements (such as noting the time and place of the experiment), rather than the generalizations which typically described previous studies, may also have helped create an enhanced level of cohesion and scientific collaboration.[185] This is an under investigated area which deserves more focus, but cannot be discussed any further here.

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[182] Sprat, *The history of the Royal Society*, p. 53.
[183] Webster, *The Great Instauration*, pp. 491-492.
[184] Peter Dear, 'Totius in Verba: Rhetoric and Authority in the Early Royal Society', *Isis*, 76 (1985), 144-161 (pp. 147, 151).
[185] Dear, 'Totius in Verba', (pp. 151-161), and Jonathan Barry, *Science, Language, and the Royal Society*, (Unpublished, presented at EXESESO Conference, University of Exeter, April 2013).

Consequently, the formation of the Royal Society in the second half of the seventeenth century can be regarded as the formal entity that arose as the culmination of a number of parallel and overlapping strands of religious, political, and intellectual reformist activities, which took place over a long period of time in Europe.[186] While nearly all of the significant natural philosophers in Britain at this time were early Fellows of the Society, there was no single intellectual philosophy which bound them together, so no direct link is now visible between any particular theme, to the exclusion of others, and the Royal Society.[187]

[186] This is similar to the position stated by Peter Dear, in Dear, 'Totius in Verba', (p. 145).
[187] Hoppen, 'The Nature of the Early Royal Society: Part I', (pp. 1-2).

V Conclusions

In trying to address the question of whether esotericism was rejected at the foundation of the Royal Society, it has been necessary to begin by looking at the definition of the term itself, and recent major scholarly discussions on the nature of the field. This has led to the creation of a new characterization of esotericism, a simple fusion of essentialist and interpretive elements, addressing both emic and etic considerations. It does, however, include the more mystical and revelatory elements avoided by some, and perhaps places more emphasis on the universal hidden wisdom proposed by others, as a key component. This augmentation has been undertaken without reference to the subsequent themes discussed in the present work, as the subject matter has to fit into an objective definition, rather than being used to drive its structure. The third facet of this *Spirituality-Knowledge-Interpretation* paradigm discounts no potential filter for the purposes of the scholarly analysis of a subject, such as cultural, or political, but assumes a relevance to the topic under investigation. To avoid this intentionally broad definition of esotericism being used to include any and every subject with a religious theme, careful consideration should be made to the enhanced essentialist characteristics, as outlined in the earlier chapter.

Accepting the viability of such a definition allows the introduction of the general utopian themes of universal educational and religious reform, so prevalent in seventeenth century Europe. It has been shown that these utopian ideas comfortably fall within the newly described definition of esotericism. There is an inherently religious motivation within the majority of these utopian ideals. The quest for an understanding of nature, with a view to gaining a better insight into the Divine Truth, through the correspondences between the microcosm and the macrocosm, for the benefit of all men, embraces both the metaphysical *spirituality* characteristic of esotericism, and the reception and dissemination elements of *knowledge*. Consequently, it is clear that these reformist utopian philosophies can be

considered as esoteric, before undertaking any investigation of the detail behind the Neoplatonic and Hermetic themes that underpin many of them, these being more generally accepted as being part of the esoteric tradition.

The key motivations which have contributed to the intellectual themes important to the concept of universal reformation have been presented through a historical appraisal of certain appropriate utopian works. Having begun with the *Republic* and *Timaeus*, the seminal works of Plato, the mention of More's non-esoteric *Utopia*, some of the works of the individuals influential in the seventeenth century have been discussed. These include Campanella's magical *City of the Sun*, Bacon's hugely significant scientific reformist works, culminating in his utopian *New Atlantis*, the Rosicrucian manifestos, possibly authored by Andreae, and his *Christianopolis*, which definitely was, all of which influenced the pansophic educational reformer Comenius. His most notable writings on this themes were *The Labyrinth of the World and the Paradise of the Heart*, *Via Lucis, Vestigata & Vestiganda*, and *Schola pansophica*. The necessarily selective analysis has provided an insight into the prevalent themes which motivated various aspirational educational reformist activities, culminating in the creation of an intellectually fertile environment in which the Royal Society was able to be established, but with no direct link to any of these individual works.

Plato was probably one of the first to articulate the imperfect nature of the world, man having lost his link with divinity after the Creator made him corporeal, and thus create the need for a reform of society and education to rectify this moral deficiency. This spiritual weakness is mirrored in later Christian literature as the fall of man, resulting from Adam's receipt of the knowledge of good and evil, and is a hugely important motivating factor for seventeenth century reformist writing and activities. Plato's ideal state was striated, run by Philosopher Kings, learned and worthy men in administrative control, with everyone having their set place in society, all working for the common good of the entire community. This

necessity to undertake activities for the benefit of all men is a theme common to all the reformers investigated, but Plato's concept is slightly removed from Comenius' 'all things to all men', being perhaps closer to the ideas that led to the proposal of more vocational schools by some seventeenth century educational reformers.

Neoplatonism, and the Renaissance revival of Hermeticism and humanism, undoubtedly heavily influenced Campanella's utopia, in which he presented the concept of universal knowledge, both metaphysical and physical, taught by learned Hermetic masters. The central focus of the temple is not only indicative of the importance of religion, but of an institution, or college, of learning. These two themes are paralleled in Bacon's works, with his vast list of the subjects in nature to be studied, and the research undertaken in "Solomon's House", clearly presaging the concept of a college, or a learned society. Bacon does state his intention to separate human knowledge from divine knowledge, but, ambiguously, never mentions knowledge or learning without referring to God. He is also explicit about his admiration for Plato's Philosopher Kings, somewhat sycophantically likening the success and intelligence of real historical examples of such leaders to that of his King, James I. Bacon is also clear, throughout his works, of his perception of the imperfect nature of the world, and the consequent need for the familiar combination of religious and educational reform. He also accepts that some elements of his universal knowledge may need to be kept secret, perhaps more similar to the overtly esoteric works, such as the Rosicrucian manifestos, than intended. Amongst all of these familiar reformist elements, it is Bacon's inductive scientific method for which he is best remembered today.

The Rosicrucian manifestos sprung up in Germany towards the end of Bacon's life. They articulated a religious and educational reformist message, couched in Hermeticism, magic, and symbolism, which resonated with the many people subject to the social turmoil which was prevalent at this time. This political and religious crisis crystallized as the Thirty

Years' War, impacting most countries in Europe. The members of the learned, spiritually aware, yet mythical, Brotherhood of the Rosy Cross were the keepers of the universal knowledge, through which man could understand nature, and once again become closer to God. This knowledge was available to all, but would only be shared with the worthy, utilizing an initiatory master-disciple relationship. Whether to distance himself from the furore surrounding the manifestos, the authorship of which he was heavily linked to, or merely to present his reformist ideas in a more overtly Christian context, Andreae published his *Christianopolis*. The utopian state described therein contains familiar motifs from Plato, More, Bacon, and Campanella. Andreae is explicit about the need for religious and educational reform, and presents the nature of the learning required to achieve this through the metaphor of a journey, like many of the utopian works which preceded his. His ideal Christian state promoted pansophic education, once again undertaken in a central college of learning. The vast array of subjects fell under the broad categories of religion, justice, and learning. These were taught in an initiatory manner by the elite of society, learned Masters with an elevated understanding of nature, much like in the Rosicrucian manifestos.

All of these reformist and utopian works would have influenced Comenius, but he himself stated that it was Andreae who provided the greatest inspiration for his pansophy. Displaced from his homeland by the Thirty Years' War, this educational reformer, prolific writer, and polymath, fused together the main strands of his interests across his numerous works. He thought that learning was for all, regardless of one's place in society. Like others before him, he linked the need for religious and educational reform to the renovation of man, following the fall. Comenius combined Christianity and pansophy, driven by his Rosicrucian and utopian interests, into the idea for the creation of a Christian college, or academy, of universal learning, fuelled by a global correspondence of intellectuals. This would no doubt have been similar in feel to Andreae's failed "Societas Christiana". Its intention was to promote the moral and spiritual improvement of man, through the greater understanding of

nature, and the links between the macrocosm and the microcosm, in order to become closer to God once more, and comprehend the Divine Truth.

Comenius was supported and promoted in England by Hartlib, and others of his circle of reformers and activists, such as Dury, and later, Boyle. Ultimately, however, Comenius' grand aspirations never amounted to a pansophic college as he envisaged. There were a number of ideas for a universal college of learning in the 1630s and 1640s, with Hartlib central to their establishment and promotion. His intention was to create a state-sponsored educational organisation, but the English Civil War halted much of this work, and both Comenius and Dury subsequently left England. Some success in this area was achieved, however, with Hartlib's well publicised, and much discussed, Office of Address keeping the idea of a national organisation of science prominent in the minds of intellectuals, especially within those of the Puritan natural philosophers so important to the development of science and technology at that time.

From the mid-1640s, a number of these scientists, mathematicians, and physicians, all with an interest in 'the new experimental philosophy', some of whom were part of the Hartlib circle, began attending informal private scientific meetings. There is also evidence of the existence of an 'Invisible College' of correspondents, driven by Worsley and Boyle, which may have helped promote Hartlib's Office of Address. However, it is the 1645 Group, centred on Gresham College in London, which was one of the most important, and prominent, of these actual scientific gatherings. These London meetings were significant, both because of the seminal nature of the content and format of their discussions, but also because they continued in some form right up to, and beyond, the foundation of the Royal Society, in 1660, and many of those attending went on to become Founding and Original Fellows.

The route from these early London meetings to the foundation of the Royal Society was not a simple direct one, however. Again, politics was to have an impact. The ejection of a large number of academics from Oxford in 1648 left a scholarly void that was filled with leading members of the 1645 Group, such as Wilkins, Wallis, and Goddard, taking up prominent posts there. At the initially tolerant university, the so-called Oxford Group, led by Wilkins, began to hold its own scientific meetings, in parallel to the London ones. Later, Petty also held regular scientific meetings at his lodgings in Oxford. Wilkins' and Wallis' Oxford Group eventually transformed into the Oxford Experimental Philosophy Club, but with a more formal documented set of rules and aims, detailing subscriptions and meeting schedules. This Club was refreshed in the mid-1650s by Boyle, following his relocation to Oxford, at the request of Wilkins, although he never accepted an official academic post there. Two of the Oxford Club members, Rooke, and Wren, took up professorships at Gresham College in 1652, and 1657, respectively. As well as strengthening the links between the remnants of the Gresham College 1645 Group, led by Foster until his death, and its Oxford Club offshoot, this movement back to London almost certainly reinvigorated the scientific meetings there. This academic migratory trend from Oxford to London continued as the Cromwellian Protectorate began to crumble in the late 1650s, and the mood of the university began to rebel against the perceived detrimental impact of the religious and educational reforms of the Puritan 'new philosophy', and the desire for a distinct scientific college. By the time of the Restoration in 1660, and the consequent ousting of most parliament-nominated academics, a large number of members of the Oxford Club moved to London. Here they swelled the ranks of attendees at the scientific meetings at Gresham College, which were already well established, but they brought with them an increased desire for formalization and institutionalisation. This aspiration was successfully realised at the famous gathering on 28th November 1660 when the decision was taken to officially create a society.

This society, which became known as the Royal Society, after the receipt of its first charter in 1662, was very far removed from the utopian pansophic college of universal learning envisaged by Comenius, or Hartlib, and was probably closer to the philosophies of Bacon. It is clear that there was no overt rejection of esotericism at the foundation of the Royal Society, yet along with Comenius' praise of the society in his dedication of 1668, he urges its members not to discard metaphysics, suggesting that very little of this esotericism was evident at its inception, or within its subsequent early activities.[188] However, Stubbe's complaint about "those in the Royal Society who have more in them of Campanella than of Mr. Boyle" implies that some sympathies remained.[189] The investigation of the utopian intellectual themes which undoubtedly helped shape the environment in which the Royal Society was created, and the religious and political context in which they developed during the seventeenth century, provides a number of interconnected reasons for this.

The utopian theme of the universal reformation of religion and education, with the establishment of a Christian academy of learning to observe the natural world, in order to help achieve the renovation of man, was a grand aspiration. It was perhaps too elaborate and all-encompassing to ever be realistically achievable. Even two of the major proponents of this type of scheme, Comenius and Hartlib, were at times disenchanted with aspects of the universal potential for reform. Comenius realized early on that reforming education was a more practical endeavour to further his ideals, rather than the exclusive focus on universal wisdom, but this naturally diluted the element of esotericism in his activities.[190] While he considered a college of learning to be the best way to achieve this aim, he maintained that the development of education for the good of man, both metaphysical and practical, was of

[188] A.C.S., 'Notes on the Foundation and History of The Royal Society', (p. 34).
[189] Syfret, 'Some Early Critics of the Royal Society', (p. 26) and Hoppen, 'The Nature of the Early Royal Society: Part I', (pp. 2-3).
[190] Čapková, *Samuel Hartlib*, p. 79. A view held by another member of the Hartlib circle, Joachim Hübner (1611-1666), in Webster, *The Great Instauration*, pp. 27-28.

greater importance than the process by which it may be achieved.[191] Hartlib's outlook showed a greater focus on science and technology, and less on pansophy, in the 1650s. This was paralleled by a move away from the renaissance inspired revival of Hermeticism to a more Cartesian mechanical worldview, by the likes of Boyle, and many others in England, during the 1640s and 1650s.[192] The Civil War eliminated the possibility of a state-sponsored college of learning from being established, which further pushed Hartlib along more practical lines. This was later reflected in the loss of much of the utopian and universal idealism in the activities of Hartlib's Office of Address by the time the affiliated Office for Communications publicised the need for a national scientific institution amongst scientific intellectuals. Religion and politics continued to influence the way in which the predecessors of the Royal Society developed. The scientific meetings of the 1645 Group which took place in London at that time were more mathematical and experimental in tone, and less influenced by the utopianism of the Hartlib circle than was the Invisible College. Following the scholarly migration to Oxford, it was only the prevalent religious and political tolerance there that enabled their scientific endeavours to flourish. So, rather than rejecting the spiritual aspects of reform, which may be referred to as esoteric, because of a lack of belief, or a lack of interest in them, these potentially contentious considerations were side-lined to avoid conflict, as they were in the 1645 Group, and thus enabled collaborative scientific efforts. This tolerance, and avoidance of provocative matters, naturally continued within the rejuvenated Gresham College meetings, following the movement from Oxford back to London. The 1660 Group of twelve individuals who decided to establish the scientific society, which, of course, still exists to this day, was a mixture of republicans, parliamentarians, natural philosophers, scientists, politicians, theologians, and laymen, and this is testament to the necessary avoidance of esotericism, rather than the rejection of it.

[191] A.C.S., 'Notes on the Foundation and History of The Royal Society', (pp. 34-35).
[192] Rattansi, 'The Intellectual Origins of the Royal Society', (p. 134-136).

With a more stable political environment now permeating, the reformist and utopian aspirations of Comenius and Hartlib became less relevant. Also, because there was no direct path from any one philosophy to the eventual establishment of the Royal Society, esoteric or otherwise, only the creation of a conducive social environment in which scientific endeavours could flourish, partly driven by German and English Puritans, it was not necessary for any of the group of intellectuals involved to reject one route over another. They simply ignored those ideological elements which proved unhelpful to the furthering of their aspirations. So, as political differences were put to one side, so were religious differences, which reduced the influence of any esoteric elements that they may have once contained, but perhaps did not eliminate them entirely. I suggest, therefore, that esotericism was not explicitly rejected at the foundation of the Royal Society.

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