



Isaac Newton's Spiritual Search for Truth

Hugh Murdoch

Hugh Murdoch was a prominent member of the Australian Theosophical Society and here he describes a less well-known aspect of Newton's work in theology and alchemy, which made up around two-thirds of his library of some 1,752 titles, which included 30 Bibles.

In this article I concentrate on the spiritual aspect of Newton's search for truth. In another article (see Members' Articles section) I discussed his monumental work in mathematical physics. Newton's extensive interest in alchemy was not widely known until his voluminous private papers were auctioned in 1936. These have since been widely studied by academic scholars and others. I rely here largely on a sympathetic book by Betty Jo Dobbs from the University of California, *The Janus Faces of Genius – The Role of Alchemy in Newton's Thought* (Cambridge University Press, 1991). This is a scholarly work with over five hundred references. She had published an earlier book on Newton's alchemy in 1975. She sees Newton as a Janus figure with one face looking towards the future with his foundation of modern science through his mathematics, and the other facing the past in his search for an ancient wisdom. J. E. McGuire, professor of the history and philosophy of science at the University of Pittsburgh, says:

For Newton, the incorporation of ancient wisdom into his vision of nature is more than a ritualistic deference to tradition: it constitutes an active appropriation of the tradition into the structure of his understanding of nature.

When Newton wrote as a scientist or mathematician he used exclusively mathematical language and idiom; when he wrote on alchemy, he spoke as an alchemist using exclusively the terminology of alchemy. Critics have seen this as evidence of a schizophrenic mind but there is plenty of evidence that to Newton it was all part of a unified search for truth. Quoting Dobbs:

Because his goal was Truth that encompassed not only 'the mathematical principles of natural philosophy' but divinity as well, Newton's balancing procedure included also the knowledge he had gained from theology, revelation, alchemy, history and the wise ancients ... Newton's conviction of the unity of Truth and its ultimate source in the Divine (was) the fountainhead of all his diverse studies.

Newton's alchemical studies

As an alchemist, Newton believed that one substance could be transformed into another. He copied out alchemical texts and formulae. In his laboratory at Trinity College, Cambridge, he had furnaces, crucibles and all the necessary paraphernalia for his alchemical experiments. He spent long hours at the furnace sometimes staying up most of the night. Some of his experiments can today be regarded as primitive chemistry but most were mainly alchemical and did not really achieve anything useful in the modern sense. It is easy today to regard this as wasted effort but the theory which drove

his efforts was an important component of Newton's overall spiritual worldview. Yet Newton was very secretive about his alchemy and also his religious beliefs. He belonged to a Puritan sect, known as the Arians after their founder Arius, a fourth-century Alexandrian priest. He kept his Arian views to himself, as these were considered heretical. He did not believe, for example, in the Nicene creed of a co-equal trinity. The supreme God was transcendent and Christ as his son was the first created and acted in the world on his behalf as his agent and in God's name, both in creating the world as in Genesis and also continuing to act in the world on his behalf. 'God does not do himself that which he can do by others,' said Newton many times. God's will is supreme and the natural laws are chosen by him. He can do anything which does not involve a logical contradiction.

Newton believed in the Genesis story of creation but with a few twists based on his scientific knowledge, to make it a little more plausible. A day is the time the earth takes to make one complete revolution on its axis. But it might have taken God a long time to get the earth spinning at that rate, so the length of the first days could have been very much longer than our day. Newton also saw a symbolical account of the creation of the world in an alchemical tract entitled *The Emerald Tablet* from the Hermetic literature of Hermes Trismegistus. In his commentary on this tract, Newton suggested that Hermes was himself a symbol for the activating spirit. This active spirit was also seen as the source of the chemical changes observed in the alchemist's crucible. He believed in an Ancient Wisdom which had been lost or corrupted. According to Dobbs, Newton aimed through his various pursuits to restore the true religion, that is, the worship of God for His activity in the world, in creating it and governing it according to his will.

The alchemical concepts and terminology are somewhat difficult for us moderns to grasp. Newton used the alchemical concept of 'vegetation' for an ensouling spirit in all things, animal, vegetable and metallic. The term vegetation comes from the Latin *vegetare*, to animate or enliven. This vitalistic alchemical spirit was given various terms in different contexts, for example, 'vegetable spirit' or 'fermented virtue' or quite often, his own coded term, 'magnesia'. This spirit was an active principle; in other words, it was an agent for God's action in the world. But Newton's view of the manner of that divine action varied as his search for truth proceeded through his efforts in both science and alchemy. He wanted to know to what extent does God manage by active principles or alternately by purely mechanistic principles. What does he mean by this distinction? With our modern mindset, it is not easy to grasp but it was very significant for Newton, and was important to him in his efforts to understand God's role in the world. To him mechanical laws are those which are instituted by God once and for all at the outset and hence operate

automatically without constant Divine intervention. On the other hand, there are other situations which require constant active participation by God through his agents on his behalf.

The vitalistic ensouling spirit so important in his alchemical studies was such an active principle. However, he tended to change his mind as his studies progressed about the nature of God's action. At one stage this spirit which exemplified God's action in the world was attributed to the aether, then the aether was seen as merely the vehicle for the spirit; later he saw the spirit acting through the medium of light which he saw as corpuscular in nature. Nowhere is this struggle more evident than in his efforts over a very long period to understand the nature of gravity. It is here that his science and his alchemical-cum-religious studies most interact. Newton's first concept of gravity was that it was caused by mechanical action of very small particles to which God's presence caused no obstacle. Next he considered a mechanical aether as the agent of gravity. Air moves up and aether moves down. As his thought progressed, the gravitational aether became more entangled with the active animating spirit.

Universal gravitation

When Newton showed mathematically that the observed orbits of planets and comets were determined by his universal gravitation acting through empty space, he was forced to abandon his concept of a material aether filling all space. This would have retarded the planetary motion and destroyed the excellent agreement of his theory with Kepler's empirical laws of planetary motion which were based on actual astronomical observations. Although as a good scientist, he found it imperative to yield to the dictates of a mathematical theory which accurately predicted the results of observations; this was obviously a very uncomfortable realisation for Newton. While he must have been pleased that his calculations so accurately predicted the observations of planetary orbits et cetera, he would not have been satisfied with our present attitude of simply accepting universal gravitational attraction as action-at-a-distance, even across empty space. He needed to find a deeper cause of gravity in terms of God's providence. Rather than a material aether in space, he now spoke of a non-material aether which flows through bodies without producing any resistance. For the remainder of his life, he continued to seek an explanation for gravity that fitted in with his religious and alchemical studies. No doubt today, he would see our concept of a gravitational field in otherwise empty space as a vehicle for divine action.

Newton tended to believe that he had not discovered anything fundamentally new in his mathematical theory but believed rather that he was rediscovering ancient knowledge. Hence in his attempts to understand gravity, he was driven to immerse himself even more in what he could discover in the ancient texts, believing always that the older they were the less they were corrupted. At first he said gravity must just be due to the arbitrary will of God, and then that it was a result of God's omnipresence throughout space. No longer was it a purely mechanical law operating without God's continuous activity, as it appeared to be in his scientific magnum opus the *Principia*. I quote from Dobbs who says:

He also renewed his immense efforts to demonstrate divine activity in micromatter. If gravitational phenomena demonstrated macroscopic divine activity, and if his own mathematical principles of natural philosophy helped restore true cosmic natural philosophy and thus led humanity closer to the restoration of true religion, then to complete his system, he must also restore solid and irrefutable evidence of divine activity in the microcosm.

Divine activity in micromatter

When carrying out experiments on electricity and light, he was convinced that his 'particles of light' were active and could interact with matter (anticipating modern physics). He

came to see the electrical 'effluvium' as a new source of activity in micromatter, another component of the alchemical vegetable spirit. Finally he created a new version of the aether as an explanatory cause for gravity ... an exceedingly active aether, intermediate between the incorporeality of God and the full corporeality of body. Dobbs says:

Though one can hardly argue that Newton's speculations upon electricity and upon the new active aether achieved full scientific fruition, they certainly did serve to bring more coherence to his physical system. If Newton had wavered in his Arianism during the period when he thought the Supreme Deity subsumed the operations of gravity directly, the new aether allowed him to fully reinstate his Arian convictions. In Newton's final *credo* God Almighty once more has His agent, His Viceroy, by whom He creates and governs, and through whom humanity has been redeemed.

For us it is not necessary to approve all aspects of Newton's theology in order to appreciate the power of a life-long devotion to a search for Truth at all levels from the Supreme God to the behaviour of earthly matter, according to the dictates of his mathematical laws of mechanics which have stood the test of time. It is the latter, together with his serious work on optics which entitle him to widespread recognition as probably the greatest scientist of all time. Taken as a whole, including both his monumental scientific work, his religious aspirations and his search for the Ancient Wisdom, I believe he bids fair to being regarded as the greatest **all round** seeker after truth of all time.

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Dr Hugh Murdoch (1924 - 2015) excelled on three fronts: as a Chartered Accountant, a Reader in Astronomy at Sydney University and a leading member of the Science Group of the Theosophical Society.

Hugh Murdoch's career as a chartered accountant was interrupted by conscription into the army during the Second World War, where he served in Signals in the Asia-Pacific campaign. After the war he abandoned his earlier career and returned to University as a mature-age student to study science, gaining his PhD in the field of cosmic rays. Hugh served the School of Physics at the University of Sydney for many years as Head of Intermediate Physics, as a member of the Science Faculty Standing Committee, and as Reader in astronomy. His active research interests included radio astronomy and optical astronomy, specifically the spectroscopy of radio-loud quasars; but his crowning achievement was his final, highly-cited paper that established unequivocally the presence of strong evolution in the density of hydrogen clouds along the lines of sight to distant quasars.

But it was as a scientist in the Theosophical Research Centre that I have long memories of Hugh. This Centre was formed in England in the 1920's and worked actively for over sixty years. It comprised a group of eminent scientists who were also senior members of the Theosophical Society under the Chairmanship of E. Lester-Smith, a Fellow of the Royal Society and a leading exponent on consciousness. Topics researched and actively experimented included occult chemistry, the etheric plane, clairvoyance, psychical research, cosmology, geology, and medicine. In the 1980's Lester-Smith handed the torch to Dr Hugh Murdoch in Australia in view of his high regard for the distinguished scientists working in the Australian theosophical section, such as Prof. Victor Gostin (the current Chair) in geology and Prof. Richard Silberstein on mind and brain.

Finally on a personal note, although Hugh and I crossed many sharp swords on doctrinal issues, we maintained our friendship and mutual regard for one another for over three decades – never more so than when I participated in the Theosophy-Science Group discussions in Sydney for some two years during my term as Education Co-ordinator for the Theosophical Society in Australia. **Edi Bilimoria**