

Masonry, symbolism and ethics in the life of Sir Robert Moray, FRS

David Stevenson*

SUMMARY

This paper investigates some less well known aspects of the life, work and philosophy of Sir Robert Moray, FRS. These include his involvement with masonry, which derived partly from his professional interest as a military engineer, and partly from his desire as a scientist to investigate the secrets of the 'Egyptian', or ancient, knowledge which masonic groups were thought to possess. His use and interpretation of symbolism, as displayed on his personal seals, are also explored, as are some of his inner beliefs and values. These include his Christian-stoic philosophy, the harsher elements of which were softened by his adherence to the cult of friendship and brotherhood.

The name of Sir Robert Moray is well known through his important role in the founding of the Royal Society and in sustaining it in its early years. But most accounts of Moray are derived, directly or indirectly, from a biography which had been completed by 1913 (Robertson 1922, v). This is a very competent work, but is inevitably very dated in its approach. In particular, the author sought to separate completely 'respectable' modern scientific interests from what he dismissed firmly as 'false sciences and popular superstitions' (*ibid*, 186). He had to admit Moray's belief in astrology, but felt it necessary to deny that he had any faith in alchemy and cast doubt on his interest in the Rosicrucians (*ibid*, 186–7). Further, the author either entirely overlooked (which seems unlikely) or chose to ignore Moray's interest in freemasonry, perhaps regarding this also as something irrational and not in keeping with the image of Moray as a 'modern' scientist. Now that the major contribution made to the emergence of modern science by such 'superstitions' is generally recognized, Moray's attitude to them is in need of reassessment.

Another distortion in the picture usually presented of Moray arises from the accidents of survival of evidence. Moray's repute as a man of science is based, firstly, on his remarkable series of letters to his friend Alexander Bruce (later second earl of Kincardine), usually known as the Kincardine Papers or Kincardine Letters, which date mainly from the late 1650s (KP, *passim*)¹ and, secondly, on the records of the Royal Society and comments by eminent contemporaries in the 1660s. It therefore tends to be assumed that Moray only became seriously interested in science comparatively late in life; he was in his late forties when his correspondence with Bruce begins in 1657. Thus he has been classified as one of those whose scientific activity had its origin in the 1650s in a desire to escape from the

* Centre for Scottish Studies, University of Aberdeen

turmoil of civil war and religious fanaticism (Shapiro 1974). In fact enough fragmentary evidence survives to show that the scientific and ethical interests characteristic of Moray in later life can be traced back to much earlier periods of his life. The trials of defeat and exile in the 1650s may have intensified such interests, but they were already well established.

Very little is known of Moray's early life. Born in 1608 or 1609, he was the elder son of a small Perthshire laird, Sir Mungo Moray of Craigie. Anthony Wood stated that his youth was 'spent in good letters, partly in the University of S. Andrews, and partly in France', and John Aubrey also claimed that Moray possessed a university education (Wood 1691-2, II, 255; Aubrey 1949, 281), but this is almost certainly not so. He does not appear in the matriculation records of St Andrews (Robertson 1922, 2), and a letter he wrote to Bruce in 1658 confirms that he had not attended that university; he jocularly threatens to engage Bruce in a debate, forcing him to 'rub up your St Andrews language' and showing Bruce that 'one may give you your hands full that was scarcely ever farrer East then Cowper' (KP, f.52r) – the burgh of Cupar lies nine miles west of St Andrews. Elsewhere Moray expresses a low opinion of university education. When in 1669 the duchess of Hamilton sought his advice about educating her son, his judgement 'of being bred in a Colledge' was 'I confess I am not fond of it. Not so much because of the insignificance of the learning acquired there, as of the bad impressions and habitudes youth usually gets there. . . . And I do consider Moralls much more than sciences' (Hamilton Mss, C.1. 2625). This of course is not incompatible with his having attended a university himself; and the record of his entry to the Edinburgh masonic lodge refers to him as 'Mr', a title reserved for those holding a master's degree. But this is probably an error. It is possible he attended some college or university in France, but the only evidence we have of his years there relates to his military career, and all the hints that can be gleaned from his correspondence and attitudes point to a man largely self-taught. In letters of 1658 he says 'I was as long at the Anatomy School as the Chiminal', meaning he had been at neither, and that his medical knowledge 'is nothing else but the effects of loose ratiocinations built upon no great stock of knowledge of Naturall things, and managed with a pretty baugh [weak] logic' (KP, ff.37r, 41v).

The earliest hint of interest in scientific or technical matters in the young Robert Moray is provided by his statement that about 1623 'I do indeed remember to have been into the moat at Culros, when the coal was going there' (KP, f.48r). This was evidently the artificial island in the Firth of Forth from which one of the shafts of a coal mine had been sunk by Sir George Bruce of Culross (Alexander Bruce's grandfather). As the island was a well known tourist attraction (James VI had been there in 1617) Moray's visit may have no particular significance; but his presence in Islington about 1637 to see old wooden water pipes being taken up and new ones laid, 'in the company of some engineers who pretended great skill in aqueducts' (KP, f.31v; Robertson 1922, 149) must surely indicate an interest in technical matters. The strongest evidence that Moray possessed such interests, and indeed knowledge and skills, prior to his initiation as a mason in 1641 is indirect. That he first appears in public life in 1641 is well known; he is mentioned as quartermaster-general of the army the Scottish covenanters had raised in rebellion against Charles I (*APS*, V, 693; Balfour 1824-5, III, 137; Carr 1962, 119). But the significance of this in the context of Moray's likely interests and education has been overlooked. Moray's military training had been acquired in France, and that he had done well in the French service is indicated by the fact that he won the favour of Cardinal Richelieu (Burnet 1897-1900, I, 104; see Robertson 1922, 3-10); it was indeed alleged that he returned to Scotland as Richelieu's agent to see if the covenanters' revolt could be exploited in French interests (Gordon 1844, 5-6). Whether or not this is so, it is

significant that when the covenanters accepted his services they made him quartermaster-general, for it is highly probable that this indicates that he was recognized to have mathematical and technical skills. As well as assigning quarters and supervising the supply of weapons and provisions, quartermasters-general were responsible for laying out and fortifying camps on the march, and this clearly demanded technical knowledge. As an outstanding example of a scientifically qualified quartermaster-general, Simon Stevin (1548–1620) may be cited; his career as a military engineer culminated in his appointment as quartermaster-general of the army of the United Provinces in 1604, and he combined that office with service as tutor in mathematics and science to Maurice of Nassau, prince of Orange. Simon also published many books on military and scientific subjects (*DSB*, XIII, 47–51). Obviously not all quartermasters-general were so highly technically qualified, but it is very unlikely that Moray would have been appointed had he not had a technical training of some kind.

Turning to the ethical side of Moray's later interests, this too can be traced back to his youth. There is only one fragment of evidence, but it is decisive. In 1658 he told Bruce 'it hath been my study, now 31 yeares to understand and regulate my passions' (KP, f.99v, quoted Burnet 1897–1900, I, 105n). This points clearly to the stoic control of the emotions that strongly influenced Moray. The precision with which he dates this 'study' to 1627 suggests that some turning-point in his intellectual development had then taken place, but what it might have been is obscure.

On 20 May 1641 members of the masonic lodge of Edinburgh who were serving in the army of the covenanters which had occupied northern England met in Newcastle. They proceeded to admit to their lodge as fellow-crafts and masters Alexander Hamilton, general of the artillery, and Robert Moray, quartermaster-general (Carr 1962, 118–19). That Moray became a mason in 1641 has been noted by a number of writers, but no attempt has been made to indicate what the significance of this might be. This is understandable, because what membership of a Scottish masonic lodge in the 17th century meant is obscure, the evidence fragmentary and complicated. The question cannot be fully discussed here, but some indication will be given of what the event may have meant to Moray.²

A number of masonic lodges, consisting of 'operative' masons (working stone masons) either came into existence or were revived and reorganized in Scotland at the end of the 16th century. These local lodges were largely concerned with regulating craft affairs and admissions to the craft – or so it appears from their surviving minute books. But functions which were not recorded, concerned with preserving the craft's traditions, secrets and rituals may have been equally or more important. In the early 17th century at least one of these lodges, Edinburgh, began to admit a few 'non-operative' or 'gentleman' members, mainly royal officials connected with building operations and their friends. Interpretation of Moray's membership is inevitably speculative; this is not entirely satisfactory, but is at least more enlightening than continuing to ignore the problem. Why should the Edinburgh lodge want to admit Moray? And why should he want to be admitted, and subsequently over many years frequently draw attention to his masonic connection.

One thing that is obvious is that the admission of Moray and Alexander Hamilton was a political act. Whatever later masonic traditions of abstention from political controversy might be, the Edinburgh lodge was demonstrating its support for the covenanters by the admission of the two rebel generals. But it would be wrong to interpret the admissions as simply a gesture of approbation for the cause by admitting two covenanting leaders to a sort of honorary membership of the lodge. If this had been the sole motivation, the obvious choice

would have been the covenanters' commander in chief, General Alexander Leslie; he was by far the most famous of the covenanters' military leaders, and had been made an honorary burghess of Edinburgh the previous year. Instead the lodge chose to admit two relatively obscure generals. But these two, Moray and Hamilton, had one thing in common that distinguished them from the other general officers – scientific and technical knowledge and duties. Moray's have already been explained, and Hamilton had had a distinguished career in the Swedish army, taking part in experiments to develop new types of cannon. These he had continued while serving the covenanters, casting cannon in Edinburgh (Stevenson & Caldwell 1977, 302–4). And of course any senior artillery officer required mathematical skills to understand ballistics. The shared mathematical interests of the two generals – and their friendship – are revealed by a later comment by Moray that in 1643 he had lent his copy of 'a noble book teaching the science of motion after the manner of Euclid' by Joannes Marcus Marci of Kronland (1595–1667) to 'dear Sandy' (as Hamilton was widely known), who had never returned it. It is also possible that Moray himself had been trained as an artillery officer. Anthony Wood asserts that he had been the covenanters' general of ordnance in 1639, and though there is no evidence to support this late report (and no office of that name is known in Scotland at the time) it may be that Wood knew Moray had a training as artillery officer and therefore assumed that when he had served the covenanters as a general officer it must have been in that capacity (KP, f.113r–v; Wood 1691–2, II, 255).

The connections between the craft of the masons and technical concerns of the quartermaster-general and the general of artillery are obvious; and there was in addition an institutional link in Scotland between masons and artillery. On a number of occasions the king's masters of works or master masons were also appointed king's master gunners (Imrie & Dunbar 1982, lviii, lxi). As (in peacetime at least) cannon were mainly located in royal castles it was convenient to make the same officials responsible for both the fabric of the buildings and the cannon. There may also be a much older influence here. The status of architecture as central to the sciences was increasingly being asserted. This movement was largely based on the revival of interest in Vitruvius, and in his writings not only fortifications but the study of artillery are regarded as the responsibility of the architect. Thus Moray and Hamilton, through their training in the military sciences, were virtually 'operative' masons, if masonry was regarded as embracing all the skills of the architect. The two 'technical generals' were the senior officers that masons and other craftsmen in the covenanters' army would be most likely to come into contact with, and find common interests with. Offering them membership of the lodge would thus seem a natural gesture expressing respect, friendship, solidarity.

That Moray was offered membership of the lodge is thus understandable. So is the fact that he should accept the offer in the spirit in which it was made. But why should the fact that he was a member of the lodge have continued to be important to Moray until the end of his life? The highly respected confidant of kings and princes, as Moray became, continued to draw attention to his membership of a craft organization. This becomes explicable if Moray's attitude was influenced by a number of inter-related intellectual currents of his age.

Since the late 15th century an intense search had been in progress to reveal and understand the ancient wisdom of the Egyptians, more ancient than (and therefore superior to) that of the Greeks. Attention centred on the writings attributed to the mythical Hermes Trismegistus; these works were in fact written in the first and second centuries AD, but much greater antiquity was ascribed to them.³ The mason craft in Britain possessed a mythological history tracing its origins to ancient Egypt, though the place of Hermes as founder of architecture was here taken by Euclid

(the basis of architecture lying in the mathematical sciences, which were therefore held to form a part of architecture).⁴ The masons claimed secrets of ancient wisdom relating to their craft, and therefore to mathematics. In these circumstances, when the search for the secrets of the ancients was regarded as being of as much (or more) importance in the advancement of scientific knowledge as new discoveries, men with scientific interests might well be intrigued by the masons' hints that they possessed 'Egyptian' secrets.

This interest would be enhanced by two other developments in the 16th century. As already mentioned, the rediscovery of the work of Vitruvius and the revival of interest in classical architecture greatly increased the respect accorded to the architect and to architecture, giving the latter a central, and indeed dominant, place among the crafts and mathematical sciences. This development was much advanced in Britain by John Dee's famous mathematical preface to Euclid (1570), which hailed architecture as 'a Science garnished with many doctrines, and divers Instructions: by whose judgement all workes by other workmen finished, ar iudged' (Dee 1975, table appended to preface). Dee's preface, the work of a hermetic magus seeking power to influence the natural world through understanding of it derived from ancient secrets, also contributed to another, wider, trend – that of accepting that those seeking scientific knowledge might reveal much of value by turning to the practical knowledge and skills of craftsmen; the formerly despised rude mechanic might well have something of value to offer to the natural philosopher. One result of this belief was the appearance in the 17th century of a number of schemes for producing a 'history of the trades', culminating in that proposed by the Royal Society (see Houghton 1941, 33–60). Moray, as will be seen, was sufficiently interested in this movement to begin work on a contribution to it – a history of, not surprisingly, masonry.

Thus the scientifically inclined, whether seeking ancient secrets or practical knowledge, might well regard a masonic lodge with interest, and be eager to be admitted. Knowledge that such lodges existed, and had secrets, was widespread among the upper classes in Scottish society by the time Moray became a mason. Thus in 1637 the treasurer of Scotland, the earl of Traquair, had complained that his contacts with the king's noble opponents (whose activities were soon to culminate in the covenanting movement) were leading to allegations that he was disloyal to the king; it was being said 'he had the Masone worde among the nobilitie' (Leslie 1830, 30). The 'mason word' denoted the secret signs and passwords by which masons identified each other and thus preserved the secrets of their brotherhood. It is interesting to find so early that masonic secrets could be referred to with overtones of sinister conspiracy; but in this context what is important is that this casual reference indicates that the existence of masonic secrets was widely known.

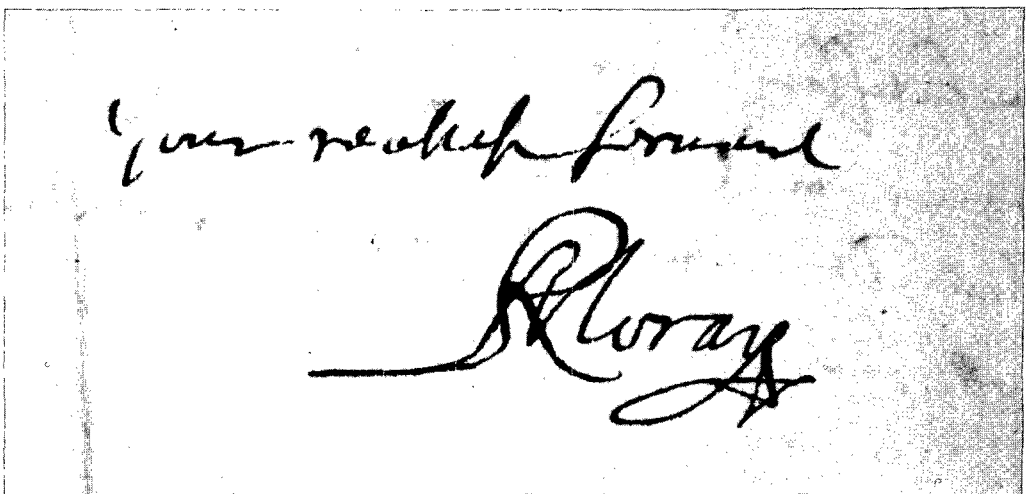
Interest in the secret society the masons were known to form may well also have been stimulated by the remarkable excitement aroused by mysterious pamphlets appearing in the second decade of the 17th century in Germany, which asserted the existence of a secret brotherhood, the Rosicrucians, dedicated to the advancement of knowledge and spiritual enlightenment. The brotherhood probably never existed, but the search for it was intense, and it would be surprising if masonic lodges, secret brotherhoods claiming arcane mysteries and secrets, were not suspected of having some connection with the Rosicrucians – especially as architecture is one theme in Rosicrucian literature. It is significant that the earliest known reference to the 'mason word' connects it with the Rosicrucians. A poem written in Perth in the late 1620s declares

For we be brethren of the *Rosie Crosse*;
 We have the *Mason word* and second sight.
 (Adamson 1638, 32; reprinted Marshall 1849, 520)

The claim that Anthony Wood made, that Moray was 'a great patron of the Rosicrucians', may be rather exaggerated, but Moray did later become the patron and friend of Thomas Vaughan, the translator of the main Rosicrucian pamphlets and chemist; Vaughan left his books and manuscripts to Moray (Wood 1691-2, II, 253, 255; Aubrey 1949, 356).

That Moray's interest in masonry arose from a search for scientific secrets and knowledge cannot be conclusively proved, but the circumstantial evidence is strong, and is reinforced by the fact that a number of the other men with such interests joined the Edinburgh lodge in the 17th century. They include Dr William Maxwell, one of Charles II's physicians (1647), who was introduced to the lodge by Moray; Hans Ewald Tessin, an architect and military engineer (1652); and James Corss, author of a number of mathematical works (1664) (Carr 1962, 113, 167, 175). The most interesting parallel to Moray is, however, provided by another future FRS. In 1646 Elias Ashmole was initiated into a masonic lodge at Warrington, the first recorded initiation to an English lodge. It has previously been suggested that Ashmole may have joined in search of the mysteries of the ancients (Rogers 1952, 52; Josten 1966, I, 33-4), but the assumption has been that this interest was antiquarian in origin. Ashmole's activities in the years immediately before his initiation suggest a different interpretation. In 1645 he had become one of the gentlemen of the ordnance of the royalist garrison of Oxford; in 1646 he had been made controller of the ordnance, then assistant to the master of the ordnance at Worcester. It has been argued that his qualifications for these posts probably lay in his mathematical studies (Josten 1966, I, 28, 31, II, 359, 360, 382, 384, 385). In the light of the initiation of Moray and Alexander Hamilton, it seems likely that Ashmole's membership of the Warrington lodge is connected with his mathematical skills and service as an artillery officer. And, like Moray, Ashmole later planned a history of masonry (Josten 1966, IV, 1840-1).

The main indication that Moray continued to attach significance to his masonic connection over many years is the use he makes of his mason mark, the pentacle. It appears in the signature on the record of his admission to the Edinburgh lodge in 1641, worked into the tail of the 'y' at the end of his name (reproduced Carr 1862, opposite p 118, and Lyon 1900, opposite p 86) and



ILLUS 1 Sir Robert Moray's signature, showing his pentacle mason mark. From a letter of 1665 (RS Letter Book, no 5)

thereafter forms an invariable part of his signature (illus 1). But though he always referred to the pentacle as his mason mark, Moray had adopted it as his personal symbol or emblem before he became a mason. Only one example of his signature before he joined the Edinburgh lodge is known to survive, on a letter of 28 March 1641, and it includes the pentacle (Southesk Ms).⁵ It could perhaps be argued that Moray was already preparing to become a mason, and had adopted his mark prematurely, as the letter was written only a few weeks before his initiation; but it is much more likely that he had already adopted it for other reasons and subsequently added masonic significance to it. Though he sometimes discusses the particular significance of the pentacle, at others he is willing to equate it with the five-pointed star – heraldically, symbolically and scientifically. Robert Moray used the coat of arms of the family of Moray of Abercairney, from which he was descended and this included three five-point stars or mullets, and the family crest was also a star (illus 2). In this lies the origin of his emblem.

Before trying to assess the symbolic significance of Moray's use of the pentacle, it is worth indicating how important it seems to have been to him by looking at the different ways in which he uses it. As already stated, it appears invariably in his signature – even in a letter he signed 'Robin Gray' (Airy 1885, 26; KP, f.1v). It is notable that after Moray was knighted in 1643 he did not preface his signature with the letter 'S', or work the letter into the monogram formed from his initials (illus 1), to indicate his new rank. To do so was universal among Scots knights and baronets, and it must have been a conscious decision on Moray's part to fail to draw attention to his worldly honour, through continuing to display proudly his pentacle which he explained as denoting membership of an organization of craftsmen.

Sometimes Moray uses the pentacle in place of a signature (eg, Hamilton Mss, C.1.2067;



ILLUS 2 One of Moray's heraldic seals, bearing the arms of Moray of Abercairney. From a letter of 1655 (RS Letter Book, no 23)

KP, ff.5r, 7v), or to refer to himself in the text of letters (eg, KP, f.225r; Yester Ms 7005, f.147r, Ms 7006, ff.6r, 7r). He frequently scrawled a pentacle on the outside of letters, below the address (eg, Southesk Ms; KP, ff.4v, 8v, 24v, 40v, 90v; RS Letter Book, no 5). In 1667 he arranged a specialized use for the symbol with the earl of Lauderdale. Though he attempted to avoid involvement in politics in later years, he had agreed to undertake a visit to Scotland to give his advice about changes in policy. The persecution of religious dissidents by the extreme royalists in power since the Restoration of monarchy in 1660 had provoked armed rebellion the previous year. This had discredited the extreme royalists and persuaded Charles II to listen to the advice of his secretary of state, Lauderdale, who favoured moderation; and it was decided that Moray, greatly respected by the king as well as by Lauderdale as an honest man with no party axe to grind, should go to Scotland to report on conditions and give advice. The cause was close enough to Moray's heart to persuade him to emerge into public affairs – he hated persecution – but he realized that some of the reports he sent back to London would be highly sensitive. He therefore arranged to write the confidential parts of his reports in invisible ink; whenever Lauderdale received a report signed with a pentacle this would mean that an invisible text followed the visible part.

Moray evidently feared, however, that Lauderdale would forget the arrangement, and therefore reminded him of it in a letter of 1 July 1667: 'Wher you see my Mason mark you will remember what it means. . . . I think I will play the Mason in my next' (Lauderdale Mss, Add 23,127, f.90r; Airy 1884–5, II, 15–16, 76n). Sure enough, the visible section of his next letter ends with a pentacle, followed by an invisible section denouncing official corruption and military oppression in Scotland – and explaining that he has been delayed by difficulties in getting the ingredients for the invisible ink (Lauderdale Mss, Add 23,127, ff.113r–v; Airy 1884–5, II, 19–20). But he now feared that Lauderdale would forget how to disclose the ink, and on 8 August he therefore begins a letter cryptically 'Of all Vitriols, the white is best for the eyes when you go a starr-shooting. It makes hid things visible, and leaves the ground still undisclosed'. On 22 August he again warned Lauderdale to expect a secret message soon; 'The next time you converse with the stars, you will get the Gleanings of our discoveries' (Lauderdale Mss, Add 23,127, f.187r; Airy 1884–5, II, 31).

Moray thus plays the secret agent with evident enjoyment and in doing so associates the pentacle, and the stars with which it is equated, with secrecy and hidden mysteries. It symbolizes invisibility, which was a major theme in Rosicrucian literature, and which is bracketed with both the Rosicrucians and masonry in the 1620s' poem previously quoted – 'second sight' consists of 'seeing' events in the future.

The final way in which Moray displays his mason mark is on some of his personal seals (illus 3). The earliest impressions of such a seal on his letters date from 1667, but he had described the design he intended to have engraved as a seal matrix to Alexander Bruce in 1658. At that time both men were exiles from the Cromwellian regime in Britain. Bruce was in Bremen, ill and depressed, and Moray, settled in Maastricht, undertook to try to cheer him up (as well as find a cure for his illness) by long and frequent letters. Bruce brought up the matter of what the most suitable thing to have engraved on a seal for a friend would be. For this the historian is deeply grateful, for it leads Moray on through heraldry to wider aspects of symbolism. Though Moray does not draw attention to the fact, he already had at least two symbolic seals in his possession (the 'Compass' and 'Eros' seals discussed below) and frequently used them to seal his letters to Bruce.

It is difficult to say how unusual these seals are, for very little attention has been paid to 17th-century seals, and on the assumption that they are insignificant even the best printed editions



ILLUS 3 Moray's 'Mason Mark' Seal. From a letter of 1669 (Lauderdale Mss, Add 23,132, f.128v)

of letters ignore them.⁶ The great majority of correspondents used heraldic seals displaying their coats of arms and/or crests, though classical busts or figures are not unusual. Very occasionally seals occur which fall outside these groups. Thus Simon Stevin, the Dutch quartermaster-general, proudly had his seals engraved with a diagram illustrating the law of inclined planes which he had discovered (*DSB*, XIII, 47–51). But the present writer has seen nothing comparable to Moray's symbolic seals elsewhere in 17th-century correspondence, and the large collection of seal impressions assembled by Elias Ashmole provides no parallels (Ashmole Ms).

Moray first discussed his personal symbols and seals in a letter to Bruce informing him that he has 'been so bold as to assume a crest, which is, and must be called a starre' – the boldness lying in appropriating so potent a symbol for personal use. He then mentioned that he had a seal engraved with a star (perhaps in the form of a pentacle) and his motto *Esse quam videri*. He urged Bruce to adopt this as his own crest, calling it 'my Masons mark' and then drawing it in the form of a pentacle. 'I can tell you many fine things about it which I will forbear till you bid me tell them'; thus Moray defers his intention to 'help you play the Mason', but he proceeds instead to 'play the quarrier', by which he means advising Bruce about where to find symbols for heraldic supporters or crests. Bruce should consult the encyclopaedic works on natural history by Ulisse Aldrovandi (1522–1605), 'the books being worth their room in any library in Christendom' as 'a vast quarry to dig out of'. 'But if you would look into the theater of Hieroglyphicks, let me recommend to you, and I do it more willingly then I did Aldrovandus, Kircher, Oedipus Aegyptiacus, and his Obliscus Pamphilius' (KP, f.58r). Moray had previously corresponded with Athanasius Kircher (c 1601–80) about magnetism and tides, and he now recommends Kircher's two massive works on Egyptian hieroglyphics (published in Rome 1652–4 and 1650 respectively). By saying he recommends them more willingly than Aldrovandi, Moray intends no slight on the latter, but indicates that his taste in symbols prefers those based on hieroglyphics to those derived from animals or plants.

In his reply to this letter Bruce misinterpreted Moray's motto, thus spurring the latter on to further explanations. Bruce took *Esse quam videri* to mean 'to be rather than to be seen' which would not, as Moray puts it 'quadrat well enough with the starre' – the motto accompanied the star crest, and stars were visible. Instead it should be interpreted 'to be rather than to appear (or seem)'. The importance of the mysterious stars in the heavens lay not in what they appeared to be, but in what they really were. Or, applying the motto to Moray himself, what you really are is more important than external appearances: 'I had rather be somewhat of true worth though unknown, than appear to be what I am not, whatsoever be the advantage of it'. Outward appearances did not necessarily reflect accurately the true worth of a man – or a star. Astronomers might classify a star as being of the least magnitude worth honouring with a name,

Yet seing, according to one of their maximes the Magnitudes of them are not to be estimated by their appearance, but their situation and distance, those starres that are highest being sure to seem to be the least, though it is lyke enough they are the biggest: and the severall distances is the ordinary reason given for the different appearances of magnitude.

Stars are not what they seem, for their true magnitude cannot be judged by their appearance. Moray continues

Now another propperty of the starres is the secret power they have over inferiour things: and the operations they exert upon them by their influences: which how noble or potent so ever it be is not at all or but little obnoxious to sense and even but so little perceptible to reason in most of them, as even our Astrologers have not yet attained to deep knowledge in them. And so again *Esse quam Videri* meets with that imperceptible glory that the starres have in the excellency of their emanations and endowments; which occurs not to the eyes, as the radiation of their light and beauty does, which . . . as I have said are conceived to be indeed farr above what they appear to be to our eyes. And is not this enough to justify the suitability of the Motto . . . ?

Thus again stars are not what they seem. All we see is light and beauty, but what is important is their invisible emanations, for these influence human life – even if interpretation of them has not been achieved by astrologers. Moray is still worried by the idea that his symbol and motto might seem to reflect pride

I shall have business enough perhaps to get myself assoyled [absolved] from the guilt of vanity, if you charge me with it hard, for assuming so proud symboles, as if I had any thing in me that had any kind of Analogy to them; or as if no lesse then supremest lights seated nearest the invisible glory, and indowed most nobly of subcelestiall creatures (For Naturalists say the sun workes not so much by his owne beames as by carrying along hitherwards in them the Vertues the higher starres send first; wherein the Hebrewes, bolder of old and more conversant in those speculations then now, say many fine things) could to signify either what I have or would be at. Yet if I were very close put to it, I would perhaps get somewhat to say for my justification, of a higher sphear then any thing I have said yet, though I have been talking of the highest starres, from which at last all of a suddain let me plash upon your letter again, as if I were no more but a shott starre [shooting star]. And so let me observe that the word is not *esse et non videri* but *quam*. Which let me tell you takes in this too: that one may desire to be somewhat and not be known, and yet be contented to be known when it is requisite. I think I have by this time given you your belly full of my Crest (KP, ff.62v–63v).

Moray has indeed given us a bellyful of symbolism, but as he says, there is more to come, and that of a higher sphere. No impression of Moray's seal with the star and legend *Esse quam videri* is known to exist. The reason for this he explains in a slightly later letter to Bruce, who evidently was still expressing reservations about the motto. 'My motto is not so notorious that I may not change it, if you insist stantly on it; for I do not think there be 3 besides you that ever saw it, though I had it a good while ago on a seale' (KP, f.88r). Having had the seal made, he had refrained from using it, deciding (perhaps fearing to be charged with pride) to keep it as a private statement of his outlook rather than a public declaration. This may also explain why, though Moray describes his proposed 'Mason' seal in 1658, there is no evidence for his use of such a seal until nine years later.

Moray finally gets round to his 'higher sphere' of symbolism when recommending engravers. There is (he had noted earlier) one in Amsterdam whose engraved gemstones were so good that he 'cheats all the Antiquaries' who think them genuine ancient seals (KP, f.37v) and there is an excellent cutter at the Hague.

But if you have a mind to set that Graver to work, let me know what choyce of stones you have, and I may possibly set you on work about a fancy or two, whereof I will now give you one. It is my Mason Mark I spoke of to you in my last which I will first rudely draw and then describe . . .

Moray then carefully (not rudely as he claims) draws a pentacle with the Greek letters for *Agapa* spaced round it (illus 4), exactly as on his mason mark seal (illus 3):

This character or Hyeroglyphick, which I call a starre, is famous amongst the Egyptians and Grecians. For the Egyptian part of it I remitt you to Kircherus bookes that I named in my last. The Greekes accounted it the symbol of health and tranquility of body and mind, as being composed of capitall letters that make up the word [*Hygieia*], and I have applied five other letters to it that are the initials of 5 words that make up the summe of Christian Religion, aswell as stoick philosophy, all which are to be found in it without much distortion or constraint, and make up the sweet word [*Agapa*], which you know signifies love thou, or hee loves, which is the reciprocally love of God and man, and that same word is one of the 5 signified by the 5 letters. The rest are [*Gnothi, Pisteuei, Anecho, Apecho*]. There's enough at once. On the reverse if it were a double seal I would have my Crest on a wreath, being a solid starr rising with ridges from the points to the centre . . . (KP, f.67r).⁷

Thus Moray's personal interpretation of the pentacle begins with the discovery in its lines of the word *Agapa*. This technique of finding letters concealed in the pentacle was long established,



ILLUS 4 Moray's own drawing of his proposed 'Mason Mark' Seal (KP, f.67r)



ILLUS 5 The pentacle surrounded by Greek letters derived from it, as illustrated by Henry Cornelius Agrippa, 1533

dating back at least to the times of the Emperor Constantine I (Lehner 1950, 107). Henry Cornelius Agrippa had illustrated the pentacle with five Greek letters round it in his *De occulta philosophia* of 1533 (illus 5), interpreting it in one of the ways mentioned by Moray – as a symbol of health (Agrippa 1533, cclxxvii). Another work of the same year surrounds it with unidentified characters derived from it, but also takes it to be '*symbolum sanitatis*' (Bayley 1912, 256–7). John Aubrey believed the pentacle to be Jewish in origin, as it was made up of Hebrew letters (Aubrey 1972, 244–5).

Having discovered *Agapa* in the pentacle, Moray then uses that word as the basis for an acrostic:

- AGAPA* ('he loves' or 'love thou')
GNOTHI (an imperative 'know' or 'gain' knowledge', perhaps a contraction of 'know thyself')
ANECHO ('remain constant' or 'endure')
PISTEUEI ('he puts his trust in' or 'he has faith in')
APECHO ('abstain' or 'exercise restraint')

Anecho and *Apecho* are separated in the acrostic, but placed together in Moray's letter, and it has been suggested that he was thinking of the famous motto summarizing stoicism, *Anecho kai apecho*, 'bear and forbear'. Thus in Moray's mason mark we have a summary of Moray's stoic-platonic-Christian ethic. It would perhaps not seriously distort the basic message to render it as 'Love God and your fellow men; know thyself; be constant; have faith; be temperate'.⁸ Masonry (or at least his mason mark) meant to Moray brotherhood and friendship, faith in God, and an ethical code. What we cannot know is how much of this he got from the Edinburgh lodge, and how much it consists of concepts he has chosen to invest masonry with, building on vague

ideals of craft brotherhood on the one hand and of the religious-spiritual significance of the craft on the other. His interpretation of his mason mark is certainly consistent with the often quoted definition of freemasonry as 'a peculiar system of morality, veiled in allegory and illustrated by symbols' (Haddow 1970, 80); but it simply is not known if that definition would have fitted a 17th-century Scottish lodge. The balance of probability strongly favours the personal elements, based on Moray's own reading and beliefs, being combined here in a unique way; but that he insisted that the symbol which he called his mason mark summed up his philosophy indicates that he believed it grew naturally from the ideals and beliefs he found in the masonic lodge.

Though Moray thus explains in detail the personal symbolism of the pentacle-star for him, ranging from astronomical analogies to Greek acrostics, he was probably also ready and willing to accept its other existing connotations as well; a symbol could be interpreted at many different levels, in many different ways, and the greater the richness of such associations the more attractive and powerful the symbol was. The trouble here with the pentacle is that it could stand for a vast number of things. It could be used as a symbol denoting mystery and the perfection of the universe, as by pythagoreans, neoplatonists and gnostics (eg, *Cham Encyc*, X, 568). It was often referred to as Solomon's Seal, thus associating it with the ancient wisdom of Solomon – and making it a particularly appropriate choice as a mason mark, as Solomon's Temple played a central part in masonic mythology.⁹ In medieval number symbolism the pentacle could stand for the five wounds of Christ, or for the cross, and it was used by the first Christian emperor, Constantine I (Lehner 1950, 107). In the guise of a cross it had magical overtones, and it appears on the shield of Sir Gawain in the medieval English poem *Sir Gawain and the Green Knight*, perhaps indicating that he as well as the mysterious Green Knight had magical powers, though interpretations differ (Hopper 1938, 124–5; Green 1962, 126–35; Tolkien *et al* 1967, 92–3). The symbol could be drawn as a single line (without lifting pen from paper) with no beginning or end, thus making it an 'endless knot' or circle, opening up new realms of interpretation. Perhaps Moray would have rejected the pentacle's most explicitly magical associations, as his correspondent Kircher did (Kircher 1665, 216–17, cited in Tolkien *et al* 1967, 93), but would have been happy with the rest. with the rest.

Moray was, not surprisingly, not alone in discussing and using the pentacle symbol in 17th-century Britain. John Aubrey asserted that monks had used it at the beginning of letters and on books 'for good-lucks sake', and stated that 'my old friend Mr Lancelot Morehouse [rector of Pertwood, Wiltshire] was wont to make this marke at the tope of his missive letters' (Aubrey 1972, 244–5). It may be such usages as this that Moray was thinking of when he used the symbol below the addresses of letters; as well as having deeper significances, it can stand for a greeting – 'good luck' or 'the best of health'.

The parallels with Moray's use of the symbol become much closer, however, with John Evelyn. The two men became friends in the 1660s, and Evelyn's use of the pentacle may be largely the result of this friendship, for it seems that Moray revealed his personal interpretation of the symbol to Evelyn, just as he had done to Alexander Bruce some years before. Only one letter from Moray to Evelyn survives, but it does suggest a more than superficial friendship. In reply to a letter from Evelyn, Moray wrote: 'By what Telescope you read me at this distance, I do not know', but Evelyn had shown himself to be acquainted with Moray's 'most illegible parts'. Moray continued 'It seems you conclude me to be a greater Master in another sort of philosophy than that which is the businesse of the Royall Society' (Browne Ms, f.81r).¹⁰ Quite what the 'another philosophy' was is not entirely clear, but it probably relates to the realms of ethics and mystical symbolism. Moray loved playing with words in a way which was at once both light-hearted and serious, and it is probably no coincidence that he says Evelyn 'reads' him with a telescope, for the

telescope is used for reading stars; it is evidently the aspects of Moray's beliefs relating to the star-pentacle symbol that Evelyn has 'read'.

The uses of the pentacle made by Evelyn are similar in some respects to Moray's. It appears below his signature (but separate from it) on some of his books, as what has been described as 'a talisman or additional mark of ownership', or as a symbol of providence. On one occasion (1681) his initials are separated by a pentacle. Some of the books on which the pentacle appears were acquired by Evelyn in the 1640s; in at least one case it seems that the pentacle was added later (Evelyn 1939, 212-13, 216-17) and this may apply in the other cases as well. Thus it remains uncertain whether he used the symbol before his friendship with Moray in the 1660s, or only adopted it as a result of that friendship. Certainly Evelyn's most intensive use of it dates from 1672, and a digression on this is necessary for the light it throws on Moray's use of the pentacle.

In 1672 Evelyn entered a formal 'compact of friendship' with Margaret Blagge, a twenty year old orphan who, through family connections, had become one of the queen's maids of honour. Evelyn relates that 'from that time forwards, I reckoned her as my Child. . . . This Miracle of a young lady in a licentious Court and so deprav'd an age: She now delivered me the [pentacle] under her own hand, and it shall be Inviolable' (Evelyn 1955, III, 628). As the quotation indicates, the modern connotations of 'friendship' are inadequate to describe the depth of this intimate yet platonic relationship between Evelyn and a girl more than 30 years his junior. In the 17th century the cult of friendship thrived, and it was more highly regarded in intellectual and moral terms than conventionally sensual relationships between the sexes (Evelyn 1939, xxv-xxxiii); in theory at least whether such friends were of the same or opposite sexes was irrelevant. Sir George Mackenzie of Rosehaugh, the Scottish advocate, hailed

Friendship! that wiser Rival of vain Love,
Which does more firm, tho' not so fiery prove.

In the present context it is worth noting that Mackenzie apparently sent a copy of this poem to John Evelyn, and that the cult of friendship has stoic connections. The stoic might withdraw from public life, worldly ambitions, sensual relationships, but friendship was still allowed him – it is no coincidence that Mackenzie had published a work entitled *The Religious Stoic* in 1663 (Mackenzie 1716-22, I, 3).

Margaret Blagge, alienated by the corruption and immorality of court life, sought guidance and help, and appealed to Evelyn to be her 'friend'. Attracted by her intellect, beauty and virtue, he agreed. As a symbol of friendship she then gave him a drawing of an 'altar of friendship' with a heart on it (upside-down – to differentiate it from the heart as a symbol of sensual love?) and inscribed 'This the Symbol of Inviolable Friendship'. It is this that Evelyn refers to by drawing a pentacle in the passage from his diary quoted above; and below the drawing of the altar itself appears a pentacle, added (it seems) by Evelyn himself. And in his diary Evelyn generally uses the pentacle in place of Margaret Blagge's name. When she (by then Mrs Godolphin) died in 1678 their friendship was symbolically recorded on the copper plate which covered her grave; below the inscription there appears the pentacle surrounded by the Greek letters for *Agapa*, exactly as on Moray's Mason seal (Evelyn 1939, 22-5, 123-4, 208, 210, 214-15, 221).¹¹

This may be taken as conclusive proof that Moray had revealed the mysteries of his mason mark to Evelyn; when explaining it to Alexander Bruce, Moray had made it clear that the *Agapa* acrostic was his own invention. Thus Evelyn took the pentacle, as explained by Moray, as the symbol of the cult of friendship; and that cult has connections with stoicism. It is therefore perhaps surprising that Moray does not use the word friendship when discussing the pentacle, interpreting *Agapa* as love; but it is clear that the kind of brotherly love he associates with the

word is identical with the friendship of the cult of friendship; the difference is merely verbal. Elsewhere in his correspondence Moray makes clear the high value he attaches to friendship. Indeed he claims to have made a science of it:

There is a kind of Metaphysical Alchimy that I use in such cases that searches the very hirnes [corners or crevices] of the fountains without looking after the streames. . . . The pulse is not a surer indice of the heart's motions, then the rules of this Science are of friendship' (KP, f.107v).

Moray's correspondence, and the tributes paid to him by many contemporaries, provide abundant evidence of his talent for friendship. There are also indications that he embarked on an intimate friendship with a young girl recalling that of Evelyn and Margaret Blagge. When he returned from Scotland to London in 1668 he brought with him his young niece Lady Sophia Lindsay, who was in ill health. Some thought his concern for her excessive, and within a year scandalous stories about their relationship circulated. For once Moray was provoked into losing his stoic cool, bitterly denouncing scandalmongers and sending his niece back to Scotland; as she was still ill Charles II offered to provide a yacht to carry her home (Robertson 1922, 140, 178; Orig Letters).

It is the evidence of the pentacle that provides the best evidence for the significance of Moray's masonic interests and their connection with his philosophy of life, but other miscellaneous evidence helps confirm how central the concept of masonry was to him. One of the most intriguing of such scraps relates to a moment of great drama in his eventful life. Late in 1653, while he was engaged in royalist intrigues in Cromwellian Scotland, a forged letter purporting to be written by him was given to the exiled Charles II, and its contents indicated that Moray was plotting the assassination of the king. Two letters survive in which Moray protests his innocence to Charles. In the first he stresses his loyalty by saying 'I am so absolutely disposed to obey Your Majesties commands that I take them for the compas animated from above, wherby my poor actings in Your Majesties service ought to be directed' (Firth 1899, 49–51). In the second he substitutes a masonic for a scientific simile. He first assures the king that he is content to endure anything 'that destroys not sense', even 'the utmost afflictions'. Having thus asserted his stoicism he asks to be punished or cleared of the charges against him. Confident of the outcome he ends 'And then having found me guiltless, your Majesty may, as a Master Builder doth with his Materialls' do what he wishes with him (Balcarres Ms; Robertson 1922, 215–16). Is it merely that Moray, searching for a novel and forceful way of emphasizing obedience, comes up with a masonic metaphor arising from his interest in such matters? This is most likely, but the possibility remains that Moray expected Charles to recognize the masonic reference and account it a sign of his sincerity.

Another generally overlooked reference to Moray's masonic interests occurs in Dutch archives. On 10/20 March 1659, just a year after he had explained his mason mark to Alexander Bruce, 'Sir Robert Moray, Knight . . . Privy Councillor of the King of Great Britain in Scotland, and Colonel of the Scottish Guards in the service of His Majesty, the King of France' appeared before the town authorities in Maastricht, 'presented by Everard, master of the Craft of masons. He took under this craft the necessary oath, and the right of citizenship was granted him, according to custom' (Robertson 1922, 1n). Thus while in exile Moray had made contact with Dutch operative masons, in search of ancient mysteries, practical knowledge, or brotherhood; surprisingly, he makes no mention of this to Bruce.

Once settled in London after the Restoration of 1660 one might have expected to find evidence of his making contact with operative masons in England, but there is no sign that he did

so; though there were no masonic lodges (or at least no permanent ones) in England at this time, he could have contacted craft guilds, as he had done in Maastricht. But there is a good deal of evidence of his interest in the practical side of masonry. He helped to obtain contracts for his friend Bruce (who became earl of Kincardine in 1663) to supply stone from his quarry in Fife for royal building works at Greenwich, and he recounts discussing the qualities of the stone with the king's master mason and the chief under-surveyor (KP, ff.160v, 190r, 194r). This interest may have been inspired largely by his resolution to write a history of masonry. Several letters dating from 1665 reveal that he has begun such a work – and indeed had made a previous abortive attempt to produce such a work. By 16 September he had written '24 pages in quarto', but had only got through four of the 24 'heads' he intended to cover. In suitably masonic terms, he declares what he has written is 'rough hewn' in style and matter, much in need of adjusting and polishing! But he had begun to realize that his research had been inadequate, and modestly hoped merely that his scribbling might serve 'to beget in some abler persone an Itch to say more'. On the last occasion we hear of the work it has reached 57 pages in length, and has dealt with different types of stone; he is discussing quarries, and intends to go on to bricks (Hall & Hall 1965–77, II, 507, 525, 530). Moray seems to have begun writing the history while in exile from London because of plague, and once he was able to return he may have laid it aside, preferring to concentrate on his activities in the king's laboratory in Whitehall Palace.

In Scotland too Moray kept in contact with the mason craft – though indirectly, through his brother, Sir William Moray of Dreghorn. William had followed his brother into military life – he is referred to as lieutenant colonel in 1661 (Reg Deeds) – and may well be the 'Guillame Moray' who was an officer in the Scots Guards in France in 1643 when his brother was lieutenant colonel (Robertson 1922, 24n). In August 1660 when listing appointments to offices in Scotland, Moray remarked 'I think my Brother will be Master of Work' (KP, f.253v). Later that month Charles II signed a gift making William sole master of works, overseer and director of his buildings in Scotland (Law Tracts), and in May 1662 Sir William (as he had become) was made general warden in Scotland of all trades pertaining to building, jointly with the former master of works (Laing Ms; calendared in HMC 72, II, 332–3).

Presumably Sir Robert Moray was responsible for these appointments of his brother to offices so intimately connected with masonry. They gave Sir William wide powers to discipline and organize the crafts concerned, and it is tempting to speculate that Sir Robert had some plan at the back of his mind for reorganizing and increasing the dignity of the crafts; but if this is so, nothing came of it. Sir William did not join the Edinburgh lodge, as some of his predecessors in office had done, and the only sign that he shared his brother's interest in symbolism and ethics is that he uses a pentacle below the address on a letter (Abercairny Ms), just like Sir Robert. In any case, Sir William's career as master of works was short – and ended in some obscure scandal, presumably financial. He was forced to resign office in October 1669 (Paton 1939, 200n), though the scandal was hushed up out of respect for his brother (see Paton 1939, 199–200, 233; Yester Ms 7004, f.138, Ms 7005, ff.32, 116, Ms 7006, f.25).

Sir Robert Moray's pentacle seal is, as he himself tells us, intimately connected with his concept of masonry. His other symbolic seals have no such certain links with the craft, but they belong to the same world of symbolic meanings – and feature his personal symbol, now in the guise of a star rather than a pentacle. Two of these, as already noted, were already in his possession when he explained his mason seal to Bruce in 1658, the earliest surviving impressions dating from the previous year.

The first may be called the Compass seal (illus 6). A square, altar-like structure dominates the seal, angled to make the top, front and left-hand side visible. On the front appears an



ILLUS 6 Moray's 'Compass' Seal. From a letter of 1665 (RS Letter Book, no 13)

unidentified symbol or hieroglyph. On the side is a heart, and on the top a magnetic compass is housed in a circular recess. Above appears a five-point star, to which the compass needle points, and the star is followed by the inscription *Onely*.

This is a typical Renaissance 'emblem' or symbolic picture transferred to a seal. Though emblems (and indeed all Moray's symbolism) may seem trivial or even absurd to the modern eye, they held an important place in Renaissance thought; derived in part at least from the study of Egyptian hieroglyphs, they were regarded as symbolic representations of concealed divine truths. The universe itself was indeed seen as a hieroglyph or emblem, full of hidden truths and mysteries which were to be sought especially in the sun, moon, stars and planets (which of course at once recalls Moray's attitude to the stars). In the later 16th and 17th centuries large numbers of emblem books appeared, and many of them had an important place in counter-reformation devotional literature, their use being especially associated with the Jesuits. In time many originally religious emblems were secularized and adapted in secular emblem books concerned with love (see Yates 1943, 101–21; Gombrich 1948; Henkel & Schöne 1967). By the late 16th century the emblem or conceit of the compass's supposed attraction by the lodestar or pole star had become attached to the cult of the Virgin Mary as *Stella Maris*, the Star of the Sea. The emblem was soon transferred to secular emblem books (Praz 1964, 108) – as in an English book where it appears accompanied by a verse titled 'Love's my Pole starr' which asserts that 'I am the Loadstone, He'es my fixed Pole' (Ayres 1683, no 37; see also Peacham 1612, 72 & Boschius 1701, class 1 nos 103, 215, 334, class 2 nos 21, 457, 480, 590, class 3 no 888).

Why should Moray pick this particular emblem from the hundreds available? Probably it attracted him for several reasons and, like many symbols, held several different (though related) levels of interpretation. A religious element was doubtless present, though with the star and the inscription referring to God rather than the cult of the Virgin. Moreover, Moray was deeply interested in how the stars influenced life on earth, and this linked up with his interest in

magnetism: in 1643 while a prisoner of war in Ingolstadt in Bavaria he had made friends with a Jesuit, who had lent him a book on magnetism by his fellow-Jesuit Athanasius Kircher (Robertson 1922, 149; KP, f.109r-v). An emblem that indicated the magnetic attraction of the compass to the pole star, thus illustrating stellar influence on earthly things, must have made an immediate appeal to Moray. To this religious-scientific significance of the emblem there was probably added a more secular and personal one, celebrating Moray's brief marriage. When his wife, Sophia Lindsay, sister of the 1st earl of Balcarres, died in January 1653 in childbed she had been married only a few years at the most. A friend, Anne Murray, left a moving account of her death:

Though her patience was as great as was imaginable for any to have upon the racke, and her love to her husband greatt . . . yett shee earnestly desired death many houres before itt came; and Sir R. [Moray] sate constantly upon her bed side, feeling her pulce, and exhorting her cheerfully to indure those momentts of paine which would soone bee changed to everlasting pleasure. And though noe doupt her death was the greatest misfortune could arise to him, yett hee did speake so excellently to her as did exceed by farre what the best ministers said who frequently came to her, and was so composed both att and after her death that neither action nor word could discover in him the least passion (Loftis 1979, 69).

Thus Moray's long cultivation of stoic control of the passions was put to the test, and triumphed at least so far as outward appearances were concerned. But the episode probably increased his stoic tendencies, by emphasizing the truth of the teaching that too deep an emotional involvement in human relationships inevitably brings pain and suffering; the wise man should withdraw from such entanglements. In the remaining years of his life there is plenty of evidence of Moray's friendships with women, but they were indistinguishable from his friendships with men, and it was this refusal to become involved with women in a conventionally sensual way which led to charges that he hated women (Aubrey 1949, 281; Wood 1691-2, II 255). Certainly he refused to regard them as sex-objects, and this aroused comment in the court of Charles II; but as human beings he had a high regard for them (see Robertson 1922, 178). His Compass seal, at one



ILLUS 7 Moray's 'Eros' Seal. From a letter of 1665 (RS Letter Book, no 11)

level of interpretation, indicates his resolution that so far as conventional love between the sexes is concerned he is now opting out. The compass of the altar of love (so identified by the heart) points to the star symbolizing his wife's place in the heavens, and to her 'onely'.

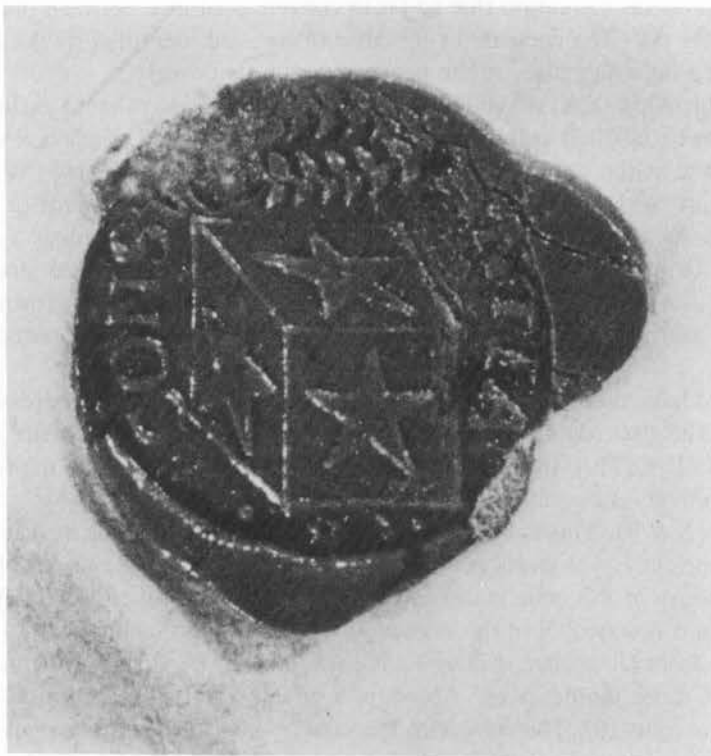
The second of the emblematic seals, which is first recorded in 1657, relates more exclusively to his bereavement, and can be labelled aptly the Eros seal (illus 7). Again it displays a square altar, though now a small one at the bottom left. The front and left hand sides carry five point stars. Placed on top is a heart, with a crown over it. From the top right a winged eros or cupid shoots an arrow towards the heart, and to the left an arm issues from clouds holding a round object, perhaps a wreath. An inscription beside the altar reads *Vne seville*. The 'one alone' or 'only one' must be his wife, to whose memory Moray again pledges himself; the heart crowned on the altar surely records her sacrifice in the cause of love through death in childbed, earning her the crown of martyrdom.

Moray is also known to have used three other symbolic seals, though only one impression of each is known to survive. The first, dating from 1663, is incomplete, but bears a heart in the bottom half of an oval seal (KP, f.173v). In October 1672 the two sections of a broken impression show lines radiating from an oval centre, and of the inscription the word *Semper*, 'always', can be deciphered, and a star (illus 8 & 9). This is evidently a radiant sun with an eye at the centre, a symbol that dates back to ancient Egypt and was later to be much used in freemasonry – though whether it was used in masonry at this time is unknown. Its precise interpretation by Moray is equally obscure, but perhaps it is a symbol of the unchanging, all knowing divinity.

Finally, there survives from December 1672 a seal impression showing a large cube or dice, with a star on each of the three visible faces. Above is a wreath, and the inscription reads *Constantia* followed by a star (illus 10). The cube with the same symbol on each face symbolizes constancy; whichever way it falls, it looks the same, and the symbols themselves are unchanging, for the stars in the sky were thus regarded. In the letter which this seals Moray was concerned to express his continuing friendship for the earl of Tweeddale, with whom he had had some misunderstanding, so the seal may specifically refer to the constancy of friendship; this is the only



ILLUS 8-9. The surviving fragments of an impression of Moray's 'Sun' Seal. From a letter of 1672 (Essex Ms)



ILLUS 10 Moray's 'Constancy' Seal. From a letter of 1672 (Yester Ms. 7005, f.208v)

instance in which Moray's choice of a seal seems to be related to the content or recipient of a letter. It is, however, possible that the timing of his first use of his Mason seal is not a matter of accident.

Only a few dozen impressions each of the Compass and Eros seals survive; of the other three just described only one each. But the number of impressions of the Mason seal must be well over 100, even though he did not begin using it until just six years before his death. He also had the design engraved more than once – there are evidently three different sizes of surviving impressions. Why, since the seal so clearly became his favourite, did he not use it until 1667? And why, when he described the proposed design to Alexander Bruce in 1658, had he not yet had it engraved? The most likely reason is the one that prevented him using his Motto seal – fear that it might be taken as a sign of pride. Did he hesitate to use so potent a symbol as the pentacle, with the Greek inscription carrying all the connotations revealed by his acrostic? His earliest use of the seal is during his mission to Scotland to try to change the whole character of the regime there to end corruption, oppression and religious persecution. Did Moray feel that by disinterestedly undertaking this mission to benefit his native country he had earned the right to use publicly his symbol and the word *Agapa*, summarizing his motives for being in Scotland? Did he perhaps even see his Mason seal as a talisman, use of which in connection with his mission might bring it good fortune? The questions need asking, but cannot be answered.

A letter quoted earlier indicated that Moray gave morals or ethics primacy above science, but it is clear from his symbolism and his correspondence that ultimately the two subjects were

inseparable. Science attempted to understand the universe, and such understanding was necessary to the understanding of the meaning of life and the divine will, on which ethics were based. Astronomy should advance understanding of the symbolic meaning of the heavens, not merely the mechanics of planetary motion. Thus it is natural that his symbolism should use natural phenomena – magnetism, problems in assessing the true magnitude of stars – to make moral or religious points. Lack of information about Moray's early life and education obscures the influences which shaped his beliefs, but the authors he mentions in his correspondence with Alexander Bruce do provide clues – though of course a passing mention of an author cannot be taken to mean that Moray was fully acquainted with, or agreed with, his work. Some authors have already been mentioned: Joannes Marcus Marci of Kronland, professor of medicine in Prague and writer on maths and physics, who preached a mystical pantheism based on the world soul; Ulisse Aldrovandi, professor of philosophy and medicine at Bologna and natural historian; and above all that extraordinary polymath Athanasius Kircher, who influenced Moray's views on hieroglyphics as well as on the importance of magnetic forces. To these can be added the encyclopaedist Johann Heinrich Alsted (1588–1638) (KP, f.105v); Johann Hartmann (1568–1631), writer on iatrochemistry, medicine, maths, astronomy and alchemy (KP, f.60r); Marcus Antonius Cornachinus, professor of medicine at Pisa, whose powder Moray recommends to Bruce as a possible cure for his illness (KP, ff.60r, 64r–v). But the strongest direct influence on Moray as a practical scientist from the 1650s onwards would appear to have been Johann Rudolph Glauber (1604–70). Glauber was first mentioned to Bruce by Moray in connection with another medical powder, which he claimed could cure virtually all ills. Moray indicated a healthy scepticism about this, but had a great respect for Glauber as 'a renowned Alchemist' and recommended three of his books to Bruce; 'every body that meddles in his trade thinks [him] one of the ablest Chemists now living' (KP, ff.11v, 23v, 48v; and see ff.15r, 17r, 19v). The modern judgement that Glauber was 'the best practical chemist of his day and the first industrial chemist' confirms Moray's assessment, and a number of Glauber's characteristics may have increased Moray's interest in him. Glauber, like Moray, had no university education, and professed contempt for university learning. He adopted a non-sectarian Christianity, judging men by their actions rather than their beliefs, and he combined a down to earth interest in scientific knowledge as a means to economic improvement with alchemical ambitions for the perfection of the material world and preparation of the philosophers' stone. In the 1640s Glauber 'invented his famous distillatory furnaces, which made it possible to obtain high temperatures and to heat substances under a variety of conditions' and 'increased tremendously' the range of distillable substances. In Amsterdam he created 'what was surely the most impressive laboratory in Europe'. Quarrelsome, suspicious and prone to wild exaggeration, Glauber differed from Moray in character (*DSB*, v, 419–23). But it seems highly likely that Glauber's works influenced the fact that when, for the first time in his life, Moray was able to devote himself to scientific pursuits in the late 1650s, he chose to devote himself to distillation of drugs.

References to this work are scattered through his letters. In December 1657 he reported having had seven stills at work for the two days 'most on juniper berries, some with water, some with sack [wine] and some dry, and am now beginning to be a little glorious to see myself courted by my fellow Apothecaries'. Three weeks later 'I am bussie at my furnaces about no mean matters for I am going just now to make some drugs that may perhaps be as usefull to you as anything you have yet taken for your Ague' – a tincture of tartar. Sometimes Moray makes it clear that he is writing while sitting beside his furnaces in his 'laboratory' (KP, ff.30v, 45v; Airy 1885, 29, 32). One of Glauber's books mentioned by Moray was the *Furni novi philosophici* (Amsterdam 1651), and it is tempting to think that it was the new improved furnaces there

described that Moray had constructed in Maastricht.¹² Glauber's expressed wish to benefit mankind through his medical work (for a time he gave his powder free to the poor) may also have appealed to Moray, and made him decide to concentrate on that branch of chemistry.

The more directly religious and philosophical influences on Moray are easier to identify, at least in general terms. The protestantism of his youth was modified by his years in Catholic France, by his reading of scientific works frequently not entirely orthodox in their religious views, and by reaction against the suffering that followed from religious strife. The resulting non-sectarian Christianity judged spiritual worth by conduct, as Glauber's did. His refusal to commit himself exclusively to any one church or sect led to Charles II's remark 'I believe he is head of his own church' (Robertson 1922, 174; Lauderdale Mss, Add 23,123, f.157v).¹³ The king was not worried by such unorthodoxy, but others were. In 1671 Moray recalled that not only had he once been accused of plotting regicide, but 'I have also been reported to be writing against Scriptur, an Atheist, a Magician or Necromancer, and a Malignant, for ought I know by half a kingdom' (Hamilton Mss, C.1.6132). To cope with such abuse he relied on his long training in restraint, not letting 'my self breath out one passionate word but suppress all under the Ashes of Christian vertue' (Hamilton Mss, C.1.6106). Such virtue might be Christian, but it was also, as already noted, strongly influenced by stoicism. Gilbert Burnet reported that Moray studied the work of the stoic philosopher Epictetus deeply, 'so that things without him seemed to make no impression on him, and he was ever the same, so well poised that I never saw him in different tempers'. He was 'in practice the only stoic I ever knew' (Foxcroft 1902, 43, 465; Burnet 1897-1900, I, 105).

Such stoic withdrawal from the follies and passions of the world, a refusal to get involved deeply, could lead to unattractive arrogance and coldness, but Moray avoided this extreme through his devotion to the cult of friendship. It was a relationship he had a great talent for, and his human warmth and interest are almost constantly apparent in his letters – and his humour breaks through even when discussing the most serious subjects. There is an assumption of superiority implicit in his love of giving advice and guidance to others – especially the young – in matters of conduct and ethics, but astonishingly he seldom seems to have caused offence. His disinterestedness, sincerity and warmth combined to allow him to get away with saying things that would have roused antagonism in any other mouth. Burnet recalled that Moray 'gave me more good rules for human life than I had ever heard before', his greatest kindness lying in pointing out that Burnet talked too much and too boldly (Burnet 1897-1900, I, 106; Foxcroft 1902, 44, 465).¹⁴ Contradicting the more arid types of stoicism 'He had a most diffused love to all mankind, and he delighted in every occasion of doing good, which he managed with great discretion and zeal'; he was 'the most universally beloved and esteemed by men of all sides and sorts, of any man I have ever known in my whole life'. His non-sectarian God had not withdrawn to a deistic remoteness; Moray engaged in long sessions of private prayer each evening, reviewing the day and 'celebrating such of the divine attributes as appeared to him the new occurrences of providence' (Burnet 1897-1900, I, 105-6; Foxcroft 1902, 43-4). Others agreed with Burnet, even if their praise was less wordy. The king (according to Robert Hooke), 'testified of him to be a good man that never did anyone any injury butt endeavour'd to doe good to every one, that he had never spoken against one to him' (Hooke 1935, 49-50). Such men were rare at court; Aubrey claimed that Moray was the only man there 'that would doe a kindnesse *gratis* upon an account of Friendship', being 'as free of Covetousness as a Carthusian' (Aubrey 1949, 281). On his death, in spite of years of royal favour, he was found to possess only a few shillings (Aubrey 1949, 282; HMC 78, II, 381-2). The only dissenting voice was that of Lauderdale, Moray's old friend, who said he did not lament his death (Kirkton 1817, 260n). Lauderdale had in 1672 reversed the policies of

moderation that Moray had worked to see introduced in Scotland in 1667–8, and Moray had denounced him for it.

Many of Moray's letters reveal in passing his religious and ethical outlook, but a few deal with it at greater length. Those in which the subject arises from his symbolism have already been considered, but there are two others which are central to a full understanding of his ideas. The first was written in 1667 from Scotland to the Archbishop of Canterbury, Gilbert Sheldon. Moray reiterated his dislike of the involvement in public life that his mission to Scotland involved. 'I take much more delight, as I think you do, in surveying Cebes's landskip, than Mercators Mapps'. Mercator's maps of the physical world stand for involvement in worldly affairs, while the landscape of Cebes concerns spiritual realms. The 'Emblem' or 'Picture' of Cebes was a work probably written in the first century AD, but was attributed at this time to Cebes of Thebes, a pupil of Socrates. It comprises an allegorical description of human life and the attaining of true learning and purification in terms of a journey through a sort of maze. Basically stoic in philosophy, it enjoyed considerable popularity, and Moray reveals himself as one of its admirers. But though active in public affairs, Moray assured Sheldon that he was remaining true to his philosophy:

My tranquillity remaines entire, and my spirit as unconcerned as it wont. . . . The sublunar satisfactions that usually whet mens endeavours to attain them, are all still below my Horizon. . . . I do act in all matters as if I had no kind of byass, nor other interest than to promote right and vertuous things; excluding from my actings the least grain of the leaven of envy, hatred, malice, or resentment'.

It is not his business, as he saw it, to find out how or why errors in the administration of Scotland had occurred, or to apportion blame and suggest punishment for what was past. He was as willing 'that the men be mended as the faulte that they have made' – if those who had done wrong would agree to change their ways, there was no point in dismissing them from office. The best part of the day was 'the few minutes I am alone before I go to bed' when he communicated with his soul's 'divine guest'. 'So labour I to keep my integrity, and a good Conscience' (Dolben Ms).¹⁵

The squalid business of public life is really beneath the Christian stoic, but none the less integrity can be maintained. There is a similar assumption of moral superiority in the second of these two letters, which he wrote to the duchess of Hamilton in 1672, just a year before his death. 'The rule of doing as one would be done to is past all question the second Universall law in Nature' he asserted, and he endeavoured to observe it. But he had found that it was sometimes necessary to modify it in practice by invoking another law, 'To do in all cases towards my neighbour as I think Jesus Christ would do were he in my place'. The reason for this is that Moray, with his stoical control of his passions, could endure being told – and indeed wanted to be told – the whole truth on all occasions. Harsh truths did not discompose him, and he would continue to regard the man who told them as his friend. But if he, Moray, pointed out to friends the full extent of their failings, they would be upset and regard him as no longer being a friend (Hamilton Mss, C.1.6135). Thus speaking the full truth plainly is sometimes to be avoided for the sake of friendship, out of understanding of a weakness in the friends which he did not share. Burnet may have thought Moray was all too plain in pointing out his faults, but in reality truth had been modified by charity! That he made such concessions in his stern ethic is a notable tribute to the strength of his commitment to the concept of friendship.

Ironically, Moray owes his place in the history of science more to the consequences of his ethic than to his labours in his laboratory in Maastricht before 1660, or in the royal laboratory in Whitehall Palace after 1660. They are not known to have advanced scientific knowledge in any

way. His importance lies in the leading role he took in the founding of the Royal Society, in gaining royal patronage for it, and in sustaining it in its crucial early years. Investigation of his inner beliefs and values is essential in understanding how and why he played this role so successfully. Scientific advancement was important for spiritual as well as practical reasons. Disinterested service was part of his ethic. And concepts of brotherhood and friendship were of central importance to him, leading him to value highly the social element of the Royal Society's activities and to keep in touch with scientists outside London by letter and seek to help them. He did not find in the Royal Society the ancient secret knowledge that he had sought in a masonic lodge 20 years before – but one suspects he had not found much in the lodge either. The Royal Society did not provide for his spiritual needs, but his religion was an essentially personal one not requiring institutionalization, and in the Society he did find (and indeed help to create) dedication to the advancement of knowledge combined with Friendship, both of which were closely bound up with ethical and spiritual considerations. Tracing the inner life of Moray the stoical-masonic-Christian-symbolist from fragmentary sources is a tortuous task, but if it is not done his commitment to science cannot be placed in its proper context. He has often been regarded as one of the most attractive and 'modern' men produced by Scotland in the 17th century. The first adjective may stand, but the second must be qualified. Like all 17th-century scientists, he looks to the past as much as to the future.

NOTES

- 1 In quotations from the Kincardine Papers and other manuscripts abbreviations are extended and punctuation occasionally altered or added where necessary to make the sense clear.
- 2 I will attempt to deal with some of these issues in a book I am preparing on *Freemasonry in seventeenth-century Scotland*.
- 3 The true date of the Hermetic texts was proved in 1614, but it took a long time for this to become accepted.
- 4 This myth is found in varying forms in different versions of the so called 'Old Charges' or 'Old Constitutions'. English copies survive from the late 14th century onwards, Scottish ones only from the late 17th century onwards. Thus though it is highly likely that the Scots craft possessed the myth by 1641, direct evidence is lacking.
- 5 The text of the letter is printed in Fraser (1867, I, 136–7). Another example of Moray's signature including the pentacle which probably predates his joining the Edinburgh Lodge is that on a copy of the National Covenant (Nat Cov). The signature was fully legible when I first examined this covenant in the late 1960s, but by 1983 the end of it and the pentacle were only visible with the aid of ultra-violet light.
- 6 Thus a number of Moray's letters in RS Letter Book include excellent impressions of several of his symbolic seals, but these are not mentioned in Hall & Hall (1967–77), where the texts are printed.
- 7 Much of the passage is quoted in Airy (1885, 39); in Martin (1960, 245); and in Haddow (1970, 76). Both Airy and Martin wrongly read 'strict' for 'stoick'. The words in square brackets have been transliterated from the Greek.
- 8 I have no knowledge of Greek, and this paragraph is based almost entirely on Haddow (1970, 76–80), though some of the variations of possible interpretations cited are not those Haddow favoured. I am grateful to Mr George Draffen of Newington for drawing my attention to Haddow's article. The fact that the grammatical forms of the Greek words cited by Moray do not always seem the most appropriate (eg, *Agapa* should be *Agape*) may indicate the limitations of his Greek; in an earlier letter to Bruce in which he had quoted a Greek word he had jocularly indicated that he expected Bruce to be surprised – '(saw you that my dear?)' (KP, f.44r).
- 9 Pentacles as marks of operative masons appear on the stonework of the abbeys of Kilwinning (Galloway 1878, pl opposite p 100), Dryburgh, Jedburgh and Melrose (Smith 1861, pls xxi, xxi*), as well as in England (Jones 1950, 542; Gould 1951, I, 161 & pl opposite p 162).

- 10 The letter is printed in the various 19th-century editions of Evelyn's *Diary* edited by William Bray, but is there wrongly dated 14 June instead of 14 January 1668.
- 11 The Altar of Friendship is illustrated in Evelyn (1939), opposite p 22. The pentacle also appears on a portrait of Margaret Blagge which she gave to Evelyn in 1673.
- 12 For other extracts from KP relating to Moray's medical interests see Airy (1885, 32–4, 36–7, 40–2).
- 13 The earl of Rothes (who records the comment) actually wrote, in his customary remarkable spelling 'I beliff hie is head of his own surche'. Rothes wrote in 1665, but was evidently recording an old anecdote. Charles intended the comment to include 'dockter Fraser' as well as Moray. This was Sir Alexander Fraizer, Physician to the king, who became an FRS in 1663, having been proposed by his fellow Scot, Moray (Hunter 1982, 186).
- 14 See also Moray's own account of his discussions with the earl of Tweeddale's son in Paton (1939, 135–8).
- 15 An undated copy of part of the letter is calendared in HMC 29 (III, 271), from Harley Ms.

ACKNOWLEDGEMENTS

I am most grateful to the earl of Elgin for allowing me access to the Kincardine Papers, and for lending me a typed modern transcript of them. The duke of Hamilton permitted the temporary transfer of some of Moray's letters from Lennoxlove to the Scottish Record Office so I could consult them, and the earl of Southesk provided me with a photocopy of the letter cited as 'Southesk Ms'. They both have my thanks for their help – as has the National Register of Archives (Scotland) for arranging the transfer of the letters from Lennoxlove.

I gratefully acknowledge grants from the following bodies towards the cost of photography and travel incurred in research for this paper: The Royal Society; The Carnegie Trust for the Universities of Scotland; and The University of Aberdeen.

I also acknowledge the permission to use copyright photographs in the illustrations, as follows: The earl of Elgin (illus 4); The British Library (illus 3, 5, 8, 9); The National Library of Scotland (illus 10); and The Royal Society (illus 1, 2, 6, 7).

REFERENCES

- Adamson, H 1638 *The Muses Threnodie, or, mirthfull mournings on the death of Master Gall*. Edinburgh.
- Agrippa, H C 1553 *De occulta philosophia*. Cologne.
- Airy, O 1884–5 *Lauderdale Papers* 3 vols. Camden Society London.
- Airy, O 1885 'Correspondence of Sir Robert Moray with Alexander Bruce, second earl of Kincardine', *Scot Rev*, 5 (1885), 22–43.
- APS *Acts of the Parliaments of Scotland* 12 vols, 1814–75. Edinburgh.
- Aubrey, J 1949 *Brief Lives*, (ed Dick, O L).
- Aubrey, J 1972 *Three Prose Works. Miscellanies. Remaines of Gentilisme and Judaisme. Observations*, (ed Buchannan-Brown, J). Fontwell.
- Ayres, P 1683 *Emblemata Amatoria. Emblems of Love*. London.
- Balfour, Sir J 1824–5 *Historical Works* 4 vols Edinburgh.
- Bayley, H 1912 *Lost language of symbolism* 2 vols London.
- Boschius, J 1701 *Symbolographia sive de Arte Symbolica Sermones Septem*. Augsburg.
- Burnet, G 1897–1900 *History of His Own Time*, (ed Airy, O) 2 vols. Oxford.
- Carr, H 1962 *The minutes of the Lodge of Edinburgh, Mary's Chapel No 1, 1598–1738*. Quatuor Coronatorum Antigrapha. Masonic Reprints, vol xiii. London.
- Cham Encyc* 1966 *Chambers Encyclopaedia* 15 vols. Oxford etc.
- Dee, J 1975 *The mathematical preface to the elements of geometry of Euclid of Megara (1570)*, (ed Debus, A G). New York.
- DSB *The Dictionary of Scientific Biography* (ed Gillespie, C C) 14 vols, 1970–6. New York.

- Evelyn, J 1939 *The life of Mrs Godolphin* (ed Samson, H). London.
- Evelyn, J 1955 *Diary*, (ed de Beer, E S) 6 vols. Oxford.
- Firth, C H 1889 *Scotland and the Protectorate*. Scot Hist Soc. Edinburgh.
- Foxcroft, H C 1902 *A supplement to Burnet's History of My Own Time*. Oxford.
- Fraser, Sir W 1867 *The history of the Carnegies, earls of Southesk, and of the kindred*, 2 vols. Edinburgh.
- Galloway, W 1878 'Remarks on the existing buildings at Kilwinning Abbey', *Archaeol Hist Collect Counties of Ayr and Wigton*, 1 (1878), 89–114.
- Gombrich, E H 1948 'Icones Symbolicae. The visual image in Neo-Platonic thought', *J Warburg Courtauld Inst*, 11 (1948), 163–92.
- Gordon, P 1844 *A Short Abridgement of Britaine's Distemper*. Spalding Club Aberdeen.
- Gould, R F 1951 *Gould's history of Freemasonry . . . revised* (ed Poole H) 4 vols London.
- Green, R H 1962 'Gawain's shield and the quest for perfection', *ELH. A J Engl Literary Hist*, 29 (1962), 121–39.
- Haddow, A J 1970 'Sir Robert Moray's Mark', *Year Book of the Ancient, Free and Accepted Masons of Scotland*, (1970), 76–80.
- Hall, A R & Hall, M B 1965–77 *The correspondence of Henry Oldenburg* 11 vols. Madison and London.
- Henkel, A & Schöne, A 1967 *Emblemata: Handbuch zur Simbildkunst des XVI und XVII Jahrhunderts*. Stuttgart.
- HMC 29 Historical Manuscripts Commission 29: *Portland* 10 vols 1891–1931.
- HMC 72 Historical Manuscripts Commission 72: *Laing* 2 vols 1914–25.
- HMC 78 Historical Manuscripts Commission 78: *Hastings*. 4 vols, 1928–47.
- Hooke, R 1935 *Diary*. London.
- Hopper, V F 1938 *Medieval number symbolism*. New York.
- Houghton, W E 1941 'The History of Trades: its relation to seventeenth century thought', *J Hist Ideas*, 2 (1941), 33–60.
- Hunter, M 1982 *The Royal Society and its Fellows, 1660–1700. The morphology of an early scientific institution*. (*Brit Soc Hist Sci Monogr*, 4).
- Imrie, J & Dunbar, J G (eds) 1982 *Accounts of the Masters of Works for building and repairing palaces and castles, 1616–49*, vol ii. Edinburgh.
- Jones, B E 1950 *Freemasons' Guide and Compendium*. London.
- Josten, C H 1966 *Elias Ashmole (1617–1692). His autobiographical and historical notes, his correspondence, and other contemporary sources relating to his life and work* 5 vols Oxford.
- Kircher, A 1665 *Arihmmologia*. Rome.
- Kirkton, J 1817 *The Secret and True History of the Church of Scotland*. Edinburgh.
- Lehner, E 1950 *Symbols, signs and signets*. Cleveland and New York.
- Leslie, J, Earl of Rothes 1830 *A relation of proceedings concerning the affairs of the Kirk of Scotland*. Bannatyne Club. Edinburgh.
- Loftis, J 1979 *The memoirs of Anne, Lady Halkett and Ann, Lady Fanshawe*. Oxford.
- Lyon, D M 1900 *History of the Lodge of Edinburgh (Mary's Chapel), No 1*, 2 ed. Edinburgh.
- Mackenzie, Sir G 1716–22 *Works* 2 vols. Edinburgh.
- Marshall, T H 1849 *History of Perth from the earliest period*. Perth.
- Martin, D C 1960 'Sir Robert Moray', in Hartley, Sir H (ed), *The Royal Society*, London, 239–50.
- Paton, H M (ed) 1939 'Letters from John, second earl of Lauderdale, to John, second earl of Tweeddale, and others', *Miscellany* 6, Scot Hist Soc. Edinburgh.
- Peacham, H 1612 *Minerva Britania*. London.
- Praz, M 1964 *Studies in seventeenth century imagery* (2 ed). Rome.
- Robertson, A 1922 *The life of Sir Robert Moray, soldier, statesman and man of science*. London.
- Rogers, N 1952 'The Lodge of Elias Ashmole, 1646', *Ars Quatuor Coronatorum*, 65 (1952), 35–53.
- Shapiro, B J 1974 'Latitudinarianism and science in seventeenth century England' in Webster, C (ed), *The intellectual revolution of the seventeenth century*, London, 286–316.
- Smith, J A 1861 'Exhibition of mason-marks copied from Melrose Abbey, Dryburgh, Jedburgh, etc etc', *Proc Soc Antiq Scot*, 4 (1860–1), 548–51.
- Stevenson, D & Caldwell, D H 1977 'Leather guns and other light artillery in mid-seventeenth century Scotland', *Proc Soc Antiq Scot*, 108 (1976–7), 300–17.

- Tolkien, J R R, Gordon, E V & Davis, N 1967 *Sir Gawain and the Green Knight* (2 ed). Oxford.
 Wood, A 1691–2 *Athenae Oxoniensis* 2 vols. London.
 Yates, F A 1943 'The emblematic conceit in Giordano Bruno's *De Gli Eroici Furori* and in the Elizabethan sonnet sequences', *J Warburg Courtauld Inst*, 6 (1943), 101–21.
 Yates, F A 1975 *The Rosicrucian Enlightenment* (Paladin ed). Frogmore.

MANUSCRIPTS

- Abercairny Ms Letter, Sir William Moray of Dreghorn to Sir Robert Moray of Abercairny, 7 Apr 1671. Scottish Record Office, GD.24/3/363.
 Ashmole Ms Collection of Seal Impressions. Bodleian Library, Oxford, Ms Ashmole 1138.
 Balcarres Ms Letter, Sir Robert Moray to Charles II, no date. National Library of Scotland, Ms Adv 29.2.9, Balcarres Papers, vol ix, ff.243–4.
 Browne Ms Letter, Sir Robert Moray to John Evelyn, 14 Jan 1668. British Library, Add Ms 15,858, Original Letters of Sir Richard Browne, vol II, ff.81–2.
 Dolben Ms Letter, Sir Robert Moray to Archbishop Sheldon, 14 Oct 1667. Bodleian Library, Oxford, Ms Add C.302, Dolben Papers, ff.79–80.
 Essex Ms Letter, Sir Robert Moray to the earl of Essex, 4 Oct 1672. British Library, Stowe Ms 200, Correspondence of Arthur Capel, earl of Essex, vol I, f.300.
 Hamilton Mss Correspondence in Hamilton Archives, Lennoxlove. The reference numbers cited are those in R Marshall, Hamilton Archives, Lennoxlove Calendar of the Correspondence (National Register of Archives (Scotland) survey no 332, 1970).
 Harley Ms Letter (copy), Sir Robert Moray to Archbishop Sheldon, 14 Oct 1667. British Library, Loan Ms 29/179, Harley Papers, vol IX, 1661–2, f.308.
 KP Kincardine Papers: Letters of Sir Robert Moray to the earl of Kincardine. In possession of the earl of Elgin, Broomhall, Dunfermline, Fife. There is a microfilm in Edinburgh University Library, Mic. M.726. The letters are usually cited from the 19th-century 'Douglas Transcript' now in the Library of the Royal Society, London (and there is another such transcript in National Library of Scotland, Mss 5049 and 5050), but references in this article are to the original.
 Laing Ms Signature for gift to Sir John Veitch of Dawick and Sir William Moray, 10 May 1662. Edinburgh University Library, Laing Mss vol III, 349.
 Lauderdale Mss Lauderdale Papers. British Library, Add Mss.
 Law Tracts Gift (copy) of office of Master of Works (blank, but in favour of Sir William Moray), 17 Aug 1660. National Library of Scotland, Ms Adv 25.3.4, Miscellaneous Law Tracts, p 42.
 Nat Cov Copy of the National Covenant, National Library of Scotland, Ms Adv 20.6.19.
 Orig Letters Letter, Sir Robert Moray to earl of Kincardine, 24 May 1669. National Library of Scotland, Ms 2955, Original Letters, f.33r–v.
 Reg Deeds Bond by Sir William Moray, 21 May 1661. Scottish Record Office, Register of Deeds, RD.2/10, p 481.
 RS Letter Book Letter Book M.1. Royal Society, London.
 Southesk Ms Letter, Robert Moray to Lord Carnegy, 28 March 1641. Southesk Muniments, Kinnaird Castle, in bundle 'Southesk Correspondence, 1632–1689' in Deed Box 'Earl of Southesk, no 4'.
 Yester Mss Yester Papers, Correspondence 1670, 1671–2 and 1673–4. National Library of Scotland, Mss 7004, 7005, 7006.