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Early Activities of the Royal Society.

DURING the past twelve months NATURE has published, week by week, a column of selected extracts from Dr. Birch's "History of the Royal Society," under the title of "Early Science at the Royal Society." Its commencement was the subject of an explanatory note in the issue of February 9, 1924. The series has run the allotted period, and now some kind of retrospect of the discussions, experiments, and policy of the circle of men who were the promoters of the Royal Society, and of experimental inquiry in general, may be of advantage.

The series comprised the years 1660–87, an interval marking initial, yet fruitful, efforts to establish something that should be permanent in the English commonwealth of knowledge, something that should be shaped out and handed down to others as a reality. The accounts (in brief) of schemes propounded and experiments performed will, it is hoped, have been the means of bringing readers of NATURE into the atmosphere of patient endeavour which animated the founders of the "New Philosophy." We can, all the more readily, picture them forgathering at Gresham College in harmonious conclave and intent. True, as time proceeded, as mind encountered mind, weighty criticisms were offered, whilst dissensions, not quite of a milk-and-water type, arose; notwithstanding such intrusions, through all the same high resolve is maintained, the same sense of original responsibility is apparent. The grip of national conflict was over, perhaps forgotten, and things bespeaking mental awakening held indisputable sway. Harrington's contemptuous comment that they were, in early constitution, an assembly of men who had an excellent faculty of magnifying a louse and diminishing a commonwealth became empty and barren.

Inquiries in the departments of natural history, physiology (as understood), chemistry, medicine, mechanics, and astronomy were actively fostered, the last named especially. The vegetation of plants was frequently the subject of discourse. Evelyn's "Sylva" appeared in 1662. In 1673, Grew's microscopical observations of the texture of a piece of a walnut-tree section were discussed. The history of the silk-worm, in Latin, by Signor Malpighi, was sent in 1668, and ordered to be printed. The operator was directed to try again the feeding of spiders upon one another. In 1669, Robert Hooke (versatile and elusive, yet a veritable Master of the Ceremonies) produced a contrivance to see whether a mechanical muscle could be made by art, performing without labour the same office which a natural muscle did. Robert Boyle presented his "Sceptical Chymist" in 1679, which a committee were to peruse to see what could be learnt

from it. Moray presented the stones taken out of the Lord Balcarres' heart, in a silver box, together with a written account of the dissection of his body, attested by a physician. Only, in case the deceased lord's mother should claim it, it was not to be denied her.

Much time was taken up in discussing transfusion questions and arranging experiments. But what are we to think of Dr. Clarke's proposition that a man hanged might be begged of the King, to try to revive him, and that, in case he were revived, he might have his life granted him? In 1681 (Wren in the chair) it is recorded that Mr. Flamstead having cavilled against the method shown by Mr. Hooke of describing a parabola, the Society desired it again. Upon which the president declared it was true and certain. Honour to whom honour is due. Sir Robert Moray had presented from Prince Rupert an instrument of his Highness's invention for "casting any platform into perspective." It was ordered that the president (and others) wait upon the prince, return him the humble thanks of the Society, and show him an instrument of Dr. Wren's invention for casting any natural object into perspective. In 1666, Mr. Peter Lely was moved to communicate curiosities in the art of painting. Evelyn, Hooke (and others) were to meet and consider particulars. Report was made of willingness to serve the Society. We have, however, been unable to glean any issue.

His Majesty King Charles II. came upon the scene with a fanfare, thanks to the interest of Sir Robert Moray, the courtier, and the gentle scholarly Evelyn. It was long hoped and expected that his Majesty, as founder, would attend one of the meetings. However, he never came. "Early Science" speaks of the appointment of a committee to consider the manner of the King's reception and the conduct of chosen experiments, one being the contriving of optical pictures.

There must, however, have been considerable personal intercourse with his Majesty. Christopher Wren was charged by express command to make a great globe of the moon. On January 23, 1667/8, the operator was ordered to hasten the making of a thermometer for the use of the Queen. In the following year the president took notice that an experiment shown to the Society by Robert Boyle did not succeed at first at Whitehall, but at last it succeeded very well, and in his Majesty's presence. "Early Science" has omitted a pathetic story. In 1663, in a discussion of a new way of hatching pigeons, Sir Robert Moray was able to relate that the King, *when very young*, meeting with a blackbird's nest, and finding but one young one in it, carried it home in the nest, and put it to a thrush in a cage, who fed the blackbird as carefully as if it had been her own, but with this difference, that whereas other birds fed their young ones just before they feed themselves, the thrush fed herself before the blackbird.

The Society enjoyed the supreme advantage at its foundation, and for fourteen years, of the secretaryship of Henry Oldenburg. This accomplished man, a Latin scholar and able linguist, laboured indefatigably and exclusively in its interests with a true spirit of service. With extraordinary zeal he maintained a voluminous correspondence with philosophers abroad, and hence linked up and broadened the philosophical learning of his time. He would seem to have done his best to avoid the credulous and trivial.

Foreign visitors came ever and anon, providing a useful interchange of views. The Danish Ambassador was brought by Evelyn on February 13, 1660/1, and was given a sight of Mr. Boyle's air-pump. The Genoese Ambassador came on January 29, 1661/2. Leibnitz was present at the meeting of January 22, 1672/3 (Hooke, Boyle, and Oldenburg were there). The following year he was elected into the Society. Huygens was elected on June 22, 1663, at the same time as Sorbière (who afterwards narrowly escaped being struck off the roll). The Moroccan Ambassador was a visitor in 1682 and inscribed his name in the charter-book in Arabic. Later, he was responsible for an account of a person who was always dumb, except at noon! The Florentine envoy came in 1685 and was entertained by Papin.

The president and officers were at one period gravely concerned over the arrears of subscriptions, a very large total liability having arisen by degrees. Various fellows undertook to approach the forgetful ones. Not much advance was made in the case of Edmund Waller, the poet, though certainly his interest in the organisation was no more than dilettante. It was mentioned that he had put it off with an expression of merriment; that he thought it best to forget and forgive one another for what was past, and to begin on a new score. This was very disturbing to Oldenburg. In point of fact, Waller never did pay.

Pepys was elected February 15, 1664/5, and admitted the same day. On January 14, 1674/5, at a meeting at which Mr. Pepys and the Earl of Aylesbury were present, each took a day when they would provide a lecture for the Society. The latter excused himself, subsequently paying a fine of forty shillings. Although not recorded, it would appear that Pepys failed to keep his promise. We have found no reference to this lapse in the well-known Diary.

Limitations of space forbid further review; and so we take leave of these "early philosophers," grateful for efforts which shaped into actualities, and for their rich legacy of an essentially English foundation.

T. E. JAMES.