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THE ROYAL SOCIETY AND ITS FELLOWS 1660–1700

the morphology of an early scientific institution

Michael Hunter

BRITISH SOCIETY FOR THE HISTORY OF SCIENCE

First BSHS *edition 1982*
reprinted with additions 1985
second edition 1994

© *Michael Hunter 1982, 1994*

ISBN 0-906450-09-8

Designed and typeset in Adobe Caslon by Jeffrey Dean,
The Stingray Office, 16 Charles Street, Oxford OX4 3AS

Printed in Great Britain by The Alden Press, Oxford

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Preface

THE study here reissued to the public has now appeared in print in no fewer than four recensions, and it is appropriate at the outset to indicate the mutual relationship of these. It originated as a paper in *Notes and records of the Royal Society*, XXXI (1976): 9–114, entitled 'The social basis and changing fortunes of an early scientific institution: an analysis of the membership of the Royal Society, 1660–1685'. Anyone who looks at that lengthy article will clearly recognise its basic conception and chief components in the current version, while even substantial portions of the text reappear here in hardly altered form. The original recension was superseded, however, by the revised and extended edition issued in 1982 in the British Society for the History of Science Monograph Series. In this, the analysis was extended from 1685 to 1700; in addition, much extra information and comment was added on the earlier period, thus greatly extending the text and making it effectively a new work. In fact, the new version was to be preferred to the original wherever the two differed, with only one exception, Appendix 2 of the original version, pp. 60–62, 'The plan for a College, 1667–8'. This was not included in the BSHS Monograph since a revised and extended version of it became an article in its own right: 'A "college" for the Royal Society: the abortive plan of 1667–8', *Notes and records of the Royal Society*, XXXVIII (1984): 159–86, subsequently reprinted in my *Establishing the new science: the experience of the Royal Society* (Woodbridge, 1989), 156–84.

In 1985, a second impression of the 1982 Monograph was called for, in which various corrections of minor matters of fact were made, particularly in the Catalogue of Fellows. The most important source of these was a key work published by the History of Parliament Trust in 1983, B. D. Henning's three-volume compilation, *The House of Commons, 1660–1690*, from which more accurate dates of birth were given for several Fellows, together with a wholly fresh account of one of them. In addition, the 1985 reissue included a new prefatory note drawing attention to these and other changes and giving extra information, together with an 'Addendum' (pp. 271–2) detailing relevant material among the Petty Manuscripts, then at Bowood House, Wiltshire.

The 1985 edition was a photographic reissue of that of 1982, and the alterations to its text were limited to such as could be accomodated within the existing format. For the current version, however, the text has been optically scanned and freshly typeset, which has had two benefits. Firstly, it has made it possible greatly to improve on the typewritten format of the 1982 edition — criticized as 'trying to the eyes' by Professor Rupert Hall when reviewing it for the *Times higher*

education supplement (1 July 1983) — so that the current version combines the fullness and accuracy of the Monographs version with the typographical elegance of the original *Notes and records* format. Secondly, it has been possible to introduce further revisions and improvements, which it is worth itemizing here.

For one thing, the biographical references in the Catalogue of Fellows have been updated, making fuller use of Henning's book than the 1985 format permitted, and alluding to other relevant biographical studies that have appeared during the last decade. In addition, references in the notes to works which in 1982 were forthcoming but which have since been published have been altered accordingly, while a few citations of key studies published since 1982 have been introduced. Thirdly, the Introduction has been rewritten to take account of work in the field published since 1982.

Much of the remainder of the text has been left unaltered, except for corrections of minor factual errors and the like, but major changes have been made to the former Appendix 7. First, the information included in the 'Addendum' to the 1985 reissue has been incorporated in the main text and slightly extended: the evidence concerning acquaintance networks within the Society provided by the names of those requested to dun Fellows in debt, which was there only alluded to, has here been itemized, while comparable evidence from arrears lists among the Royal Society's manuscripts has been added in addition to that from the Petty manuscripts.

Secondly, and most importantly, the actual texts have been included of the Society's evaluative lists of Fellows, all but one of which have hitherto survived only in manuscript. As is explained in Chapter 1 below, it was these documents that originally inspired this study, and they are of interest in their own right for illustrating what was perceived as the core of the Society at critical moments in its history. In the earlier editions of this work, the lists were described and analysed at length, while a column in the Catalogue was devoted to indicating which Fellows appeared in which of them, but their full text was not included: this was largely as a means of economizing on space, since, in theory, the content of each list can be deduced by recombining the information in the Catalogue. Such reconstitution would not be easy, however, and in any case, it would not make it possible to reconstruct the order in which names appear in the lists, which in some cases is potentially significant in its own right. The current edition therefore includes a complete text of these lists in addition to a commentary on them.

In order to incorporate all this extra information, it has been necessary to subdivide the appendix to which it relates. As a result, Appendix 7 of the 1982/85 version has been divided into three, dealing respectively with lists of Fellows' arrears, with these evaluative lists, and with bonds for subscriptions. This means that the subsequent appendixes, 8–10, have been renumbered 10–12 respectively.

It remains to thank all those who have contributed to the preparation of the different versions of this Monograph. The Librarians of the Royal Society,

Norman Robinson and Sheila Edwards, and their staff, have been unfailingly helpful throughout the project. The late Sir William Paton played a crucial role in encouraging me to complete the original version of the study, and in devoting half a substantial issue of *Notes and records of the Royal Society* — of which he was then editor — to its publication. Successive editors of the BSHS Monograph series have acted as midwife to the subsequent editions: Roger Smith had the major responsibility for the 1982 version, complicated by the fact that I was in Australia at the time when the proofs had to be read; Graham Smith dealt with the 1985 reissue; while Paul Weindling has had the task of overseeing the preparation of the current edition. The Royal Society has generously provided a grant towards the publication of this new edition, which is gratefully acknowledged.

My research for the 1982 version was valuably assisted by Jennifer Bray, who tragically died in 1987: specific components of her work are referred to in the appendixes, especially Appendix 5. I am also grateful to the following for helping in different ways in the preparation and revision of the different recensions of the study: Sonia Anderson, M. Y. Ashcroft, the late Esmond de Beer, Alan Clark, Moti Feingold, Roderick Floud, the late E. G. Forbes, Robert G. Frank jr, Graham Gibbs, Annabel Gregory, A. Rupert and Marie Boas Hall, John Henry, P. S. Laurie, Mary-Lou Legg, H. L. Lehmann, Arne Lossman, Charles Morris, Martha Morris, A. E. Mourant, Lotte Mulligan, D. T. O'Rourke, John Rushton, Lindsay Sharp, David Sulkin, Anthony Turner, Maarten Ultee, P. J. Wallis, Charles Webster, Michael Wilks, R. McD. Winder, Paul Wood and Christopher Wright. Access to microfilm copies of the relevant parts of the Petty Manuscripts held by the Bodleian Library was courteously authorized by the Earl of Shelburne, while permission to quote the Evelyn Papers at Christ Church, Oxford, has kindly been given by the Trustees of the Will of the late Major Peter George Evelyn.

Michael Hunter
September 1993

Introduction

THIS book is intended to be at once a reference tool and an interpretative study. In the first place, it identifies each of the 551 Fellows elected to the Royal Society during the first forty years of its existence, and gives a summary of their career in the Society and their contribution to it. This information has been condensed into a Catalogue to which reference can be swiftly made, and for this the book has already been widely and appreciatively cited. Secondly, however, the book's text combines this with other information to write a short history of the Society in its early years. Not only does it analyse the social basis of the membership as a whole and of its active component. In addition, since the Society was a voluntary body, dependent on the support of Fellows in the ways indicated in Chapter 1, the information that the Catalogue provides about the fluctuations in Fellows' support makes it possible to construct an overall picture of the Society's institutional vicissitudes in terms of the combined history of the enthusiasm and activity of its individual members.

As a work of reference, this study follows and builds on the work of others. The first attempt to list the Fellows of the Society in the order of their date of election was made by Thomas Thomson in Appendix IV of his *History of the Royal Society from its institution to the end of the eighteenth century* (1812).[1] A similar list was included in the second edition of *The record of the Royal Society*, published in 1901, and this has reappeared in subsequent editions, the most recent being the fourth, of 1940. In terms of identifying the Fellows, a pioneer was William Bulloch, FRS (1868–1941), Bacteriologist to the London Hospital and Professor of Bacteriology at London University, who, in his later years, compiled a 'Roll of the Fellows of the Royal Society'. This manuscript collection of biographical notes on all Fellows from the Society's foundation to 1940, bound up in the form of a sheaf catalogue, is now preserved in the Royal Society library. In addition, a biographical guide to the Society's 'Original Fellows' (i.e., those elected before June 1663) was given by Esmond de Beer in his article, 'The earliest Fellows of the Royal Society', *Bulletin of the Institute of Historical Research*, XV (1937–8), 79–93, while a further useful list of officers and Fellows up to 1687 with a brief identification of most will be found in A. Rupert Hall's introduction to the 1968 Johnson reprint of Thomas Birch's *History of the Royal Society*.[2]

The Catalogue below draws on these and all other available sources to give a brief biographical note on virtually all Fellows elected up to 1700. It identifies some Fellows whom Bulloch, de Beer, and Hall were unable to trace, and it gives alternative identifications of others: where it differs from these existing accounts, it is because I consider the earlier identification erroneous. In addition, whereas these earlier listings simply identified the Fellows, the Catalogue below offers much more. The survival of records from the seventeenth-century Royal Society is little short of amazing: the Society's continuity and care since has meant that even lists and memoranda have survived, quite apart from full minutes, correspondence, and accounts. It is hence possible to give full information not only about Fellows' tenure of office, but also their activity at meetings, their financial contributions, even the Society's view of them as revealed by memoranda compiled at different points during the period. A vast amount of information about the Society's membership has been distilled to form the basis of the Catalogue and the appendices, which go through the data used in the Catalogue column by column, explaining the difficulties about each class of information and sometimes analysing and indexing it.[3]

It is this profuse information which is utilized in the book's text. Analyses of the Fellowship of the Society, too, have quite a long history, in this case going back to the 1930s, but, as Chapter 1 explains, most such studies have used the membership only as a means of trying to assess the social basis of enthusiasm for science in late-seventeenth-century England (on the presumption that the membership was an undistorted mirror of such enthusiasm, a presumption itself of doubtful validity, as we shall see). What such earlier studies entirely overlooked was the point that underlies this study, namely that it was worth studying the membership in order to discover what kind of people took part in the founding of this first scientific institution, and which of them supported it through thick and thin during its formative decades.

Indeed, though I have analysed the membership as a whole, and have considered the Society's social basis and its changes, I have laid more stress on what can be learnt about which Fellows made a positive contribution to the Society and which did not, and on the fluctuations in Fellows' activity during the time when they belonged to the Society. Thus, though Chapter 2 and the Tables that accompany it start with a statistical analysis of the Society as a whole by social class, the treatment gradually moves inwards to the active core of the Society and its changing composition, ending with a tabular view of this — Table 9 — which entirely eschews impersonal statistics. This remains, I think, unparalleled in writings on comparable topics, and it seems to me to represent the form that proper institutional history should take.[4]

This attempt to get away from vague generalizations about the Society's support continues in Chapter 3, which uses the Catalogue's detail about the career in the Society of each of the Fellows elected between 1660 and 1700 to itemize which of them ceased to be active due to death or other causes, and when, and what new blood came forward to replace them: it thus clothes with personal detail the bare narrative of the Society's crises and moments of achievement. Such detail also provides the necessary background to the definitive account of the Society's policy towards the rank and file of its membership that is given in that chapter — supplemented by various of the appendices — including such data as is available as to how Fellows were recruited, and dealing with the Society's efforts to impose greater selectiveness on those enrolled from the 1680s onwards, and its various attempts to galvanize members into action and to slough off the penumbra of inactive hangers-on that surrounded the Society's committed core. Indeed, the whole focus of this book is on the membership on whose support the Society depended as a voluntary organisation. It thus differs from work that has been carried out on the French Académie des Sciences in the seventeenth century, which has concentrated on the state funding which that body enjoyed.[5] Perhaps more surprising is the fact that the detail achieved here concerning the membership and its role remains as yet unparalleled in the burgeoning literature on scientific societies in the eighteenth and nineteenth centuries.[6]

I should, however, make clear the limitations of this project. One is that it deals only with the Society's institutional life in London and not with its broader function as the centre of a network of scientific correspondence and journalism, which may in some ways be the Society's chief claim to significance in seventeenth-century science. Though such activity depended in important ways on the dogged institutional continuity which is here documented and analysed, so that this study forms an essential background to it, readers will have to turn elsewhere for information on the Society's successful organizational and promotional role. In particular, they will need to consult A. Rupert and Marie Boas Hall's epic edition of *The correspondence of Henry Oldenburg*, finally completed since the earlier editions of this book were published. A commentary on this has been provided by Marie Boas Hall in various articles and in two chapters of her *Promoting experimental learning: experiment and the Royal Society, 1660–1727* (1991), while among other recent contributions I might single out an account of the Society's international relations by a group of historians of science based in Madrid, which usefully complements the account of the Society's overseas Fellows included in Appendix 12, below.[7]

The present study has regrettably also eschewed any assessment of the scientific content of the Royal Society's proceedings. This is largely because of the difficulties of combining an adequate investigation along such

lines with an analysis of the membership as a whole such as is presented here. By its nature, the Catalogue that forms the heart of this study can only deal with fairly straightforward information, and though it is possible to distinguish between 'active' and 'inactive' members as it is between payers and non-payers of subscriptions, it is hardly feasible to distinguish the calibre of a Fellow's contributions to the Society's proceedings. I am only too aware that large-scale judgements of this kind can easily become somewhat caricatured: for instance, the presumption that 'amateurs' were incapable of making worthwhile contributions to knowledge, though highly anachronistic in the seventeenth-century context, is even enshrined in the statistical tables offered by one historian of the Society, Sir Henry Lyons.[8] Hence an evaluation of the scientific content of the Society's meetings has not here been attempted.

Fortunately, studies complementing the present one by providing this have begun to proliferate during the period since the original version of this study appeared. The richest of these have dealt with themes or episodes in the Society's early years by using a wide range of evidence to illuminate the background, priorities, and theoretical preconceptions of the Fellows involved. Examples include Rhoda Rappaport's study of the reception of Hooke's lectures on earthquakes at the Society, Jan Golinski's account of the Society's experiments with phosphorus, and Stephen Pumfrey's account of the Society's magnetical investigations; these interestingly indicate the interrelationship of such presentations with the audience that the Fellows comprised, and bring out the role of personal and intellectual tensions among scientific activists.[9]

In attempting to give a view of development of the Society's scientific activity as a whole, a pioneer was Robert G. Frank, who published a computerized study of the content of the minutes in selected years in 1974, from which a number of interesting conclusions emerged.[10] A more ambitious recent attempt to survey the evolution of the Society's scientific work during both the period covered by this study and the succeeding years when Newton was President is to be found in Marie Boas Hall's *Promoting experimental learning* (1991). This gives a narrative based on the minutes of the Society's meetings, conveying a good sense of the content of these and the way in which this changed over the Society's early decades. On the other hand, in covering so much ground in a relatively brief book, Hall is unable to go into as much detail as studies like those of Rappaport, Golinski, or Pumfrey, and neither does she juxtapose Fellows' role in the Society with their background, as did Frank. In addition, in emphasizing experiment — which is seen as the core of the Society's proper aspirations — Hall is disappointingly cursory in dealing with what she calls 'discussion' as against 'concrete fact'.[11]

What she does provide, particularly in her second chapter, is a general

view of the Society's scientific policy, and the various attempts that were made to improve its effectiveness during the late seventeenth century. This draws on, and adds to, the full discussion of such matters to be found in a joint article by myself and Paul Wood, 'Towards Solomon's House: rival strategies for reforming the early Royal Society', another more recent study that crucially supplements the view of the Society given in the pages that follow, not least by illustrating how differing views of the membership interrelated with contrasting scientific ideals within the Society's ranks.[12] That there *was* argument over the Society's proper role may come as a surprise to readers of certain accounts of the early history of the institution:[13] but this is indicative of the richer picture that we are increasingly acquiring of the Society's evolution, to which I have further contributed through studies of various initiatives in the Society's first few decades in my volume *Establishing the new science* (1989), which emphasizes the complex interrelationship of intellectual, institutional, social, and other factors in the Society's early development.

If we are to understand the early Royal Society, it is essential that justice be done to such complexity, and a proper understanding of the Society's voluntary organization and the way in which this functioned is crucial in this connection. One of the dangers of studies focussed on the Society's scientific work is to encourage a disdain for 'non-scientists' among the members, echoing that of Sir Henry Lyons already referred to. Thus of the statesman and savant, Sir Joseph Williamson, President from 1677 to 1680, Marie Boas Hall says that 'he had no real interest in natural philosophy or the Society's affairs'. Yet, in fact, Williamson is to be found taking an active part in arguments over the Society's experimental policy in these years, and he clearly had priorities for the Society that his position as President enabled him to promote.[14] Even when not experimentalists themselves, men like him could play an important role in the Society, which we neglect at our peril if we are to understand how the institution actually worked.

Lyons himself was inclined to presume that the presidencies of 'men of science' — such as Sir Christopher Wren in the 1680s or Sir Isaac Newton early in the eighteenth century — were crucial to the Society's development.[15] A comparable view, which emphasized the role of the Society's secretaries, and particularly the secretaryship of Robert Hooke, was put forward in a study of the Society published in 1981 by Lotte and Glenn Mulligan: they argued that, when he became Secretary in 1677, Hooke decisively altered both the pattern of recruitment to the Society and the nature of its scientific work.[16] But, as I have illustrated more fully elsewhere, both of these claims are false. Proceedings at meetings continued much as before during Hooke's secretaryship, while he seems to have been associated only marginally with the changing pattern of recruitment

around 1680, much of which can be associated with the activities of a single Fellow who was never an officer in the Society, which clearly met with widespread disapproval and stimulated a change in the Society's policy on such matters.[17]

In fact, as the Conclusion argues, a view of the Society that attributes too much influence to the 'great men' within it is misleading. Thus, although the retrenchment of the early 1680s was presumed by Lyons to have represented the initiative of the president, Wren, and although many of Wren's proposals seem to have met with approval, one of his ideas — that those in arrears should not be eligible for election to the council — was watered down when it was debated and was not pursued, while other important initiatives came not from him but from other council members.[18] Clearly the Society had a kind of internal political history, not just of 'scientists' against 'amateurs' but among active enthusiasts with differing interests and priorities, which, even when poorly documented, can often be reconstructed from surviving hints. 'Suffrages carry it, and not allwayes the best Arguments', as John Evelyn darkly explained to Bishop John Fell of Oxford, when reporting in 1669 how Fell's proposal concerning the possible reallocation of the library given to the Society by Henry Howard of Norfolk had been obstructed at a council meeting in a manner 'fitter to be whisper'd in your Eare, than convey'd by a letter'.[19] Similarly, in the late 1670s, Robert Hooke's diary provides fascinating details of shifting allegiances, of different candidates being put up for office, and of politicking and infighting focused on the council meetings at which major policy decisions were made throughout the period.

Future study should therefore concentrate less on individual office-holders than on the twenty-one-man council, described by one contemporary as the Society's 'Parliament'.[20] Attendance at meetings of the council is recorded in full, and the views of those who played an active role in it can often be divined from other sources: fuller investigation of this crucial component of the Society offers much potential for learning more about the institution's history. For instance, in considering the vexed question of how one should interpret the Society's so-called 'Latitudinarianism', it seemed to me appropriate to take into account the views of council members:[21] this is a precedent that could be more widely followed, while a further tool for understanding the operations of the council is provided by the information on networks of friendship within the Society that is expounded more fully in this edition than its predecessors, particularly in Appendix 7. This will help to throw light on the intricate relationships of acquaintance and patronage which went into the make-up and running of the Society in its early years.

In elucidating the Society's inner cabals, however, we must not lose sight of the role of the membership as a whole, which played a significant

part in the Society's institutional life that is easily neglected. This is well illustrated by recruitment, for, as Appendix 2 demonstrates, though certain leading Fellows may have acted as sponsors for candidates in the Society's early years, while from the 1680s onwards a system of vetting by the council was more or less effectively introduced, the bulk of nominations came from the rank and file of members. Moreover, candidates had to be elected as well as nominated, and not all achieved this, as is revealed by the list of candidates proposed but not elected given in Appendix 1: in the case of one candidate who subsequently achieved election but who was refused at his first application, Sir Theodore de Vaux, we learn from a contemporary memorandum that he was 'oppos'd & not admitted'.[22]

More important is the cumulative role of the rank and file of membership once elected, whose indispensable function both constitutionally and more generally is outlined in Chapter 1. For the effect of this was to create an institution with a kind of life of its own: as the Conclusion argues, this made it as resistant to the radical change to which its officers and others repeatedly aspired as it was to the imminent collapse that contemporaries often feared. Thus institutional continuity was assured by the sort of proletariat of organized science tabulated in the Catalogue, whose cumulative support did much to enable the Society to achieve what it did in the science of the day.

Chapter 1
The Fellows and their Role

AMONG seventeenth-century scientific groups, the Royal Society was remarkable for its formal organization and its large size. In contrast to the earlier, more casual scientific conclaves that preceded it in England, the Royal Society was a legally incorporated institution, served by elected officers and with a fixed membership, proposed and elected, which was advertised annually on printed lists. On the other hand, as contemporaries noted, in contrast to the equally 'established' Académie des Sciences founded in Paris in 1666, which was served by a small group of scientific research workers funded by the government, the Royal Society was a larger, almost entirely amateur body — 'a great assembly of Gentlemen',[1] drawn from various occupational backgrounds, totalling 228 by 1669. It is thus hardly surprising that the Society's membership should have attracted study from historians and sociologists in a statistically-minded age, and, over the past sixty years, various authors have attempted to illustrate the affiliations of the new science in its formative years by analysing the Society's membership, particularly the 119 'original Fellows' elected to the Society before June 1663 and the 191 listed by Thomas Sprat in his *History of the Royal Society* (1667).[2]

The pioneers were two American scholars of the 1930s, Dorothy Stimson and Robert K. Merton, both of whom claimed that their analyses proved the influence of an ill-defined 'puritanism' on the growth of science in seventeenth-century England.[3] Later analysts came to contrasting conclusions. In *The scientific intellectual: the psychological and sociological origins of modern science* (1963), L. S. Feuer drew the conclusion that the early membership was predominantly royalist and sympathetic to what he called a 'hedonist-libertarian ethic',[4] while in an article in *Past and present* in 1973 Lotte Mulligan investigated the religious and political affiliations of all the Fellows who were over sixteen in 1642, finding that the majority were royalist, Anglican, university-educated gentlemen, and that there was little evidence in the Society for the men with puritan and parliamentarian associations that Stimson and Merton had postulated.[5]

Such studies, however suggestive their conclusions, are unfortunately open to the objection that, while all presume that conclusions about the

membership of the Royal Society prove something about the affiliations of the new science, none of them adequately resolves the question of what kind of sample the membership of the Society provides. Though it is generally accepted that the Society comprised some sort of élite of Restoration science, the precise relationship that it bore to the contemporary English scientific community is far from clear. Of the various authors mentioned, Lotte Mulligan rightly pointed out that not all those interested in science at the time became Fellows,[6] but she dealt less satisfactorily with the reasons that prompted some scientific enthusiasts to join while others did not, and with the extent to which membership could be due to motives that had nothing at all to do with an interest in science. Yet such questions are clearly crucial to the validity of conclusions derived from the list of members, for there is otherwise a serious danger of respecting quantitative conclusions more because they are quantitative than because they are based on meaningful data; they must therefore be briefly reviewed here.

Certainly, the Society proudly boasted its 'comprehensive temper', in which there was a place for all interested in the new philosophy whatever their status, profession or religious views,[7] and it is now clear that there was no policy of excluding potential members on doctrinaire political or religious grounds.[8] Fellows ranged from parliamentarians like Thomas Blount (F 186),* a violent radical imprisoned at the Restoration, to extreme royalists like Sir Winston Churchill (F 178), the author of a sort of historical panegyric of Stuart kingship. In terms of religion they ranged from Nonconformists like Nehemiah Grew (F 289) through staunch Anglicans like John Evelyn (F 38) to Catholics like Sir Kenelm Digby (F 24). Indeed, the Society clearly valued the membership of all sorts of different people for the evidence it gave of the width of support for the new science.

The fact that the Society did not exclude people on doctrinaire grounds does not prove, however, that membership was equally open to all. For it is important to consider the extent to which less formal and even accidental factors limited recruitment to its ranks, factors which are none the less important in assessing the relationship between the Society's membership and the whole range of scientific enthusiasm in late Stuart England.

Perhaps the most important is the extent to which the Society was based on London. Though some attempt was made to persuade all important English scientists of the day to become at least nominal Fellows,[9] and though hardly any did not have at least a formal association with the Society,[10] it is clear that it was never central to the scientific activities of those based in Oxford, Cambridge, or the provinces rather than London. Indeed, there is occasional evidence for independent regional scientific

* Throughout this book, numbers preceded by 'F' denote entries in the Catalogue of Fellows, pp. 133–233.

groups, like the Towneley circle in Lancashire, which carried on its own experiments and observations in the North-West and was only incidentally in touch with the Royal Society.[11]

For more minor provincial enthusiasts, membership of the Royal Society was a rarity and not all were even associated with it. The correspondence of the secretary, Henry Oldenburg, with rural virtuosi like Samuel Colepresse in Devonshire, Nathaniel Fairfax in Suffolk, or Peter Nelson in Durham, provides glimpses of a widely scattered interest in the new philosophy. But these isolated figures, though gratified by correspondence with the Society's secretary, were hardly ever awarded the accolade of membership of the Society itself. Moreover, Oldenburg was in touch with only a few of the scientific devotees in the counties, and the local contacts of Fellows like John Ray or John Aubrey show an even wider circle of curiosity about science, for which the Royal Society was a symbol, but which it had little to do with.[12]

There were various reasons why a few such virtuosi became Fellows while most did not. Some, like John Beale (F 128) and Joseph Glanvill (F 175), were elected because of their assiduity in forwarding the cause of the new philosophy; others apparently because their claims to membership were especially propounded by their friends, as with Francis Potter (F 130) and his admirer and proposer, John Aubrey.[13] In general, however, what was apparently most important in deciding whether such men joined the Society was whether or not they were frequently in London. It does not seem coincidental, for instance, that of Martin Lister's virtuoso acquaintances in Yorkshire, the only one to be elected FRS was Sir John Brooke (F 99), who was evidently frequently in London, commuting between the capital and his home at intervals through the year like the majority of the Society's Fellows: for from 1667 onwards there was a lengthy intermission in meetings each summer while 'the greater part of polite society goes to the country for the long vacation'.[14] Other friends of Lister, however, like Francis Jessop of Sheffield, never attempted to join although they corresponded with the Society, evidently not least because they were never in London — Jessop admitted in 1674 that he had not been there for twelve or thirteen years.[15] Truly 'provincial' Fellows were always very rare.[16]

Confirmatory evidence of this from slightly outside our period comes from a work, said to be by Alban Thomas, then clerk to the Society, entitled *A list of the Royal Society of London . . . with the places of abode of most of its members* (1718). Of the 164 English Society members listed in this pamphlet, addresses are given for 133, and of these only 19 (14 per cent) have addresses further outside London than Kensington, Clapham, or Hackney.[17]

On the whole, therefore, the membership of the Royal Society was

more representative of the audience for science in London than in England as a whole. But even in the metropolis the Society failed to include all those devoted to the new philosophy. In particular, despite its proud claim to a 'comprehensive temper', the Society apparently tended to be less socially inclusive than it liked to think itself, for it seems, in Margaret 'Espinasse's apt phrase, 'to have been open to all classes rather in the same way as the lawcourts and the Ritz'.[18] To some extent this was due to the subscription which was expected of Fellows, a sum of £2 12*s.* 0*d.* a year, which would have been beyond the means of many of the craftsmen, applied mathematicians, seamen, and others professionally concerned with the technological spin-off of the Society's research. But this could be got round, as it was in cases like that of the government clerk John Collins (F 235), by granting such men exemption from formal dues, and more significant seems to have been the fact that the relatively high social tone which the Society early acquired made for a milieu in which such men, even when elected, felt ill at ease. Thus London mathematical practitioners who were closely associated with the Society but never became Fellows included teachers like Thomas Streete and Henry Bond (who was on one of the Society's committees in 1662) and instrument makers like Ralph Greatorix and Anthony Thompson, who had been a member of the formative group that preceded the Society's foundation.[19] Similarly with those associated with medicine, for, while Fellows showed a quite disproportionate tendency to come from the fashionable élite of London medical practitioners, humbler men were less likely to join. For instance, the apothecary John Conyers was an enthusiastic amateur whose collection formed the partial basis of Sloane's museum and whose surviving papers show a wide curiosity on natural and antiquarian topics, but he was never a Fellow, although occasionally present at the Society's meetings.[20] The extent of interest in such subjects in men from such backgrounds is therefore a question which has to be assessed separately.[21]

If some such gaps in the Society's ranks may be explicable on social grounds, however, others are not. Many well-connected virtuosi never joined, including several who were associated with the Society and some who were even proposed for membership. One curious figure is Silas Taylor alias Domville, a minor office-holder with scientific and antiquarian interests. Taylor contributed to the Society's business at several meetings and promised £10 towards the cost of the abortive 'college' planned by the Society in 1668, but he never became a Fellow.[22] Equally interesting, a committee that evidently met in 1664 to consider a proposal concerning perpetual motion included not only such Fellows as William, Viscount Brouncker (F 1), John Wilkins (F 6), Christopher Wren (F 12), and Seth Ward (F 29), but also Sir Matthew Hale, an eminent lawyer who

wrote various books on scientific topics that show his keen interest in contemporary developments in the subject, and Sir Edward Ford, the royalist inventor, neither of whom ever attempted to join.[23]

Other inventors who were never Fellows included Edward Somerset, Marquis of Worcester, despite his connections with the court and therefore with many prominent Fellows, and Samuel Morland, although Henry Oldenburg showed considerable interest in his work in the 1670s.[24] Among virtuosi who never joined was William Courten or Charleton, a keen naturalist who set up a widely admired museum in London in 1684, who was proposed for membership in that year but not elected.[25] Another was Lord Keeper Guildford, cited by Macaulay to illustrate the widespread fashion for science in Restoration England,[26] who resisted pressure to become a Fellow since he 'could not discover what advantage of knowledge could come to him that way which he could not arrive at otherwise'.[27] Similarly, many London physicians who might have been expected to join never did, including several with well-evidenced scientific leanings, and even two, Sir John Colladon and William Briggs, who were actually proposed for membership but not elected.[28] The denizens of the Temple Coffee House Botanic Club in the 1690s also included various enthusiasts who never joined the Royal Society, including Adam Buddle and Henry Compton, Bishop of London, whose botanical garden was renowned.[29]

Clearly there was a random element in selection for the Royal Society, and membership was no necessary concomitant of scientific interests. Candidature for membership from among such men must have had much to do with friendship and personal recommendation of the kind that is revealed by the names of proposers which are often given in the minutes and are included here in the Catalogue.

If the Royal Society failed to include many with scientific interests who might have been expected to join, it has conversely long been a commonplace that its ranks were swollen by many whose membership is no proof of any real concern with the new philosophy. To some extent this was abetted by the Society itself, anxious to enrol the support of the eminent and titled in order to achieve greater respectability. Members of the aristocracy were positively encouraged to join, and privy councillors and those above the rank of baron were admitted without scrutiny: when the Earl of Argyle was proposed, for instance, he was 'by reason of his quality, chosen the same day unanimously'.[30] The King, the Duke of York, and Prince Rupert all subscribed their names in 1665, and by 1668 the Society could boast among its members not only royalty but elder statesmen like Albemarle and Clarendon, government ministers including the Lord Great Chamberlain, the Lord Chamberlain, and the Lord Privy Seal, numerous members of the aristocracy, and the bishops of the most important dioceses in the country.

Clearly the Society valued these recruits as much for their eminence as their enthusiasm, and the presence of their names on the Society's printed lists gave welcome evidence of the establishment's espousal of the new science. Indeed, these sheets seem to have been deliberately used as propaganda on the Society's behalf. Oldenburg sent them out with his letters as well as recent books and copies of the *Philosophical Transactions*,[31] and his country correspondents wrote with gratifying pleasure at having 'seen the List of your Illustrious Society',[32] while some foreigners were still more fulsome. As one wrote, 'like a second Apollo the King himself presides as supreme moderator and governor of this band of stars, among whom are to be found the sons of kings, princes, dukes, magnates, landowners, counts, barons, great patrons of learned men, and a host of men of all orders distinguished for their learning and wisdom'.[33]

The effect of this recruitment of the eminent was to give membership a certain social éclat. Even a scientist like William Musgrave, secretary of the Oxford Philosophical Society, found his election to the Society in 1684 'so great an honour to me, that I cannot value it enough: I am hereby made one of the same body with the most learned men of these times; (I may add) with severall of the nobility; with Princes'.[34] In the case of those less dedicated to the new philosophy, membership was often proof rather of fashion than of a serious commitment to science, particularly in the 1660s. Though it is not easy to prove a lack of interest in science at this period, the tendency of works like the *Dictionary of national biography* to cite membership of the Society as evidence of the intellectual interests of figures about whom information is otherwise scanty is certainly misguided, for people were clearly often elected for social rather than scholarly reasons.

Natural philosophy evidently became a rather superficial courtly fashion in the 1660s — while the royal entourage was at Salisbury during the plague in 1665, for instance, evenings were whiled away with lectures by Sir William Petty and others 'upon something that nobody understands but themselves', as one commentator put it[35] — and membership of the Society undoubtedly reflected this somewhat mindless craze. Fellows were said to come to meetings 'only as to a Play to amuse themselves for an hour or so',[36] and a contemporary criticized the virtuosi for 'so readily admitting all persons into their Society, who will pay the Duties of the house, though they know not the terms of Philosophy'.[37] Indeed, one modern writer has gone to the extreme of seeing in the early Royal Society 'not the conscious centre of all genuinely scientific endeavour, but something much more like a gentlemen's club',[38] and this evaluation is echoed by one of the most sophisticated analyses yet published of a minor member's likely motives in seeking election.[39]

There are also cases where the only apparent reason for joining seems

to have been a candidate's connections with others who were already Fellows. Caution is needed here, for in an age when the world of the establishment was small and family relationships and marriage alliances often merely duplicated existing communities of interest, there is a danger of mistaking connections for causes. Genealogical links were assiduously collected by William Bulloch in his pioneering notes on the early Fellows and it would be wrong to assume too readily that these explain why the later of two men who were related to one another joined the Society, for in many cases a shared interest in science undoubtedly inspired them both to become Fellows. But it sometimes seems likely that men stood for election only because they were encouraged to do so by relations who already belonged, as with Richard Boyle (F 41) and Charles, Viscount Dungarvan (F 156), nephews of Robert Boyle, Thomas Rolt (F 176), son-in-law of Thomas Coxe (on whose behalf he was proposed), and various members of the Howard family (FF 267, 295, 296, 300).

In the same way, later in the period, Jonathan Blackwell (F 465) appears to have been brother-in-law of Richard Waller, secretary of the Society, while Blackwell's brother-in-law was Ralph Lane (F 466), who became an FRS on the same day as he did.[40] In other cases an inspection of the proposers involved suggests that personal contacts may explain membership on the part of men who never took any interest in the Society once elected, as with Sir John Percivale (F 374), an Irish office-holder proposed by Sir Robert Southwell, who had close links with the Percivale family,[41] or with Mr Goodwyn (F 383), a merchant proposed by the tea-dealer and apothecary, John Houghton, in 1681, or perhaps with Richard Beaumont (F 416), a Yorkshire gentleman proposed in 1684 by the former York physician, Martin Lister.

There are, therefore, serious difficulties about any statistical survey which takes the Fellowship of the Royal Society as necessarily representative of the enthusiasm for science in Restoration England as a whole, due to both negative and positive distortions in the Society's composition. Analysis of the Fellowship cannot be claimed to illustrate adequately the social, political, or religious affiliations of science at the time but only the social, political, or religious affiliations of the supporters of the Royal Society, a rather different thing. Yet this makes the enterprise if anything more, rather than less, important. For the Royal Society was one of the most seminal institutions in Europe in its time, and a study of the members who helped to make it viable and to sustain its continuity may be justified as of the greatest value in its own right.

The significance which the membership had in this way was due to a mixture of deliberate and accidental factors. It was deliberate in that, when the founders of the Society set it up, they were intentionally creating a new type of public institution, devoted to experimental science. Unlike

existing public institutions such as the universities or the London College of Physicians or the College of Arms, the Society had neither an educational nor a professional *raison d'être*: it was concerned with research, other aims being incidental, and this meant that, in contrast to these bodies, it lacked a natural franchise. It thus had a hard task ahead of it in finding, or creating, a loyal clientele of its own which would provide the substantial and sustained support which was felt to be essential to the enterprise in hand, and it is wrong to take this support for granted as preordained when in fact — as repeated crises in the Society's early years were to show — it was really quite precarious.

The Society also stood in contrast to groupings devoted to research that had existed before, which had been fairly informal and often sponsored by private patrons, as with the Accademia del Cimento in Florence. For the Royal Society was, from the outset, self-consciously public. As early as December 1660, the Society was thinking about a formal constitution, laying down rules about quorums for elections and decision-making, fixing a level of subscription, providing for the keeping of records and the like.[42] All this was ratified at greater length in the royal charter which the Society acquired in 1662 and the revised version of this issued in 1663, which made the Society a legally incorporated institution, with a fixed membership, proposed and elected, from among whom officers and a council were annually chosen; it was also given assorted rights and privileges such as the ability to own corporate possessions and premises, to have its own seal and coat of arms, to employ officers and to be corporately represented in courts of law.[43]

In merging this formality of constitution with a devotion to research, the Royal Society was to prove deeply influential, for it was the original from which stemmed a whole series of derivative societies from the late seventeenth century onwards. Starting with the Oxford and Dublin Philosophical Societies in the 1680s, they continued through bodies like the Gentlemen's Society of Spalding and the London Society of Antiquaries in the early eighteenth century to a whole range of institutions in the later eighteenth century and since. All of these copied the Royal Society's constitution, with its formally elected, subscription-paying membership, its officers elected at annual general meetings, its minutes, and all the rest of its paraphernalia: the Society had, as it were, established an ideal type of voluntary society, which others followed — on the continent as in Britain — putting the idea to new social and intellectual uses as the years went by. But it had also made its continuity dependent on a sizeable body of support, as defined by the quorums for elections and the like fixed in the charter.

If this was deliberate, other features of the early Royal Society were not, and of these the most crucial was the question of funding, since it was

presumed from the start that the ambitious programme to which the Society was committed was bound to be expensive, on a scale, indeed, for which 'the estates of a few men cannot in probability be supposed adequate'.[44] The Royal Society is often rightly contrasted with the Académie des Sciences in lacking the state funding which the Académie enjoyed, but it has rarely been noted that this state of affairs existed in spite of, rather than due to, the wishes of the Society's founders. In the early 1660s it was hoped that King Charles II would endow the Society, and various schemes for providing it with a revenue were suggested to him, many of them realistically conceived to cost him as little as possible.[45] But the King had more immediate drains on his resources, and though he made two minor grants to the Society, these benefitted it little: a grant of fractions accruing from the Irish land settlement in 1663 proved abortive[46] while the subsequent gift of Chelsea College only led to nearly twenty years of frustrating and expensive legal wrangling before the Society was finally able to sell it back to the Crown for ready cash in 1682.[47] Instead, 'the society being not yet endowed with any revenue', as a dunning letter of 1669 explained,[48] its finance had to be sought elsewhere, largely from Fellows' contributions: and though some change was brought about by the arrival of the purchase price of Chelsea in 1682, Fellows' subscriptions still remained important. Indeed, in the way in which the combined contributions of numerous enthusiasts provided funds for the Society's work, there is some similarity to the growing practice of subscription publishing in late-seventeenth-century and early-eighteenth-century England, representing a significant broadening of patronage in contrast to the predominantly monarchic and aristocratic patronage which had prevailed before.[49]

The funds that were forthcoming from such sources, even when adequate, were never on as lavish a scale as the Society hoped, and this meant that the Society was never able to develop its activities on the scale that it would have liked. As Henry Oldenburg complained of Joseph Glanvill's panegyric of the Society in his *Scepsis scientifica* (1665), 'I feare, the great exspectation, he raiseth of their Enterprise, may be of more prejudice, than advantage to them, if they be not competently endowed with a revenue, to carry on their Undertakings'.[50] Lavish facilities, such as a purpose-built 'college' projected in 1667–8,[51] had to go by the board, while even in terms of employing staff the Society would always have liked to have had more paid workers than it could ever afford. Indeed, a number of proposals for restructuring the Society survive from this period, which Paul Wood and I have discussed elsewhere, and a frequent theme in these is the desirability of more paid staff than were actually employed except in unusual circumstances.[52] Though the Society paid salaries to Robert Hooke, Henry Oldenburg, Edmond Halley, and others,

it was always dependent on the help of volunteers to sustain research and discussion at its meetings.

In all these different ways, therefore, the Society was peculiarly dependent on the support of its voluntary members. But, of course, not all its members were equally useful, and this raises a further problem about views of the membership such as those discussed above, which have simplistically laid equal weight on each person who ever joined the Society, largely failing to distinguish between the more or less active sections of the membership. It has long been clear that the support of many members was merely nominal — some even claimed when challenged 'that they had been drawn into the society contrary to their inclination'[53] — and it may justifiably be questioned whether these had any real significance to its development. Charles Webster has criticized Lotte Mulligan's quantitative analysis of the Fellowship on these grounds, arguing that 'a balanced impression of the Royal Society is not obtained by giving equal weight to the 162 Fellows who had passed adolescence in 1642'.[54] In fact, the unique documentation that survives makes it possible to estimate quite precisely who contributed what to the Society in its early years.

The most obviously significant section of the membership was that 'small active nucleus of less than twenty members' which, in Charles Webster's view, provided 'the chief impetus for research'.[55] Undoubtedly a fairly limited group played a decisive role in directing the Society's activity, bringing about most of its scientific achievements, demonstrating experiments, reading papers, commenting on the work of others, and organizing further research. It included such famous scientists as Robert Boyle (F 2) and Sir Christopher Wren (F 12), and others, less famous for their scientific attainments but deserving of more attention than they have hitherto received for their contribution to the Society's business, like Sir Robert Moray (F 4) and Sir John Hoskins (F 92). Webster has analysed the nucleus of a dozen or so members in the Society's first two and a half years in *The Great Instauration* (1975),[56] and a similar minute analysis can be made for each subsequent period in the Society's early history.

The fact that the progress of the Society's work owed most to a small group does not mean, however, that one should go to the opposite extreme of writing off all its other members as irrelevant to its achievement. The boundaries of the central nucleus are imprecise, particularly if longer periods are studied, over which the assiduity even of the most active members fluctuated. Moreover, beyond this group of highly active figures there was a larger number of Fellows who played an important part in the Society's work in more limited episodes, who were slightly active over longer periods, or even who merely paid subscriptions and attended meetings without contributing very much to the business transacted. These Fellows cannot be ignored in any full study of the Society's early

development. Obviously the Society's directors valued the occasional help of those who were not among the most active, and even the support of rank and file members made a great deal of difference to the Society in various ways.

The role of those Fellows who occasionally contributed to the Society's demonstrations and discussions will be self-evident to any who have examined the minutes of the Society's proceedings from 1660 to 1687 as published in the eighteenth century by Thomas Birch, and it hardly requires illustration here. The role of the more minor supporters is less obvious, but the fact of the Society's institutionalization which has already been alluded to meant that the rank and file had an importance which it might otherwise have lacked and which has hitherto perhaps been inadequately understood.

Perhaps the most notable function of the body of members was the financial support that they gave the Society. Every Fellow, when admitted, was liable to pay admission money, at first ten shillings, but raised to twenty in February 1661 and forty in September 1662 (this was for commoners: peers had to pay £5). Then as a Fellow he was expected (unless exempted by order of the council) to pay a subscription of one shilling per week, amounting to £2 12*s.* 0*d.* per annum. The surviving accountbooks make it possible to see which Fellows were regular, and which irregular, in paying their dues. Beyond this, Fellows were occasionally encouraged to make further contributions towards particular costs: in 1664, for instance, members were asked to subscribe for a 'recompence' to Walter Charleton 'for the care and pains, which the doctor was willing to take in anatomical administrations',[57] and in 1672–3 Nehemiah Grew was supported as curator for the anatomy of plants to the Society by extra subscriptions from various Fellows amounting to £50 per annum. Moreover, some of those approached in the latter connection are named in a letter from Grew to Oldenburg, including at least two, Sir Kingsmill Lucy (F 268) and Thomas Barrington (F 279), who might otherwise have seemed rather marginal to the Society.[58]

For in making such contributions even Fellows whose practical concern with experimental philosophy was small could assist. Thomas Sprat, in the *History* that he wrote at the Society's behest, explained how those 'whose *employments* will not give them leave to promote these *Studies*, with their own *Hands*' could '*Contribute* joyntly towards the *Charge*', as well as 'pass *judgement* on what others shall *try*', and thus 'appear to be well-nigh as useful, as those that *Labor*, to the main end of this *Enterprize*'.[59] Similarly, the author of some 'Proposals for the Advancement of the Royal Society' — probably Robert Hooke — noted that even if members attended rarely and never thought of 'Promoting the Ends of the Institution', 'yet if they pay their Contributions which by their subscrip-

tions they are unavoidably obliged to do, they take themselves to be (and indeed in Respect of those who scandalously refuse payment are) good Members'.[60] Indeed in 1684 Sir William Petty instructed the newly-founded Dublin Society Philosophical Society not to 'pester' themselves with 'useless or troublesome members . . . for the lucre of their pecuniary contribution', doubtless with the Royal Society's example in mind.[61]

Fellows' contributions, even if disappointing by the standards of the Society's initial expectations, nevertheless sustained the Society's work in its early years. The actual running costs give some idea of the kind of financial outlay involved. Most crucial was the provision of funds to pay the Society's few salaried employees, who did more for the advancement of its work than anyone else. Robert Hooke was employed as curator of experiments from 1662 onwards, though he also received money from the Gresham Trustees and from Sir John Cutler.[62] Henry Oldenburg received a small salary from the Society, which he supplemented with proceeds from the sale of the *Philosophical Transactions* and from other sources.[63] Nehemiah Grew received payments in the 1670s, as we have seen, as did Francis Aston, Robert Plot and others in the 1680s and Edmond Halley in the 1680s and 1690s, while wages also had to be provided for the various operators and clerks whom the Society employed.[64]

Another expense was that of 'defraying the Postage of forraigne Correspondance',[65] while experiments, 'in the vigorous prosecution whereof consists the life and honor of this Royal Institution', as a dunning letter put it,[66] often required quite costly equipment, sometimes running into tens of pounds.[67] Here, however, a falling off is noticeable after the Society's early years, apparently due not least to the lack of funds — so that the rank and file who were recalcitrant in paying their dues played an important negative role in the Society's evolution. None the less, such money as there was came from the Fellows.

Hardly less important than finance among the functions of minor members was attendance. This was most important in constitutional terms — another symptom of the needs created by the Society's institutionalization — since the statutes laid down the minimum attendance required for elections and important decisions to be valid. For the anniversary meetings held annually on or about St Andrew's Day, when the officers and council were elected for the forthcoming year, the quorum fixed by the second charter of 1663 was thirty-one,[68] and the Society's officers showed themselves concerned to guarantee this even when they were otherwise eager to slough off peripheral members.[69] The attendance figures are frequently recorded (see Table 4), and they show that the number present on these occasions was usually well above this; in fact, it fell below it only once in the seventeenth century, and that, perhaps not surprisingly, was in November 1688.[70] For other meetings at which new

Fellows were elected, council vacancies filled during the year or changes made to the statutes, the necessary quorum was twenty-one.[71] The number present on such occasions is sometimes recorded in the minutes and it ranged from twenty-one to thirty-one, while it may sometimes have been larger still.[72]

For ordinary meetings fewer needed to attend, and on various occasions there were insufficient Fellows for an election to take place although a meeting was held.[73] Some notion of quorum still seems to have applied, however, since if too few members turned up for a meeting none was held, and the Society's minutes reveal many days on which no meeting was held because so few Fellows were there, from 1663 onwards.[74] Indeed, the habits of the generality of members soon established a seasonal pattern in the Society's proceedings, for from 1667 there were no meetings during the summer months.[75] In the difficult years of the 1670s the reduced number of weekly meetings was one of the chief symptoms of decline (see Table 3), and it is easy to underestimate the role of those members who loyally continued their attendance, while others fell away, in ensuring the very survival of the Society.

Unfortunately, the evidence as to how many members had to be present for a meeting to be held is rather problematic, not least because this probably fluctuated at different times. Almost the only evidence is provided by Robert Hooke, who recorded in his diary how many were present at various ordinary meetings in the 1670s and 1680s,[76] while he also sometimes listed the names of those present in his diary or on the manuscripts of lectures that he delivered.[77] It appears that proceedings took place on one occasion in the 1670s although a mere six Fellows were present, though in general attendance averaged twenty or over at that time, when it seems likely that a dozen or so was usually felt to be a minimum quorum. In the latter years of the period the numbers involved perhaps fell a little, though at this time evidence is almost entirely in the form of lists of names, and it is often hard to be sure whether Hooke was naming all or only a selection of those present.

What is more interesting is that Hooke's record of the names of those present, like similar evidence from other sources, indicates that the Fellows who attended such ordinary meetings were by no means limited to the central nucleus of the Society, while even the most active Fellows were naturally prevented by other commitments from attending some meetings.[78] In fact, there was evidently a larger pool of members who attended with reasonable frequency to make up a quorum of interested listeners and thus contribute to make the Society's proceedings more official than a mere coffee-house conclave.

For the Society was always rightly alive to the danger of becoming a narrow clique, and, in its Baconian commitment to the corporate reform

of knowledge, it valued the presence of those who came to meetings, other than the relatively few who directed research, because of their role as critical onlookers. Sprat defended 'the largeness of their number' in his *History* on the grounds that there was a place for 'plain, diligent, and laborious observers: such, who, though they bring not much knowledg, yet bring their hands, and their eyes uncorrupted . . . and can honestly assist in the *examining*, and *Registring* what the others represent to their view'.[79]

Indeed, a preoccupation with getting an adequate number of Fellows to attend evidently influenced the Society's policy concerning meetings. Thus John Wallis, writing to Oldenburg in October 1674 about the best date to recommence activities after the summer recess (when he was to read his discourse on gravity), noted 'Thursday 29 instant, is the Lord Mayors shew; which will be a very improper day for us to begin our meetings, when probably we cannot expect much company'.[80] And when Oldenburg requested Sir William Petty to supply an experimental discourse for the Society in 1675 he stressed the importance of attracting a large audience, both on constitutional grounds and in more general terms: 'Sir, the approach of our Anniversary Election-day makes us the more earnest in having our Assemblies well filled and pleased before the said day; to which you are able to contribute much, if you please.'[81]

Bound up with this question of quorum is a more important issue, that of the audience for science provided by the rank and file of the membership, and the effect of this on the scientific content of the Society's proceedings. Certainly, the Society seems to have visualized science very much as a performing art in its early years, deliberately seeking to have experiments demonstrated by paid employees like Hooke. Though the non-participatory audience is almost by definition elusive, there can be no doubt that on occasion the Society devoted an unnecessary amount of time to scientifically unproductive experiments and discussions of subjects of wide popular interest.[82] There is even some evidence that the tendency of the Society to change from a research foundation to a discussion club in its early years can be associated with the type of members who attended meetings.[83]

Finance and attendance were the most important functions of members apart from actual contributions to the Society's scientific work, but Fellows could also prove of assistance in more miscellaneous ways, either by large-scale munificence or small-scale services. Thus Sir Joseph Williamson was able to assist with postage on foreign letters by placing diplomatic channels at the Society's disposal;[84] Daniel Colwall paid for a collection of rarities that formed the basis of the Society's museum in 1666; Henry Howard, later Duke of Norfolk, allowed the Society to use Arundel House for meetings when Gresham College was commandeered

by the City after the Great Fire in 1666, and he also presented a valuable library;[85] William Perry helped to catalogue and look after these and the Society's other books;[86] and the Society's legal advisers included Sir Anthony Morgan (F 16), Andrew Ellis (F 77) and Joseph Lane, who was exempted from subscriptions on the grounds that 'he would otherwise be ready to promote the design and good of the Society, and to be assistant to them in matters of law'.[87]

Such functions may have been rather marginal in comparison with the scientific work of the most active part of the Society, but attendance and finance were certainly not. It is therefore significant that in the critical years of the 1670s, when reform was imperative, the Society concerned itself not only with a small inner circle but with all those Fellows who were thought to have some interest in the Society and its work, illustrated by their occasional contributions to its business, their attendance or even their payment of subscriptions (which, since it was the Society's least subjective criterion of 'usefulness' among minor members, was that most frequently employed). It was in terms of these that the council went through the total membership, trying to decide which members were 'useful' and which purely nominal and disposable, and compiling a series of fascinating lists, most of which survive only in manuscript and are printed for the first time here, in which are itemized the few dozen Fellows who could be defined as 'good paymasters' and as 'members that are likely to promote the dessein of the Royal Society'.[88] The rest were, implicitly, irrelevant, and, particularly in 1682 and 1685, many of those who seemed most indifferent to the Society's business were expelled. Many within the Society agreed with its antagonist, Henry Stubbe, that the list of all those elected that it printed each year gave little indication of the real areas of support among the membership and that there was a need to replace such '*false Catalogues*' with '*a true one* of such men as do *now frequent their meetings, keep correspondence with them*, and pay the *usual contribution*'.[89] The expulsions gradually made the printed lists reflect this, though some had reservations about such a policy, and it was not repeated on a large scale after the early 1680s.[90]

The expulsions and the evaluative lists of the 1670s, therefore, provide a valuable start for investigating the relative usefulness of different Fellows, and it was they that inspired the analytic Catalogue at the heart of this study. But they comprise only a part of the information that it incorporates. For the expulsions were made slowly, hesitantly and slightly inconsistently, reflecting the predictable embarrassment that the Society felt in taking so radical a step towards its members and evidently tempered by a whole range of more or less significant facts about the individuals in question. The evaluative lists vary slightly in their classification of Fellows, showing similar uncertainties and similar care for diverse consid-

erations. Moreover both they and the expulsions are temporally limited, evaluating the usefulness of the Fellows in question only at the time when they were made and failing to differentiate, for instance, between members who had never attended a single meeting and those who had once been active but had since lost interest.

What the Catalogue does, therefore, is to collate the evidence of these with information from other sources in order to assess the usefulness throughout their career in the Society, from the point of view of attendance, finance and activity, of each of the 551 Fellows elected between 1660 and 1700. The Fellows are listed in chronological order of election, and in addition to details concerning expulsion and status in the Society's various evaluative lists (including one dating from 1699 in addition to those of the 1670s, where applicable), it gives the following information about each. First, name of proposer (if known) and, next, offices held and membership of the council (where applicable). A brief evaluation of the member's activity at the Society's meetings and any fluctuations in this follows, and then a summary of his regularity in paying subscriptions. To this, I have added the date of each Fellow's birth and death (where known) and a brief note summarizing the leading features of his career, with an indication of the principal source used.

Some of this information is straightforward, but there are difficulties even about seemingly elementary facts, and in other cases the evidence available is very problematic. In a lengthy series of appendices I have therefore gone through the different categories of data used in detail, expounding the strengths and weaknesses of each, giving more precise detail about my usage in the Catalogue, and providing background material. Much of this section is rather technical, but it includes a discussion of such themes of wider interest as the motives underlying the Society's expulsion (or restraint from expulsion) of unwanted members, the status of 'provincial' Fellows, the Society's policy towards foreign members, and the extent to which the body of Fellows who provided the Society's financial support overlapped with the section of the membership most prominent in its research. It also provides resources like a list of candidates proposed but not elected, an index of proposers, and the full text of the evaluative lists already referred to.

The limitations of the material employed in the Catalogue should be clearly understood before conclusions are drawn from it. It is inevitably as incomplete as the evidence on which it is based, and serious difficulties remain, such as that of assessing the attendance of relatively inarticulate members. None the less, it provides much more information than has been available hitherto about the activity in the Society of all but a handful of Fellows. The rather dense factual matter that it contains may thus provide the basis for all kinds of conclusions about the Society's active

support and its varieties, and I shall make a few such inferences here, though I hope that it will be more widely useful to scholars. In addition to this, a collation of the information about the activity of each Fellow with the brief biographical notes provided enables one to make some general deductions as to what sort of people tended to be more or less useful to the Society and thus to draw some conclusions about the Society's social make-up.

The Catalogue also reveals the chronological fluctuation of the combined support which the Society received, thereby making it possible to quantify the crises that the Society repeatedly experienced in its early years. For precisely because the Society was dependent on voluntary support, the Fellows as a body literally had the power to make or break the Society by giving or withholding their assistance. Hence what the Catalogue can offer above all is a unique picture of a social institution in action.

Chapter 2
The Society's Composition

FIRST, let us use the biographical notes in the Catalogue to probe the Society's social make-up. I shall first analyse the whole group of those elected to the Society, breaking this down chronologically to see what — if any — changes occurred during the forty-year period under study. But, though not without interest, this represents a fairly crude set of statistics that it is possible to refine. For the evidence about Fellows' activity presented in the Catalogue makes it possible to investigate if and how the type of people who made up the complete roll of those elected differed from those who showed any sign of activity or from those who were most active, and to see whether changes occurred at the centre, as at the periphery, between 1660 and 1700.

The biographical information in the Catalogue is not very profuse, and since it is mainly devoted to a summary of the career of each Fellow, the conclusions presented here deal almost exclusively with that. If a single criterion had to be selected, however, this seems the most helpful available, not least since the stratified state of seventeenth-century society meant that other things — like Fellows' educational background — tend to be linked to this. Indeed, it is surprising that in statistical analysis of the Society's membership hitherto less attention has been paid to the occupations and social class of its supporters than to their political and religious affiliations, particularly since critics have pointed out the special dangers of categorizing the early Fellows from the latter point of view in the shifting circumstances of mid-seventeenth-century England.[1] Here, I shall classify members almost entirely in terms of their source of livelihood, though I have also paid some attention to social rank, devoting a separate column to members of the aristocracy.

Like any attempt at categorization, this is naturally to some extent arbitrary. I have tried to stick consistently to the criterion of Fellows' sources of livelihood, but clearly those with rich and varied careers often fit badly into straightforward classes. Moreover, there are significant 'grey' areas which complicate matters, for instance in the case of those who enjoyed an income from land in addition to pursuing a professional career. In addition, of course, some people changed their status during their membership, as with academics who went into the church. I am also aware

that the simplistic designations that I have used often obscure potentially important differences between members of the same class that a much more elaborate analysis than that attempted here could exploit: it would undoubtedly be interesting to seek conclusions about the Society's members by collating the Catalogue's evidence about their support, not only with such cursory biographical information as is provided there, but with much fuller details of their education, background, and interests. Such a study would, however, encounter difficulties avoided by my relative superficiality — notably the classic problem of collective biography, the non-random survival of evidence[2] — whereas the information about Fellows' careers that I have used at least has the advantage of being nearly complete and thus directly susceptible to statistical analysis. It therefore seems worth attempting a straightforward investigation of the social basis of the Society's recruitment and support and its fluctuations, and it is this that follows.

I have used these categories. *Aristocracy*, whether born to the title or raised to it, but not including baronets. *Courtiers, politicians, and diplomats*, exclusive of aristocrats who would fall into this category and of country gentlemen sitting in parliament. *Gentlemen of independent means*, usually landed but also including urban residents described as 'gentlemen',[3] including Members of Parliament whose political careers took them no further than the back-benches at Westminster, but excluding lawyers. *Lawyers*, if actually practising, but not including all those educated at the Inns of Court, nor those who were also politicians. *Divines*, except those in holy orders who made their living as scholars — Oxbridge dons, schoolmasters, and so on. *Medical practitioners*, including court physicians and doctors of medicine who held academic posts directly related to their subject, such as anatomy lectureships, but exclusive of apothecaries and of doctors of medicine whose doctorate was clearly incidental to the main features of their career, such as Thomas Wren (F 22). *Scholars and writers*, excluding MDs with medical academic jobs but including all other professors at Gresham College, Oxford, and Cambridge, employees of the Royal Society like Oldenburg (F 33), Oxbridge dons, schoolmasters, and men who made their living by writing. *Civil servants and serving members of the armed forces*, including naval officers like John Wood (F 367) and administrators like John Creed (F 155) or Pepys (F 187) — i.e., 'administrative careerists' as opposed to 'courtiers and royal favourites',[4] who are included in my second class. *Merchants and tradesmen*, including apothecaries.

In following the criterion of source of livelihood, I have deliberately eschewed any such classification as 'man of science', only separating out those who actually made their living from science from those who pursued it in an amateur capacity. Though it would be interesting to include information on Fellows' proven scientific interests, there is no reason why

this should have priority over other background information, none of which has been considered here. In this section I shall be concerned merely with collating Fellows' level of activity with their occupational status, and some 'scientists' were surprisingly inactive in the Society — such as Thomas Willis (F 90) or Nicolas Mercator (F 215) — while the enthusiasts who were very active included several who might strictly have to be defined as 'non-scientists', though this did not prevent them from fruitfully contributing to the Society's discussions.

I should point out that I have occasionally clarified the occupational status of Fellows from the sources cited in the Catalogue when it is not entirely clear from the very brief notes given there. Where I have been unable to satisfy myself about a Fellow's status — and in the case of Fellows whom I have not been able to identify at all — I have placed the individuals concerned in the category 'uncertain', which comprises some 3% overall.[5] More significant, however, is the slightly arbitrary element in my classification, due partly to the borderline cases already mentioned and partly to the need to limit the number of groups sufficiently for them to provide meaningful samples for analysis. Such qualifications should be kept firmly in mind in considering the statistics which I have arrived at, as a warning against assuming that the figures given are definitive merely because they are precise.

I should also note here that I have limited my tables to British Fellows. During the forty years under study, seventy-two foreign members were elected, comprising 13% of those who became Fellows overall, though if this figure is broken down chronologically a marked growth in the percentage of foreigners among recruits as a whole is in evidence. Since foreign members form a somewhat separate category from British ones, and their role — except during brief stays in England in some cases — was to correspond with the Society rather than to give the direct support that British Fellows could provide, I have analysed this group separately in Appendix 12 below, and from now on will ignore them here.

Of the 479 British Fellows elected between 1660 and 1700, 16% were courtiers, politicians, or diplomats; 16% were medical practitioners; 15% were gentlemen of independent means; 14% were members of the aristocracy; 12% were scholars or writers; 8% were divines; 7% were merchants or tradesmen; 4% were lawyers; 4% were civil servants or serving members of the armed forces; and 3% are unclassifiable (see Table 5).

This general physiognomy bears out what is known from other sources concerning the composition of the early Royal Society, especially the high percentage of courtiers, politicians, and members of the aristocracy. We have already seen how anxious the Society was to enlist the titled and eminent to its ranks, and how science evidently became a courtly fashion in the 1660s. Indeed, considering the extent to which the Society was

always London-based, it is striking how far it was focused on Westminster and Whitehall rather than the City of London, on Westminster, the seat of the court, of parliament, and of the law courts, rather than on the City, the home of commerce.[6] Though in its early years the Society met at Gresham College, deep in the City, in 1666 the council considered the possibility of hiring a house in Westminster instead, since Gresham was 'by reason of its too great distance from the habitations of the greatest number of the society very inconvenient to meet in, especially in the winter season'.[7] Moreover, meeting times were deliberately changed to fit in with meetings of the King's council,[8] and attendance fluctuated when crises in foreign affairs kept government officials away.[9]

On the other hand, it is striking how few merchants and tradesmen joined, despite the hopes of Thomas Sprat and others that the useful new philosophy that the Society championed would find widespread support among the mercantile classes, which have often been uncritically echoed by modern scholars.[10] The statistics of elections bear out the view of the Royal Society as a high-class intellectual social club and it is revealing, if such merchants as became Fellows are examined closely, how few of them were characteristic of their class. They included Sir Andrew King (F 124), who had lodgings at Gresham College, George Cock (F 204), government official as well as merchant, and Sir John Banks, whose social aspirations and court connections have been analysed by his biographer,[11] apart from those evidently elected in their official capacity — notably the entire reception committee that received the Society back to Gresham College in 1673 after its exile at Arundel House.[12] Similarly, the tradesmen elected were far from typical; for instance, John Houghton (F 361), a writer and no ordinary tea-dealer and apothecary, or Joseph Moxon, Hydrographer to the King (indeed, what is more significant than his actual election is its lateness, considering that he had been associated with the Society earlier, and the fact that he received the unusual number of four negative votes when he stood for election).[13]

This only confirms what was already known, but if membership of he Royal Society in its early years is to be associated with West End fashion, can any alterations be observed during the period under study? Is there any evidence that the Society's courtly bias was specially marked in the 1660s — when eminent recruits like the King and many prominent statesmen may have brought hangers-on in their train — and is there any evidence that fashionable concern to join the Society dwindled or that the Society's social basis broadened or altered over the forty-year period under study? For this, it is necessary to divide up recruitment chronologically, and I have taken ten-year periods, except for the 1660s, when so many were elected that I have subdivided the decade into two five-year periods.

What alterations appear when the figures for overall recruitment are

broken down in this way? Table 5 shows the figures that emerge, and a number of observations may be made, though a preliminary comment is first in order. Because of the relatively small numbers involved, and because of the loose edges to the elected membership discussed in Appendix 1 (illustrated perhaps most clearly by the confused state of affairs in 1699),[14] historical plausibility demands that significance only be attached to changes that are quite marked.[15] Bearing this in mind, it is doubtful whether too much should be made of such minor trends as the increased percentage of gentlemen among recruits of the 1670s and 1680s, the slight overall rise of medical men during the period, the peak in the 1680s and subsequent demise of men whom it seemed appropriate to classify as civil servants, or even the climax in recruitment of divines in the late 1660s — due mainly to the recruitment of eminent bishops.

Slightly more notable is the rise in the percentage of merchants and tradesmen to a high point of 12% in the 1680s, falling off again somewhat in the 1690s. Of more significance is the fact that scholars and writers reach a noticeable peak among recruits in the 1670s and 1680s, with 22% and 16% joining respectively in those two decades, as against 8% before and 11% after. More notable still are the fluctuations shown by aristocrats, courtiers and politicians. Aristocrats reach a peak of 22% in the late 1660s, the period when the King joined, thereafter dwindling to a low point of 4% in the 1680s before reviving to 16% in the 1690s: indeed, there was a complete gap in recruitment from this class between the Marquis of Halifax (F 317) in 1675 and the second Earl of Clarendon (F 420) in 1684. Courtiers and politicians show an even more marked fluctuation, falling consistently from the high point of 25% seen in the early 1660s to 3% in the 1680s, but thereafter showing a reversal of this trend, with 19% of recruits in the 1690s coming from this class.

How are these trends to be explained? As far as merchants and tradesmen are concerned, the Catalogue shows that the high point in recruitment was reached in 1680–82, years in which John Houghton was elected and then proposed no fewer than three men from this class himself:[16] it may be significant that the relatively high number of civil servants and serving members of the armed forces elected in the 1680s were also disproportionately concentrated in these years, when the Society's clientele does seem temporarily to have broadened socially. The peak of scholars and writers in the decades on either side of 1680 — though spread over a longer period — could be seen as symptomatic of a similar trend, despite the wide range represented by the men concerned: these include 'scientists' like the Astronomer Royal, John Flamsteed (F 327), dons from Oxford, Cambridge, and Dublin, and a couple of schoolmasters, Peter Perkins (F 363) and Robert Wood (F 371). Though it has been argued that the composition of recruitment at this time suggests deliberate policy on the part of

the Society's officers, the diversity of the proposers who brought all these men forward makes this seem unlikely.[17]

In the case of aristocrats, courtiers, and politicians, the early high levels of recruitment from such classes are clearly to be associated with science's connections with the court and the establishment in the 1660s, when active Fellows included prominent courtiers like Viscount Brouncker (F 1) and Sir Robert Moray (F 4). From the 1670s, such links were less marked, but a revival is in evidence in the 1690s through such Fellows as Sir Robert Southwell (F 107) and William Bridgeman (F 357).[18] Indeed, this significant courtly and aristocratic resurgence in the 1690s was matched by a novel practice concerning the presidency in those years. Whereas previously presidents had been elected on the grounds of interest in the Society's work as well as social status and had generally taken a very active role in the Society, now a series of high-ranking presidents were elected, one of whom — the Earl of Pembroke (F 422) — attended not a single meeting while in office, while two others — Charles Montagu (F 484) and Lord Somers (F 528) — had to be elected Fellow on the date they were chosen president, their subsequent occasional visits to the Society being more in the nature of state visits than normal occasions.[19]

Hence in 1700, as earlier, the Society retained its West End connections, though in combination with a continuously high proportion of doctors and a residual percentage of scholars and writers, and this is borne out by evidence from the time when the Society's move from Gresham College was considered in the first decade of the eighteenth century. For though it was perhaps only special pleading that, in pursuit of a piece of land for a building, the Society claimed that 'a seat nearer Westminster would be more convenient for people of Quality & render our meetings more numerous & thereby conduce much more to the improvement of natural knowledge',[20] there is a ring of truth about the statement 'that the most of their Members were either Men of considerable Fortune and Quality as well as Learning, or such as make their Studies their Business; The latter would make any Place easie to 'em; and the former generally dwell near the Court'.[21]

All this concerns the total nominal membership, a sample more significant in terms of the Royal Society's public image than of the actual committed support that it enjoyed. But, to try to get below the superficial level of nominal membership, a second series of figures may be obtained by collating biographical data about Fellows with the evidence provided by the Catalogue about their activity once elected to the Society. This makes it possible to exclude those who took no interest in the Society beyond being elected and/or admitted, and Table 6 includes only those who showed at least some further concern, by paying subscriptions for a while and/or attending at least a few meetings.

It is first of all helpful to collate this table with Table 5, illustrating the proportion of recruits whose interest in the Society was superficial, and how this fluctuated according to period and according to class and occupation. The overall average of Fellows taking at least some interest in the Society in this way was 70%. In the Society's first five years the percentage was abnormally high — 80% — to be followed by five years when the proportion was abnormally low — 58%. Thereafter, the 1670s saw a slight rise to 62%, the 1680s a rise to just over the mean, at 71%, with the 1690s returning to the lower rate of 66%.

If the number active in any way is compared with the total elected from each occupational group, it transpires that among doctors, 81% showed at least some activity; among lawyers, scholars and writers, and civil servants, 80%; among merchants and tradesmen, 75%; among courtiers and politicians, 67%; among gentlemen, 63%; among divines, 61%; and among aristocrats, 56%. The marked tendency of doctors and scholars to be active in some way is perhaps predictable, since their careers were likely to draw them to scientific inquiry, in contrast to those for whom it was a mere hobby. It is not clear whether the equally high percentage in lawyers and civil servants is to be explained along comparable lines or to be written off as a distortion due to the small size of the sample involved, while in the case of the relatively high percentage among merchants and tradesmen it may be suggested that the disincentives to membership for 'ordinary' members of this class meant that they were less likely to join for superficial reasons than was the case with men of more exalted status.

If the five periods are examined separately, it emerges that there were certain episodes when a particularly high percentage of those elected from a certain class were inactive, as, for instance, with divines and aristocrats in the period 1665-9, due to the large influx of honorary Fellows then, or with gentlemen in the 1670s. In general, we see trends similar to those of recruitment as a whole, though it is interesting that some apparent minor trends there — such as the slight increase in the proportion of medical men — are not in evidence here. But the statistics in this table certainly show that the Society was of more than purely superficial interest to people of a wide variety of backgrounds.

All this concerns a minimal level of activity — perhaps as little as the payment of a year's subscription or attendance at a couple of meetings — which need not reveal more than a passing curiosity about the Society's proceedings. In considering it, we are one step away from a crude analysis of all who were ever elected, but still far from establishing what sort of people made up the section of the membership that really mattered to the Society. For this, I wish to move away from simple statistics based on recruitment, since, as already noted, the activity of many Fellows fluctuated, while their death or retirement naturally had a crucial effect on

the Society's composition at different times. In order to provide more reliable statistics about the active membership of the Society at successive stages I have therefore analysed the whole body of Fellows in sample years, at five to seven year intervals, in 1665, 1672, 1680, 1685, 1692, and 1700, dates that have been chosen to illustrate various phases in the Society's institutional fortunes that will be discussed in the next chapter. I have included in each case all those Fellows classified in the Catalogue as active in some way: 'very active', 'active', 'fairly active', 'slightly active', 'regularly attending', or 'inactive but paying subscriptions regularly' (I have counted those who were 'barely active' as 'slightly active' if the reference to their participation is in or very near the year in question). The categories and their weaknesses are explained in Appendix 5, and these figures should be regarded as indicative rather than definitive since, as far as activity at meetings is concerned, they merely compound the subjectiveness of my classifications based on the minutes published by Birch. The subjectivity is, however, evenly spread, so it does not affect comparative conclusions derived from them.

The most obvious fact revealed by these figures is a numerical decline in the Society's support. 1665 represents a high point in the Society's institutional fortunes, immediately before the Great Plague. At that time 104 Fellows were slightly, or more, active. By 1672 this had fallen to 80, falling to 78 by 1680, to 75 by 1685, and to an all-time low of 55 by 1692, though 1700 saw a revival to 76. The background to this will be elucidated in the next chapter, but the narrowing of the Society's support thus revealed by the Catalogue is undoubtedly one of the most interesting features of the Society's institutional evolution, while it may also be significant that, apart from the dip in 1692, there was a certain levelling-out after the initial fall from the high point seen in the 1660s.

In analysing the composition of the Society at these successive stages I have offered two sets of statistics, one dividing up those included by social class, as with recruitment, the other categorizing them according to the longevity of their membership of the Society (Tables 7 and 8). The latter is intended to show quantitatively how the composition of the Society at any time was only partly made up of the most recent recruits, and hence how a view of the Society based exclusively on recruitment would be quite misleading. In fact only an average of 22% of the membership had been elected in the previous five years and 16% in the previous five, though this fluctuated, depending on the level of recruitment at different times. The remainder, on the other hand, were of longer standing, and, even quite late in the century, a substantial percentage of these had joined within five years of the Society's foundation — 44% in 1680, 35% in 1685, 31% in 1692, and 12% even in 1700.

The table analysing the Society's composition according to social back-

ground bears this out, since it shows how the active or slightly active membership did not necessarily reflect the pattern of recruitment in different periods. Thus, due to the survival of members from such groups elected in the Society's early years, courtiers and politicians remain continuously prominent in the Society although recruitment of men from this class fell off in the 1670s and 1680s. On the other hand, in some cases trends are in evidence here which are not seen in recruitment, such as the decline in the number of active churchmen in the Society, or the peak in the number of doctors in 1700, while the relative formality of the association of aristocrats with the Society in the 1690s, in contrast to the 1660s, is shown by the fact that the revival in aristocratic recruitment at that time is not reflected in the 1700 figure given here.

If we now move inwards from all those showing any sign of life whatsoever to the heart of the Society, this active nucleus can best be reconstructed — again using the Catalogue's somewhat subjective categories — by taking all those defined there as 'very active', 'active', 'fairly active', or 'regularly attending'. In the sample years, 45 fell into this category in 1665, 33 in 1672, 34 in 1680, 44 in 1685, 32 in 1692, and 41 in 1700. It is interesting that these figures show a less marked overall decline than those for Fellows showing any sign of activity at all.

This active nucleus could be reduced to statistics of class and occupation like the total slightly or more active membership in the sample years, or like recruitment, but, since we are dealing with such a small number of people here — averaging thirty-eight — it is undesirable to disguise these under the mask of impersonal statistics. Hence instead Table 9 lists the names of all those who can be defined as active in this way in successive years, summarizing in tabular form the continuity and discontinuity of active concern with the Society on the part of individual Fellows elected at successive stages over the Society's early history which makes up the texture of its institutional life.

As far as the social composition of this active nucleus is concerned, the percentage trends that appear are very similar to those for the slightly or more active, though a little more marked in certain cases, and it has not seemed worth giving them in tabular form in addition to the table of names. As with slighter levels of activity, all classes are represented here, though aristocrats hardly appear after 1672. Thus courtiers and politicians — men like Sir Robert Moray (F 4), Thomas Henshaw (F 15), and Sir Robert and Edward Southwell (FF 107, 463) — are represented in about the same proportion as in the slightly or more active membership (16–21%). The two groups which are a little better represented here are doctors throughout the period and scholars and writers in the 1680s — men like Jonathan Goddard (F 7), Robert Hooke (F 136), Thomas Gale (F 331), Clopton Havers (F 432), and John Woodward (F 468) — who stand at

between 35 and 48% of the active nucleus as against 27–44% in the Society's active membership as a whole. What is more, in the active nucleus, as in the slightly or more active membership as a whole, this combined group increases in significance as the century goes on, making up 46–8% in 1680, 1685, and 1700, as against 35–8% in 1665 and 1672, though there is a slight reversal of this trend in 1692, when the percentage falls back to 41%. I have deliberately combined these two classes thus because I have already pointed out how, in contrast to other groups, the careers of doctors and academics were likely to involve them in scientific activity. What one apparently sees, therefore, is an increasing tendency for an active concern with the Society's business, ranging from frequent attendance at meetings to contributions to research, to be taken by men for whom science was more or less directly connected to their source of livelihood.

This is suggestive, although wider conclusions about the declining role of the amateur in organized science would be premature, not least since the percentage of medical activists is high throughout the period, while 1692 sees a reversal of this trend, with courtiers, politicians, gentlemen, and lawyers together comprising 47% of the nucleus; they still accounted for 42% in 1700, in contrast to 33–4% earlier. Hence the wholly amateur component remained marked, doing much to define the Society's character throughout the period.

In any case, as Table 9 is supposed to indicate, it is at this level that crude statistics based on sources of livelihood are least likely to be of value. With the active nucleus, the numbers involved are so small that far more detail can and should be amassed about the interests and background of each Fellow in order to build up the more sophisticated sociology of knowledge needed to approach their role in the Society's development.

This section of this study must, therefore, end on a cautionary note. It was worth attempting to draw conclusions about the changing social basis of the early Royal Society, and the resulting views illustrate the uses to which the Catalogue may be put: but they are far from exhausting them, least of all when the evidence about Fellows' activity to be found there is collated with fuller information about their background. Here, above all, I hope that the Catalogue will prove a useful catalyst to further research.

Chapter 3
The Society's Changing Fortunes

If the Catalogue can give some valuable information about the broad lines of membership and its changing composition, what it can even more usefully provide is the personal detail that makes sense of the story of the Society's changing fortunes. By illustrating which Fellows ceased to support the Society due to death or other circumstances and which recruits came forward to take their place, it makes sense of the relative equanimity felt at some points in the Society's first forty years and of the expressions of disquiet and attempts at reform and retrenchment found at others. It is thus possible to improve greatly on the rather impressionistic terms in which the Society's early history has previously been written.

Of all features of the Society's history in this period, perhaps the most striking is the wide enthusiasm for the new science for which it catered and by which it was fuelled in its earliest years, which was more marked than it ever was subsequently. Throughout the seventeenth century newly elected Fellows always tended to be active in the Society for a year or two but then to drift away again, while others at least paid their subscriptions regularly for a while. As already noted, in 1660–64 this tendency was especially marked, with 80% of all British members elected showing at least a temporary interest in the Society's work, in contrast to an average of only 65% thereafter; if the recruits of 1660–61 are taken on their own the figure is higher still — 86%. Such statistics strikingly illustrate the widespread interest in the Society's work in its first years, which must have filled its protagonists with optimism about the prospects of their design, encouraging them to take initiatives like allocating all members to different specialist committees covering aspects of the Society's interests in 1664.[1] It was as if there was a burst of pent-up energy from which the Society benefitted.

Equally striking is the disproportionately high percentage of Fellows elected in 1660–61 who proved, not just slightly active but more so, making up the Society's active nucleus not only then but long afterwards. If the Catalogue is analysed from the viewpoint of longevity of membership of the activists in successive years, it transpires that those elected within a year of the Society's inaugural meeting on 28 November 1660 showed

a quite disproportionate proclivity to be active long afterwards. 55% of the active nucleus in 1672 had been elected in 1660–61, and the same was true of 32% in 1680 and 29% even in 1685, though the percentage fell off thereafter.[2]

Not all, however, showed such dedication, for even in the first few years the Catalogue shows how the zeal of some of those who had at first embraced the project began to wane. Numerous entries relate to Fellows who made a few payments to the Society in the period 1660–63 and none thereafter. There are also several who made various contributions at meetings in the first few years but none afterwards, such as Nathaniel Henshaw (F 51), Sir John Clayton (F 88), or Edward Waterhouse (F 147), while Sir James Long (F 94) was intensely active in 1663 and hardly at all later. In some cases, as with John Winthrop (F 98) or the Earl of Crawford and Lindsay (F 137), this was due to the fact that the Fellow in question went abroad or to the country. In general, however, the truth must be that the novelty wore off; many who had originally joined out of curiosity became bored, while others found rival diversions to occupy themselves.

This makes it easy to understand the laments of Henry Oldenburg in his letters to Robert Boyle as early as 1664. 'I must needs say, we grow more remisse and carelesse, than I am willing to exspatiate upon', he wrote, complaining how 'our meetings are very thin', how the committees that the Society had set up that year were hard to sustain, and how the Society might prove a 'mighty and important Body . . . if all the members thereof could but be induced to contribute every one their part and talent for the growth, and health and wellfare of their owne body; which, me thinks, is one of the most reasonable things in the world, and consequently should be easy to be persuaded to those, that make profession of reason and vertu'.[3] It is also interesting to find complaints about arrears of subscriptions and attempts to collect them at this time: already by 1664 they were said to amount to £343 2*s.* 0*d.*[4]

Matters were made worse by the dislocation caused by the plague in 1665, when the Society was forced to suspend its meetings for several months, and in the later 1660s more Fellows whose association had formerly been close had less to do with the Society and became less assiduous in paying their dues. Several members who had been among the most active before the plague hardly appear in the minutes thereafter, including Henry Slingsby (F 14), John Graunt (F 105), and Walter Charleton (F 68), entirely inactive after 1668. Christopher Merrett (F 17) was very active only until 1667 and disappears from the minutes after 1669, while William Ball (F 9) was evidently little in London and barely active after 1668. Such casualties entirely neutralize the case of William Neile (F 126), more active in the late 1660s than earlier. They are echoed by the case histories of numerous more minor Fellows, some of whom, like Henry Powle (F 27),

now failed to match their earlier slight activity, while many at least paid their subscriptions up to 1666 or 1668 but not subsequently, including Sir Robert Paston (F 97), Sir Edward Bysshe (F 122), Anthony Lowther (F 133), and Sir Elisha Leighton (F 154). The latter tendency is illustrated by the rising figure of the total arrears due, which was conscientiously noted each year: in 1666, £625 15*s.* 6*d.* remained unpaid out of a total due of £866 1*s.* 0*d.*; in 1668, £847 1*s.* 6*d.* out of £1,102 6*s.* 6*d.*; while by 1669 the figure had reached £1,028 15*s.* 0*d.* out of £1,283 4*s.* 6*d.*[5] Measures taken to deal with this included the compilation of lists of those most deeply in arrears and the expulsion of a few of the worst offenders in 1666,[6] while in 1669 a letter was sent to all those in arrears urging payment.[7]

This relative decline is again reflected in Oldenburg's letters to Boyle. Reporting the Society's plans for setting up a repository, observatory and laboratories in 1666, he complained how 'the paucity of the Undertakers is such, that it must needs stick, unlesse more come in, and putt their shoulders to the work'; later in the year he wrote 'I wish only, we had a litle more Zeale, and great deal more assistance, to doe our work thoroughly'.[8] He even expressed concern 'that so noble and usefull an institution may not fall to the ground, in an age, so full of knowledge and curiosity, and enjoying so considerable advantages to improve and increase the same'.[9] Such worries about the Society evidently form the background to the project for 'establishing' it in 1667–8 — which would have involved the erection of a purpose-built 'college' for the Society on a site south of the Strand using special subscriptions from members[10] — and to attempts to improve the quality of the Society's proceedings.[11] Moreover, the response to the appeal for funds for the college was highly disappointing,[12] and in 1668 Henri Justel in Paris heard reports that the Society 'no longer works seriously . . . that most of the members attend no longer, and that soon it will be quite dispersed'.[13]

Such reports were alarmist. Despite the decline of interest among some of the Society's early Fellows, there were plenty of original members still active to keep the Society's proceedings lively. Moreover, at this time recruitment remained buoyant, averaging over twenty a year throughout the 1660s (see Table 1), which meant that new blood was taking the place of the languishing old, although the percentage of recruits who proved of no value was higher than in the early 1660s.[14] Fellows elected at this time who took an active part in the Society's proceedings included Edmund King (F 212), Henry Howard of Norfolk (F 218), John Collins (F 235), Thomas Allen (F 253), and Edward Browne (F 248).

Though the number of meetings held annually was slightly lower than it had been in the Society's earliest years (see Table 3), continuing recruitment kept up the size of the active membership. The Catalogue shows that forty-five members were active or fairly active in 1667–8, while about

another sixty-five were slightly active or at least up-to-date with their subscriptions, thus providing a larger pool of support which was doubtless drawn upon by attendance at meetings. This is reflected in the numbers present on St Andrew's Day each year (see Table 4), which remained high throughout the 1660s — except in 1666, doubtless due to dislocation in the aftermath of the plague — reaching a peak in 1668.

By the early 1670s, however, the decline that had only been a suspicion in the late 1660s was really under way. Most serious were the deaths of three of the chief activists of the Society at this time, John Wilkins (F 6) in 1672, Sir Robert Moray (F 4) in 1673 and Jonathan Goddard (F 7) in 1675. 'I feare the Royal Society may stagger by the losse of such a proppe and incourager', Thomas Henshaw wrote to Oldenburg on Wilkins's death,[15] and the death of such dominant personalities was 'a great blow',[16] far more important than any decline of interest among minor supporters. Indeed, in 1673 Henshaw was apprehensive because 'I doe not so much as heare whether the Royall Society bee living or no'.[17] But even in 1671, before these deaths, John Beale thought that Oldenburg 'seemed to be in an agony for feare of an eclipse of the Royal Society',[18] and this was evidently due to the movement of Fellows, major and minor, away from it.

Several members who had been active in the 1660s almost entirely lost interest in the Society's proceedings after 1670. Sir George Ent (F 31), for instance, previously among the most assiduous of Fellows, now disappears from the minutes, as do such formerly active members as Peter Ball (F 135) and such slightly active ones as Sir Gilbert Talbot (F 71) or Sir James Hayes (F 111). The reasons for this were doubtless manifold, though now, as earlier, medical men — such as Ent and Ball — seem to have been particularly prone to withdraw, while there is increasing evidence for once-active Fellows retiring to the country. William, Viscount Brereton (F 32), who is hardly mentioned in the minutes after 1669 although frequently appearing there previously, had evidently retired to his Cheshire estates (the only references to him thereafter concern letters to him). Charles Howard (F 123), formerly active, was little involved in the Society's proceedings after 1673, and he probably also spent more time in the country, while others who were less active than previously, such as Walter Pope (F 72) and Sir Philip Skippon (F 227), evidently fall into a similar category.

What made this worse was the fact that since 1669 there had been an almost total cessation of recruitment, so that no new blood was coming forward to fill the gaps left by death and absenteeism (see Table 1): only two Fellows were elected in 1670, both of them foreign, and relatively few joined throughout the next few years. This striking demise in recruitment evidently says much about the Society's changing image at this time. It may have reflected the increasingly articulate hostility that it met, for the

1670s saw Henry Stubbe's outspoken attacks on the Society and its satirization in works like Shadwell's *The Virtuoso*. It is certainly interesting that Lord Keeper Guildford resisted encouragement to join, since he 'esteemed it a species of vanity for one, as he was, of a grave profession, to list himself of a society which at that time was made very free with by the ridiculers of the town'.[19] But the Society had been attacked since its earliest years,[20] and it may now have ceased to attract as many recruits as before merely because membership was no longer the fashionable novelty that it had once been.

The result was a numerical decline in support. As already noted, by 1672 only 80 members showed any sign of activity, as against 104 before the plague, while the number of activists had fallen from 45 to 33, and, if the accounts for 1672 are examined, it transpires that only 69 Fellows were less than three years in arrears. Evidently there was a growing casualness about the Society among its members, reflecting a general decline of interest, the pressure of other commitments and perhaps also the increasing popularity of such alternative centres of intellectual discussion as coffee-houses:[21] the Catalogue contains a number of cases of Fellows whose level of activity was lower in the 1670s than it had been previously, such as William Erskine (F 79) or Daniel Coxe (F 189). Attendance, when recorded, now fell markedly. The numbers present at anniversary meetings dropped from the height reached in 1668 to as few as 42 in 1674 (see Table 4), and at ordinary meetings attendance probably declined still more, for many were cancelled for want of sufficient numbers: Table 3 shows how few meetings there were at this time in comparison with the Society's earliest years or even with the late 1660s, and in 1674 four meetings were missed consecutively.[22] Arrears, moreover, were worse than ever. The Catalogue has a striking number of Fellows who paid their subscriptions fairly regularly until about 1670 or 1672 but fell deeper and deeper into debt thereafter. The totals owed bear this out, with £1,554 4*s.* 0*d.* unpaid out of a total of £1,696 0*s.* 0*d.* due in 1671 and £1,818 7*s.* 0*d.* out of £1,957 12*s.* 0*d.* in 1672.[23]

This decline in attendance and subscriptions was matched by a lowering of the scientific quality of the Society's transactions, and the need for reform was intense. The employment of Nehemiah Grew in 1672 as a 'curator for the anatomy of plants' by special subscriptions raised from individual Fellows at the behest of Wilkins is perhaps to be seen as a response to this situation,[24] while 1673–5 saw a sustained campaign of retrenchment: a whole series of council meetings was called and a decisive attempt to reverse the Society's decline was made by stalwarts like Jonathan Goddard (F 7) and Sir William Petty (F 8).[25] In an effort to revitalize the Society's proceedings, council members and Fellows with serious scientific interests were invited to contribute experimental dis-

courses at meetings, while council members who felt unable to do so themselves were encouraged to subscribe for others to stand in for them.[26] In connection with the problem of arrears, all were requested to settle their debts and to sign a new and legally obliging bond promising greater regularity in paying their dues in future. It was intended to establish a sort of nucleus of 'sound' members which would make it possible to take a harder line with the rest, either through legal action in pursuit of unpaid arrears or through expulsion, though in the event no legal steps were taken and only a handful of Fellows were expelled.[27] It was in connection with this attempted reform that the council drew up the various evaluative lists of Fellows that have already been referred to.

For a while these measures had quite satisfactory results. Some sixty members signed the new bond by January 1675, and the numerous appeals made for the payment of arrears met with considerable response, as is shown by the large number of Fellows who had fallen badly into debt who paid up at this stage, including the Earl of Kincardine (F 3), Sir Christopher Wren (F 12), Thomas Coxe, senior and junior (FF 23, 151), Ralph Bathurst (F 149), Thomas Neale (F 165), Nicholas Bagenall (F 172), the Earl of Dorset (F 196), and Edward Howard (F 267). There was also a noticeable improvement in the scientific quality of the Society's proceedings: several Fellows were prevailed on to contribute lengthy papers, some of which were published, and three gave money to pay for others to read discourses on their behalf.[28]

The improvement, however, was only temporary. The better quality of scientific proceedings achieved by the reforms soon evaporated, and in the later 1670s even some Fellows who had been regular in attendance and subscription until the early part of the decade fell away. Jaspar Needham (F 82), who had always been regular in his subscriptions, resigned in 1674, and among those whom the council included in their list of 'good paymasters' in 1673 but who lost interest within the next few years were Edward Chamberlayne (F 271) and William Le Hunt (F 254) (who, paradoxically, had been consulted concerning the wording of the bond about subscriptions). Another was George Smith (F 120), who was also slightly active until the mid 1670s but not thereafter. Even members as assiduous as Sir John Hoskins (F 92) and Sir Edmund King (F 212) fell into arrears for the first time in the mid 1670s, and defaulters in terms of activity were equally notable: Robert Boyle (F 2) was hardly active in the Society after 1674; Henry Howard of Norfolk (F 218) failed to match his earlier involvement with the Society after that year; while Seth Ward (F 29), who attended and contributed regularly up to 1675, was barely active after that date.

Matters were made worse by increased factionalism in the Society in the 1670s, well-evidenced by Robert Hooke's diary, which reveals how

Hooke set up a 'select clubb' which met at coffee-houses and suchlike venues and can only have prejudiced activities at the Society's meetings.[29] Then, following the death of Henry Oldenburg in 1677, there was a palace revolution which led to the almost total retirement of Lord Brouncker (F 1), earlier very active as president. It is hardly surprising that in 1679 John Evelyn was inspired to an impassioned plea for support for the Society in the preface to the third edition of his *Sylva, or a discourse of forest-trees*.[30] Nor is it surprising that in 1680 there were again fears that the Society might have to be dissolved,[31] that various attempts were once again made to deal with the quality of the Society's proceedings, and that concern was expressed about arrears.[32]

These difficulties were reflected in attendance at St Andrew's Day meetings, which was even smaller in the late 1670s than previously: only 33 were there in 1678, and in 1679 the minutes evasively note that 'a sufficient number' were present (the minimum was 31).[33] The number of meetings also remained relatively low, after a rise in 1675, as Table 3 shows. Moreover, the Catalogue reveals only 78 Fellows active in any way in 1680 as against 80 in 1672, and the accounts for that year have a mere 52 with less than three years' arrears, a figure which includes several Fellows only very recently elected. As noted above, even the Society's active nucleus, which had shrunk from 45 to 33 between 1665 and 1672, still stood at only 34 in 1680. There can be no doubt that the attempted retrenchment of 1673–5 had failed to stem the decline in the Society's fortunes.

But the tide was turning by 1680, due to the election of a succession of active enthusiasts in the late 1670s, John Flamsteed (F 327), Thomas Gale (F 331), Robert Plot (F 332), Francis Aston (F 342), William Perry (F 345), Detlev Clüver (F 346), Edmond Halley (F 347), Edward Tyson (F 353), John Houghton (F 361), Denis Papin (F 369), and Frederic Slare (F 370), an influx of talent which revivified the active nucleus, previously only augmented by two recruits since the 1660s — Nehemiah Grew (F 289) and Sir Jonas Moore (F 313) (who had, however, died in 1679). As will be seen, this includes many scholars, the peak in whose recruitment in the 1670s was disproportionately concentrated at the latter end of the decade; it is possibly not coincidental that this influx coincided with the removal from the scene of Oldenburg and Brouncker and the tensions that had been associated with them.[34]

The election of new activists continued in the early 1680s, with Robert Wood (F 371), Sir Anthony Deane (F 372), Richard Waller (F 380), Francis Lodwick (F 391), Edward Paget (F 399), Robert Pitt (F 404), Tancred Robinson (F 419), and Hans Sloane (F 421). The changed circumstances of members elected earlier also now helped the Society, as with William Aglionby (F 240), a Fellow since 1667 but perhaps formerly abroad and only now involved with the Society's work, or Martin Lister (F 288),

previously only an assiduous correspondent, but active at meetings after his move to London in 1683. These more than compensated for the continued demise of once active members. Sir Paul Neile (F 5), for instance, who had been very active in the 1660s and fairly active in the 1670s, was entirely inactive after 1680, and so was Daniel Whistler (F 49), while Walter Needham (F 230) now failed to match the interest he had shown during the 1670s; the attendance of members like John Creed (F 155) also flagged, as did the regularity in paying of such as John Pearson (F 222). On balance, however, the Society was reinvigorated at this time, and the result was a noticeable increase in the number of meetings from 1682 onwards (see Table 3) — and, to a lesser extent, an increase in attendance at anniversary meetings (see Table 4) — while the size of the active nucleus had by 1685 risen to 44, almost its size before the plague.

This new vitality in the Society's active core combined with a second circumstance to make possible a more decisive policy than had proved feasible in the 1670s towards the substantial inactive and non-paying section of the membership. This second circumstance was King Charles II's payment to the Society in 1682 of £1,300 in return for Chelsea College, the site of which he required for the royal hospital that still survives there; this seems to have made the Society feel more financially secure than previously.[35] As a result of these combined circumstances, and under the active aegis of Sir Christopher Wren (F 12), who became president in 1680, a more major purge of arrears was carried out in 1681–2 than ever before in the Society's history.[36]

Extensive dunning was carried out by various members, resulting in a number of Fellows whose subscriptions had lapsed paying their arrears,[37] while some — such as Sir Paul Rycaut (F 220) and Francis Robartes (F 306) — now became regular 'paymasters' at least for a few years. In addition, the practice of extracting bonds from Fellows was revived in 1682 for the first time since the reformist episode of 1673–5.[38] As for recalcitrant non-payers, legal action was more seriously considered than ever before, and six Fellows were threatened with being taken to court in 1682–3, though this did not actually materialize.[39] Instead, a substantial number of expulsions were made in 1682, followed by a further, larger group in 1685: in total, over sixty members were removed from the printed membership lists during these years.[40] These, the first (and last) substantial expulsions in the Society's history, reduced the total membership to its lowest ever,[41] and they are symptomatic of a decisiveness that had been lacking in the 1670s, when few had been expelled although it was already apparent how many Fellows were of no value to the Society.

1682 also saw a change in the Society's membership policy, presided over by Wren. Since 1677 annual recruitment to the Society had on average been more than double (14.2) that of the early 1670s (6.1), reaching

a climax in 1681, when twenty-five candidates were elected, apart from an unprecedented number of five who were proposed but not elected.[42] A high recruitment rate has sometimes been seen as a sign of health in the Society,[43] but that this was not necessarily the case is illustrated by the recruits of 1681. For though in that year (as in each year since 1677) a number of activists joined, an unusually high proportion of those elected took no interest in the Society whatsoever, some 52% (twelve out of twenty-three British Fellows) being wholly inactive. It may also be significant that John Houghton, the tea-dealer mentioned in Chapter 2, proposed more candidates for election in 1681 than did any other Fellow in a single year in the whole of the seventeenth century, including a disproportionate number of inactive Fellows and abortive candidates, while it is possible that the unusually high percentage of men of low status whom he proposed also did not go down well.[44]

There can be no doubt that it was this experience which stimulated a change in membership policy in 1682, when reservations were expressed about the ease with which elections were made. In August that year a statute was passed stating that too many unsuitable people were being elected, 'few balloting in the negative, and presuming the person to be well known to the member, that proposeth the candidate', and ordering that, to avoid this, the council should consider 'whether the person is known to be so qualified, as in probability to be useful to the society' before a candidate was allowed to be proposed for election.[45] As a result, the proportion of Fellows who proved wholly inactive was lower in the remaining years of the decade than had recently been the case — indeed the average for the decade overall was lower than at any time since the early 1660s[46] — while this new policy may also account for the fact that the average number of elections per year was smaller from 1682 onwards than it had been in the previous five years, returning to a level comparable to that of the early 1670s (see Table 1).

The vigour manifested by these decisive steps was matched by other novel initiatives in the mid-1680s which were evidently made possible by the royal endowment of 1682. Though plans for a special building for the Society were not seriously revived at this time, the greater availability of funds made it possible for the Society to realize at least temporarily another long-standing ambition, of employing extra 'curators' to supplement the work of Robert Hooke (and his replacement from 1684–7, Denis Papin) by doing anatomical demonstrations and chemical experiments: the Fellows involved were Edward Tyson (F 353) and Frederic Slare (F 370).[47] In addition, the new finance contributed to the revival in 1683 of the *Philosophical Transactions* begun by Henry Oldenburg in 1665, after the lapse that had followed his death, since payments were made to those responsible for each issue.[48] A more expansive attitude was also in

evidence elsewhere, notable when, in 1685, the Society embarked on an unprecedented venture by publishing a book, Francis Willughby's *Historia piscium*, in collaboration with Bishop John Fell at Oxford: this was the first book in which the Society had a financial interest, as against merely giving its 'imprimatur'.[49] But it was not a success and the Society lost heavily on it, being thereby prevented from publishing Newton's *Principia*.[50]

Hence in the mid-1680s the Society was on the whole in a healthy state, although it had become used to more modest levels of support and activity from the rank and file of its members than had been the case in the 1660s, as Table 7 shows. It was appropriate that at this time the Society gained a kind of reflected glory from the scientific groups inaugurated in Oxford and Dublin in 1683 — groups that were deeply respectful of the Royal Society, having (in their own words) 'cheifly subsisted & grown up by the kind encouragement & countenance' of that body, 'the most worthy Society in the learned World'.[51] Not only did these engage in an exchange of letters and reports with the Royal Society:[52] they also supplied a number of members, and, though a disappointing number of these proved inactive, some in due course played a worthwhile part in the London society's activities.[53]

But the brevity of the active lives of the Dublin and Oxford groups illustrates the difficulties of seventeenth-century voluntary organizations dedicated to intellectual pursuits, and by the later 1680s there are hints that the Royal Society was itself beginning once again to suffer from its periodical cycle of dwindling enthusiasm and activity. Perhaps the first sign that all was not well was the scene made by Francis Aston (F 342) when resigning from the secretaryship in December 1685: though this had the beneficial result of leading to the appointment of Edmond Halley (F 347) as clerk on terms comparable to the employment of Oldenburg as paid secretary in the 1670s, it also resulted in alienating some formerly active members, including Tancred Robinson (F 419) and Martin Lister (F 288), both of whom withdrew after 1686.[54] Lister later vociferously criticized the infighting to which he felt the Royal Society was prone,[55] while in 1687 Robinson echoed the anxieties of the early 1670s in reporting to Hans Sloane, then in Jamaica: 'the Royall Society declines apace, not one Correspondent in being . . . The same officers are chosen this year; I am afraid that you will find nothing but ruines at your return, all will appear an Alsace to you.'[56] In 1691, Robert Plot similarly told Edward Lhwyd, his successor as curator of the Ashmolean Museum at Oxford, that 'the London & Oxford Societies sleep',[57] and it is small wonder that in that year a committee was set up by the Royal Society for re-establishing correspondence,[58] though there is no evidence after 1686–7 of moves to improve the Society's proceedings like those of the 1670s.[59]

Taking the number of meetings per year as a relative indicator of vitality, Table 3 shows 1687 and 1692 as bad years, and 1691 was perhaps a bad one too: though a serious lacuna in the minutes makes this hard to judge, this itself is hardly a sign of a flourishing society. Details of attendance on St Andrew's Day are unfortunately largely missing, but, as Table 7 shows, the size of the Society's active nucleus had by 1692 dwindled to thirty-two — smaller than in the problematic years of 1672 and 1680 — while the number of Fellows showing any sign of activity at all had fallen to a new low of fifty-five.

The Catalogue once again makes it possible to clothe these generalizations with personal detail. Apart from Lister and Robinson, who have already been mentioned, the years after 1685 saw the death or withdrawal of many once-active Fellows, outweighing the few newly elected men who proved to be active supporters. Among long-standing Fellows whose activity lapsed was Daniel Colwall (F 48), who is little heard of in the minutes after 1686 although he did not die until 1690, and Theodore Haak (F 93), who was barely active after 1685, while Sir William Petty (F 8) died in 1687. Other casualties included various recruits of the period around 1680 who were active only until 1686 or 1687 — Detlev Clüver (F 346), Denis Papin (F 369) (who went abroad), Sir Anthony Deane (F 372), and Edward Paget (F 399) — while the activity of Thomas Gale (F 331) dwindled. Others who had been fairly active but failed to sustain this after the mid-1680s include William Holder (F 39) and Edward Browne (F 248), while regular attenders who disappear at much the same time include Sir John Lowther (F 157) and Roger Meredith (F 375), with Edward Haynes (F 406) lapsing a little later, in 1692.

To balance this, only a handful of recruits of the years 1686–92 — John Harwood (F 431), Clopton Havers (F 432), Benjamin Middleton (F 438), Sir Godfrey Copley (F 452), and Edward Southwell (F 463) — proved active in a sustained way: Sir Robert Gordon (F 427) took an interest in the first year after his election in 1686, but did not keep this up. One Fellow who had not previously been very active became more involved with the Society from 1689, John Bemde (F 344), while another whose activity revived was Thomas Povey (F 47); the Society also benefitted from a burst of activity from Allen Mullen (F 408), who moved from Dublin to London in 1688. But Mullen left London again in 1690,[60] and Povey's fresh activity lapsed in 1692. The balance of losses and gains in these years was undoubtedly unfavourable to the Society.

Another cause for concern in the 1690s was finance. Though the royal endowment of 1682 had made the Society less totally dependent on Fellows' subscriptions than previously, the Society seems to have been unlucky in its investments and the yield from these was never as large or as regular as might have been hoped.[61] Hence the Society still needed

financial assistance from Fellows, despite the fact that, evidently due to the existence of the endowment, a much slacker attitude than hitherto now prevailed concerning the payment of subscriptions. No complaints about arrears appear in the minutes for over a decade from the mid-1680s onwards, and it is hardly surprising to find a greater and greater number of Fellows ceasing to pay their subscriptions regularly.

To some extent the dwindling number of regular subscribers was due to death: Fellows who died in the 1680s or 1690s and remained regular to the last included Sir Paul Neile (F 5), Elias Ashmole (F 37), Edmund Wylde (F 44), Philip Packer (F 89), and Walter Needham (F 230). In addition, however, many Fellows who had previously been regular in their dues lapsed at this time, including a number who nevertheless remained active at the Society's meetings.[62] By the mid 1690s there were only some 20 regular subscribers — as against 52 in 1680 and 69 in 1672 — and the yield from Fellows' subscriptions dwindled from an average of £124 1*s.* 0*d.* in the years 1683–7 to an average of less than half that figure, £51 10*s.* 0*d.*, in 1688–97.[63] What is more, the Society quietly countenanced this, removing the names of non-payers from the accounts in large quantities between 1693 and 1696.[64]

The result was a steady dwindling of the Society's expenditure, which can only have had an adverse effect on its level of activity, and particularly its experimental activity, as against the reading of papers and displaying of objects; moreover, poor Halley had to be content to receive his salary haphazardly and often in arrears.[65] Apart from years of high expenditure in 1687–8 and 1691 — accounted for partly by salaries, partly by the *Historia piscium* project — the Society's expenditure lapsed to low or very low levels, borne mainly by dividends and rents as these came in: outgoings frequently fell to less than £100 a year, dwindling to a mere £46 6*s.* 3*d.* in 1690 and £37 15*s.* 10*d.* in 1692. R. K. Bluhm showed that the Society's average normal expenditure reached its lowest point in the seventeenth century in the years 1696–1700, averaging a mere £116 11*s.* 3*d.* a year, compared with £233 9*s.* 4*d.* in 1667–70 and £198 14*s.* 8*d.* in 1681–5, while even in the 1670s it had averaged £150 6*s.* 10*d.*.[66]

From the middle of the 1690s, various changes are in evidence. One was a noticeable increase in the level of recruitment from 1696 onwards. Whereas this had remained at a low level from 1682 right up to 1695, averaging only seven a year, 1696 saw a burst of recruitment, with nineteen elections being made, and high election figures recur in 1698 and 1699 (Table 1). Whether this reflects a deliberate attempt to reinvigorate the Society cannot be said. One effect was certainly to lower standards, since the percentage of recruits who proved of no value increased markedly: whereas 75% of those elected between 1682 and 1695 took at least some interest in the Society after their election, this went down to 58% in 1696–

1700, and an administrative confusion over the elections of 1699 may disguise the fact that this percentage was really lower still.[67]

Even if most were of little use to the Society, however, a minority of recruits proved of greater value, compensating for the losses by death and withdrawal of these years. Death removed activists like Francis Lodwick (F 391) in 1694, Robert Plot (F 332) and William Perry (F 345) in 1696, and John Aubrey (F 127) in 1697, while former stalwarts who failed to sustain their activity after the mid 1690s included Thomas Henshaw (F 15) (who died in 1700) and Sir Edmund King (F 212). But these were made up for by such active or very active recruits as John Woodward (F 468) in 1693, Samuel Doody, James Petiver, and Bernard Connor (FF 480–82) in 1695 (though Connor died in 1698), William Byrd and John Harris (FF 492–3) in 1696, John Hutton (F 507) in 1697, and William Cowper (F 537) in 1699. A number of others elected in these years were at least fairly active, while William Bridgeman (F 357), who had been a member since 1679, suddenly took on a lease of life in 1698, though dying in 1699.

This is the background to a new reformist effort promoted by a series of council meetings in 1698–9. It was introduced by a new attack on arrears of subscriptions, similar to those of 1673–5 and 1681–2, which was proposed by the newly active Bridgeman.[68] Though Bridgeman suggested a purge, however, its scale was quickly toned down: due to the growing laxness just mentioned, so many must have had an interest in leniency that a harsh line would have been virtually impossible. Not only was a list compiled of those who, for one reason or another, were excused; in addition, it was agreed that arrears up to Christmas that year would be overlooked if Fellows were regular from then on.[69] Plans were, however, made for sending out letters requesting payment, for dunning members and for ejecting those who still failed to pay.[70] These measures — which continued into the following year — had some noticeable effects. Ralph Thoresby (F 510), who had been elected in 1697, a merchant whose finances were in an unfortunate state in 1699 due to 'a very severe & unexpected loss', was worried that the purge would 'exclude' him from the Society,[71] and quite a number of Fellows who had long since allowed their subscriptions to lapse were encouraged by the amnesty to pay up.[72] As a result, income from subscriptions almost doubled to £92 9*s.* 0*d.* in 1698, in contrast to the low average income from this source over the previous few years.

In addition, for the first time since the Society's foundation, the system by which Fellows' financial position was recorded in the account books was changed and a more logical system of accounting introduced.[73] In terms of expulsion, however, the outcome of the campaign was more muted than had been the case in the early 1680s, perhaps because the policy then had been so rigorous that some Fellows who were omitted

from the membership lists had had to be reinstated. Only six Fellows were removed from the lists, which retained not only 'those who have paid their Weekly Contributions' and 'such as have entertained the Society', but also 'All Peers of the Kingdom, Members of Parliament', and a selection of inactive but prestigious figures eminent in the church and in scholarship whose benign sponsorship the Society was glad to advertise in this way.[74]

Indeed, lest it should be presumed that efficiency and a high level of aristocratic membership were mutually exclusive, it is interesting to note that the arrears purge of 1698 began in the very month that Lord Somers (F 528) became president and three other peers were elected, to be followed by another in the following January. Moreover, the reform moves were reported to Somers by William Bridgeman,[75] and it may not have been entirely due to empty flattery that, in his dedication to the *Philosophical Transactions* for 1699, Sloane associated the revival of the Royal Society with Somers' influence.[76]

As in the 1670s, the attack on arrears was accompanied by an attempt to revive the level of activity at the Society's meetings. The matter was raised late in 1698 and, early in 1699, it was decided to encourage members to 'charge themselves to entertain the Society on certain days with some Experiments or Observations in Natural knowledge'.[77] As in 1674, and on the suggestion of Sloane, a list was drawn up of those to be asked to assist the Society in this way and it was agreed to refund expenses and, if required, to pay a fee; certain more miscellaneous reforms were also instituted.[78] By the time these moves were under way the Society had heard of the new statutes granted by Louis XIV to the Académie des Sciences in January 1699.[79] But the London initiative appears to have emerged independently, and, though the Society appointed a committee to consider whether any of the French statutes were applicable to the English society, nothing appears to have come of this.[80]

As with the attack on arrears, this effort had some effect. Fifteen of those asked for papers agreed to provide them, including some who had not recently been active, such as Daniel Coxe (F 189) and George Moult (F 450), while other Fellows who had not been in evidence for some time now returned to an active place in the Society, including Martin Lister (F 288), Francis Aston (F 342), and Thomas Kirke (F 470). Attendance at the anniversary meeting in 1699 was apparently higher than of late,[81] while the Catalogue reveals that by 1700 there had been a marked reversal of the downward trend both in the Society's activists, who now comprised forty-one, and in the Fellows showing at least slight activity, who, at seventy-six, had returned to the level of the 1680s.

But the positive achievement of the reform programme was overshadowed by perhaps the worst outbreak of factionalism in the Society in its early years, which reached almost comical dimensions at this time in the

prolonged quarrelling between Hans Sloane and John Woodward (F 468). (Now, as earlier, it is interesting that, contrary to the usual view that such quarrelling was a symptom of the Society's amateur make-up, it was in fact among doctors and scholars that it mainly occurred.) In January 1698 it was reported that Sloane and Woodward were at daggers drawn at every meeting of the Society,[82] and things came to a head in 1700 when Sloane unjustly accused Woodward and his friends in the Society of being responsible for a satire, *The Transactioneer with some of his philosophical fancies*, which appeared in that year.[83] In 1699 there were complaints about loose words by another Fellow, John Flamsteed,[84] while in 1700 a further unrelated dispute arose, this time between the Dutch physician, Govard Bidloo (F 495), and a recently-elected medical Fellow, William Cowper (F 537), accused by Bidloo in an appeal to the Royal Society of having plagiarized his lavish study of human anatomy.[85]

All this did not make for a very happy state of affairs, while the financial retrenchment of 1698–9 also rapidly ran out of steam. Many of those who briefly paid up lapsed again almost immediately, while the inadequacy even of the revived level of subscriptions to cover the Society's expenses is shown by the fact that £326 5*s.* 0*d.* received from Old East India Company stock in 1699 was not reinvested but kept in hand and gradually used up in meeting current expenses.[86] No wonder that Sir Robert Southwell told the Bristol naturalist, William Cole, in November 1699 that 'I wish it were in my view to lett you know, where a Strong purse and a Strong curiosity were met together; I can only say, that the Royall Society's Stock is so low, as hardly to keep Life and soul together',[87] while Tancred Robinson thought early in 1700 that the various quarrels 'may end in the destruction of the Royal Society'.[88] It was as if all the recurrent seventeenth-century problems had come home to roost.

Conclusion: The Nature of the Early Royal Society

THE condition of the Royal Society at the beginning of the eighteenth century was thus not entirely healthy, and this is the background against which many have read one of the most famous episodes in the Society's early history, the period of Newton's presidency from 1703 to 1727. It is true that Newton took an active interest in the Society, missing only three council meetings in twenty years, while, under his aegis, there were periodical purges of arrears and various attempts were made to improve the level of activity at the Society's meetings by employing demonstrators like Francis Hauksbee and J. T. Desaguliers and by setting up specialist committees responsible for different aspects of the Society's interests.[1] Newton also dealt decisively with a problem that had hung over the Society since 1699, and this was the need for a new home. The Society's base at Gresham College seemed increasingly insecure in the first decade of the century due to plans to redevelop the site, and many therefore thought it advisable for the Society to seek premises of its own. Various possibilities were considered, and in 1710 Newton arranged for the purchase and conversion of a house in Crane Court, off Fleet Street, for the purpose.[2] In addition, Newton made some interesting proposals for employing qualified researchers specializing in different areas of the Society's interests as a means of 'establishing the Royal Society'.[3]

Newton's admirers, however, have repeatedly exaggerated their hero's decisiveness as a result of their ignorance of his precursors. Though some things were quite new, notably the purchase of the Crane Court premises and the appointment of representatives of the Society as 'visitors' of the Royal Observatory,[4] the novelty of Newton's attempt to 'establish' the Royal Society has been greatly overrated and even sensationalized.[5] Many of Newton's initiatives, and many of the features of the tightening-up under his presidency — the attack on arrears, the setting-up of committees, and even the idea of employing specialists in different subjects — may be paralleled earlier.[6] Indeed, this ignorance of what had gone before is shown perhaps most clearly by Richard S. Westfall's mistaken belief that 'the first candidate since the society's inception who was denied election' applied for membership in Newton's time.[7]

Moreover, as even Newton's biographers admit, many of the old prob-

lems recurred both during and after his presidency. Despite the presence of Newton, the quarrels between Woodward and Sloane reached a new climax in 1710, when the state of the Society was described as 'a Subject of Jest among People of Understanding'.[8] The move to Crane Court and the way in which it was carried out also stimulated hostility from some who felt that it would have been better for the Society to stay at Gresham College and who resented Newton's attempt to override the Society's normal corporate decision-making process.[9]

In addition, Newton's reforms did not achieve as much, or for as long, as might have been hoped. The committees set up to supervise the Society's business soon disappeared from sight, and even the revival of activity at meetings succumbed before long to the inexorable decline so familiar from the aftermath of earlier reform efforts: Westfall himself admits a return towards the standards of the 1690s, acknowledging the extent to which vitality remained tenuous and dependent on individuals.[10] In financial terms, though the Society benefitted in these years from various bequests which there is no reason to attribute to Newton's initiative, arrears still remained problematic, and it is perhaps symptomatic that only after Newton's time did the Royal Society sue members in court for payment of their outstanding dues.[11] Indeed, the impression given by the minutes of these years, if read against their late seventeenth-century background, is one of a familiar, recurrent pattern of occasional crises of arrears, attendance, and declining activity punctuating the Society's normal indomitable continuity: it is not surprising to find that contemporaries remained all too aware of what they saw as the Society's residual 'defects'.[12]

The truth of the matter is that successive scholars who have claimed to discern Newton's decisive influence on the Society — like those who have asserted the impact of other individual office-holders on the Society's development in its early years[13] — have perpetuated a mistaken view of the nature of the institution they are writing about. They have espoused a sort of 'great man' view of institutional history, in which it is assumed that eminent scientists were likely to achieve great things almost overnight in an institution made moribund through the dominance of amateurs, and such views can be traced particularly to the Society's principal historian this century, Sir Henry Lyons, whom Westfall more than once approvingly cites in this connection:[14] indeed, such high claims for Newton's significance to the Society are strikingly absent from the earlier biography of L. T. More.[15]

In fact, however, though repeated efforts were made to reform the Royal Society from the 1670s onwards, these always proved hard to sustain, and in every case matters tended to revert to the state of affairs before reform was attempted. This remained true into the eighteenth century

too, decisive change taking place only in the nineteenth, in the new circumstances brought about by the altered public image of science, though it was not easily achieved even then.[16] In its early years it is as if the Society, once founded, took on a life of its own which transcended the efforts of the individuals who were associated with it. Its activities early gained a momentum which was virtually irreversible, as is seen clearly in such features of its early history as the decline of experimentation at meetings and the rise instead of reports on work carried out elsewhere, which repeated efforts were unable to alter.[17]

Indeed there was a constant tension in the Royal Society throughout this period, and not just at its end, between the actual state of affairs and what was considered desirable by those who gave thought to the question of how the advancement of learning was best promoted. This is revealed not only by the actual attempts at retrenchment chronicled here but also by various schemes for reforming the Society, which originated in the context of the crises outlined above and which have been discussed in a paper by Paul Wood and myself.[18] These show many overlapping features, some of them shared with Newton's proposed reform, including proposals for appointing more paid specialists, for setting up committees, for improving the Society's facilities, and for attempting to persuade members either to take an active interest in the Society or to end their association with it.

What they have in common was a desire to make the Society more rigorous and exclusive, and, though it was never proposed to make the membership wholly closed and professional in the manner of the Paris Académie des Sciences, it is not surprising to find among those actively associated with the Royal Society at this time repeated envy for the more organized state of science in France. Thus Richard Waller, when discussing the new regulations granted by Louis XIV to the Académie in 1699, echoed earlier views in singling out state endowment as that which the Royal Society would above all benefit from: 'upon the whole it were well if something of the nature of [payment of salaries and expenses] could be procured from his Majesty which would in my sorry judgement do more than all the rest.' As it was, he sadly noted of the regulations more generally, 'some of them were of use to us could they be observed but [I] am affraid our society consisting wholy of volunteers the members will be unwilling to be too much confined and obliged to strictness in some particulars'.[19]

Though contemporaries seem thus ironically to have almost wholly lacked the enthusiasm for the Royal Society's voluntary status which is found in nineteenth-century authors like C. R. Weld,[20] however, endowment on a large scale never came. The Royal Society therefore remained a voluntary body, and the contrast between it and the Académie has often

been taken to epitomize the contrast between 'closed' and 'open' scientific societies, the eighteenth-century Royal Society being seen to illustrate the inevitable limitations in rigour and productiveness of a voluntary body.[21]

But, if there is an element of truth in this, these judgements both by contemporaries and modern scholars have arguably failed to do justice to the positive achievement of the Royal Society in its formative years, due to underestimating the problems which the Society faced, and this positive achievement may have been more closely linked to the Society's perceived shortcomings than has sometimes been realized. For, at the very times when proposals were being put forward for restructuring the Society to make it more scientifically productive, anxieties were being expressed about its very survival. As was indicated in Chapter 1, the difficulties of finding a franchise for an institution devoted to scientific research at this time have often been underrated, and the difficulties of sustaining a voluntary scientific society at all in the seventeenth century are illustrated by the short life span of some of the Royal Society's early imitators.[22]

Hence it would be a mistake to presume that the anxieties that were expressed about the Society's possible collapse were merely alarmist, at a time when natural philosophy was less well established than has often retrospectively been thought.[23] One should take quite seriously the allusions to the likelihood of the Society's imminent demise in the early 1670s, in 1680, in the late 1680s, and in the late 1690s: Seth Ward, for instance, was not using empty hyperbole when writing to the Archbishop of Canterbury in 1673 how he apprehended 'the failing or Continuance of that Society . . . to be now brought to a Crisis'.[24]

In fact, the Society survived all these anxieties, and in some ways this continuity is the obverse of the difficulties experienced by those who would have liked to remould the Society in their own image. Though to potential reformers the Society seemed to show a frustrating inertia, the corollary of this was that the Society had more resilience than the more pessimistic realized. For however bad things got, they invariably thereafter improved through a process of natural replacement and adaptation in the heterogeneous and self-renewing membership, a process the Catalogue is intended to elucidate. Moreover, ironically, reform could damage this continuity, as is seen by the way in which Newton's moves stimulated resignations and withdrawals, or by how the mass expulsions of the 1680s nearly disposed of Fellows who subsequently became highly useful.[25]

Thus continuity was achieved, which was crucial in itself. Not only was it bound up with one of the Society's major functions in the intellectual life of the day — as a figurehead, a symbol of those collectively engaged in related enterprises at home and abroad, a crucial function that is easily retrospectively underrated.[26] Equally important, it provided an

infrastructure of resources and contacts and a forum for evaluation and validation, facilities that were continuously there to be taken up by the succession of natural philosophers who were actively associated with the Society, whose achievement was undoubtedly enhanced, if not made possible, by the institutional backing and facilities the Society provided.[27]

It was through the enthusiasm of volunteers that this crucial institutional continuity was achieved, while, because of the Society's aspiration to be a public institution, its constitutional structure, and its financial dependence on Fellows' subscriptions, this always presupposed the support, not just of a handful of active researchers, but of a wider body of interested and loyal members. The Catalogue, which forms the heart of this study, enables an estimate to be made of the fluctuating course of Fellows' individual contribution to the Society's early development, making it possible to place all of the 551 members elected between 1660 and 1700 along a spectrum from intense activity to total indifference, and all those at the supportive end of this spectrum collectively played a decisive part in the Society's evolution. With such data at our disposal we can no longer be satisfied with histories of the institution which dwell exclusively on a few leading figures within it. While individual activists came and went, it was above all the Fellows who, through their combined support, gave the Society a momentum — or, sometimes, an apparent inertia — which assured its survival through difficult times in its formative years to become the premier institution of modern British science.

Appendix 1

Election, Admission, and the Printed Lists of Fellows

THE order in which Fellows are placed in the Catalogue is based on a collation of the list of Fellows arranged chronologically by date of election in *The record of the Royal Society* (the most accurate hitherto available)[1] with such extra information as I have found. It should be noted that — as in *The record* — where the date of election is unknown, the date of admission ('adm.') has been substituted. Where that is not known either I have where possible noted the date on which Fellows were approved ('appr.') by the council: this only applies to the period after 1682, when it was ordered that candidates should be approved by the council before they were allowed to stand for election. Apart from the omission of reference to such elections, the minutes also have various errors of nomenclature and the like, which I have not bothered to note.

The greatest difference between my listing and that in *The record* concerns the Fellows elected before June 1663. *The record* gives all these as a single group of 'Original Fellows', whereas I have tried to place them in chronological order of election, thus illustrating the different strata of the Original Fellowship. For this I have used such dates of election or admission as are given in the minutes, but, since all elections are not there recorded, I have supplemented them by using 'The Accompt of William Balle', the first treasurer.[2] This lists Fellows in order of the date when they became eligible to pay subscriptions, and a complete chronological list can be built up by marrying it with such dates as are given in the minutes. I have also inserted at the appropriate place those who are recorded in the minutes as being elected but who never appeared in either the account of William Ball or the list of Original Fellows.

After 1663, differences between the Catalogue and *The record*'s list are fewer. In a few cases, dates of election and admission have been silently corrected.[3] The following more serious alterations may also be noted. *The record* wrongly gives separate entries on pp. 380 and 381 for 'Sir Maurice Berkeley, Kt. and Bt.' (17 October 1667) and 'Fitzhardinge, Maurice, Viscount' (26 November 1668), whereas in fact these refer respectively to the election and admission of the same person (F 232). In addition, two Fellows are wholly omitted, Giambattista Pacichelli (F 311) and the second Orlando Bridgeman (F 511): in *The record*, only one Fellow of this name is recorded as being elected, under the date 29 April 1696 (F 491), but the

journal book reveals that a second Orlando Bridgeman was elected on 23 March 1698 and admitted on 16 November 1698, and both appear in the printed lists for some years.[4] In the charter book, the name 'Orlando Bridgeman' appears not just two, but three, times: in the absence of any further evidence for a third FRS of this name, however, I am inclined to presume that one of the two O. B.s signed his name twice (one signature is rather faint, and was perhaps replaced).[5]

There were eleven cases of people being elected to the Society twice between 1660 and 1700. All but two date from the Society's earliest years, when the formalities of election had evidently not yet fully evolved, and in some cases the second election followed the compilation of the list of Original Fellows in 1663 and was a means of inserting into it someone who had inadvertently been omitted.[6] The two Fellows re-elected after 1664 were Lord John Vaughan (F 63) and Sir Justinian Isham (F 141); in both cases, the first election seems to have been entirely forgotten by the time of the second. For the sake of consistency I have inserted all those elected twice under their original date of election, with a subsidiary note at the date when they were re-elected.

Though I have included all who were elected in my Catalogue, in fact election was only part of the process of becoming a Fellow. Before those elected were deemed full members of the Society, they had to be formally admitted by the president and to subscribe their name in the Society's charter book (or, before this was begun in 1665, the first three pages of the first journal book).[7] Naturally it was difficult for foreigners and similar absentees to be admitted, and for them the formality was often waived, while in the first few years the ritual was evidently less established than later and quite a large number of Original Fellows never subscribed their names.[8] In view of this I have not devoted a separate column in the Catalogue to noting whether or not Fellows were admitted, since the fact is apparently often of little significance. Even at a later date a few active Fellows never signed, including Sir Anthony Deane (F 372) and Martin Lister (F 288), in the latter case doubtless due to the fact that he was at first an 'absent' Fellow and his failure to be originally admitted was subsequently overlooked.[9] In general, however, after the first few years, failure to be admitted in the case of English Fellows implies that, unless the man in question was clearly a 'provincial' member, his lack of interest in the Society was such that he could not be bothered to go to a single meeting: I have therefore indicated the fact that he was never admitted in the column devoted to 'activity as seen in minutes'.

Indeed, this failure to be admitted goes some way towards explaining why numerous Fellows who were elected never appeared in the printed membership lists issued each year. Of British Fellows elected between July 1663 and 1700, forty-seven never appeared in the printed lists and of these all but five were never admitted.[10] These five were Roger Williams (F 160) and Benjamin von Munchausen (F 413) — both of whom none the less appeared in the accounts for a while — William Gomeldon (F 152), Oliver Hill (F 329) and R. Shirley (F 532). In Hill's case this was clearly due to the Society's disapproval of his interests,[11]

whereas the omission of the other four was apparently due to administrative inefficiency. With these exceptions, however, those whom the Society failed to insert into the printed lists can be dismissed as of little importance, and, though they must be included in any chronological list of those elected, their significance to the Society was hardly greater than that of another group of persons whom I have not included in my Catalogue although they are not uninteresting — those proposed but not elected, who are listed at the end of this appendix.

The corresponding category in the period before the list of Original Fellows was drawn up in 1663 comprises those who were elected but were not included in this list: they are designated 'Not O.F.' in the Catalogue, which may be taken to mean that they never appeared in any of the printed lists either, unless subsequently re-elected.[12]

Allowing for such evidently deliberate exceptions, the printed lists published annually by the Society from 1663 onwards provide an almost complete view of the Fellowship in any given year. Indeed, they were evidently used as ballot papers in council elections,[13] apart from their more general role in advertising the Society's membership. They are not totally accurate. Apart from errors of nomenclature,[14] Fellows sometimes fall off the list for one year but then reappear — as, for instance, occurred with all but three of the Society's foreign members in 1678 — and their names were not always removed very quickly after their death, reaching an extreme in the case of the Earl of Kincardine (F 3), who died in 1680 but remained in the lists until 1698. It may be suspected that similar mistakes account for instances where Fellows unexpectedly fail to appear in the lists for some time after their election, as with J. P. Jordis (F 384) or Jodocus Krull (F 389), or perhaps when they disappear prematurely, as with Sir John Denham (F 42), who disappeared from the lists after 1663 although not expelled until 1666. In a few such cases the evidence of the lists about dates of membership can be supplemented by the accounts: apart from the Fellows referred to above who paid subscriptions although never in the lists, Sir John Clayton (F 88) and Andrew Clench (F 366) made some payments after their removal from them.

In general, however, the appearance or non-appearance of Fellows' names in the printed lists was of crucial importance, since it was by leaving names off them that the Society expelled unwanted Fellows. In the Catalogue, therefore, it may be assumed unless specifically stated to the contrary that a Fellow remained in the lists until he was expelled or resigned or until the date (or approximately the date) of his death: I have mentioned the last list in which a Fellow appears only when this was well before his death or in cases where date of death is obscure and where the disappearance of the name of the member in question seems likely to be due to death rather than expulsion or resignation (in such cases the information is recorded in the column devoted to date of death rather than that for expulsion or resignation). A small complication is caused by the fact that lists have not survived for all years. The combined holdings of the British Library, the Bodleian Library, Oxford, and the Royal Society provide an almost complete run of lists

for the relevant years,[15] but no copies have been located of those for 1673, 1676, 1700, 1707, and 1709. Where the Catalogue states that a Fellow last appears in the list for the year preceding one of these, therefore, it is possible that he actually remained in the lists for one year longer.

Lastly, the thirty-eight known candidates proposed but not elected are listed below, though it should be noted that this list is undoubtedly incomplete, since on one occasion the minutes mention that two candidates who were later elected were proposed 'together with some others',[16] and others may never have been recorded. The list does not include Fellows proposed but not elected some years before they were finally elected.[17] It does, however, include those of whose impending proposal notice was given, but which did not materialize. After 1682, when all being proposed were supposed to be approved by the council, I have differentiated those approved in this way from those merely proposed.

The climax of abortive proposals in 1681 — when five such candidates are known — was evidently connected with the crisis in membership policy in that year. A further climax occurred in 1699, when eight — more than in any other single year in the seventeenth century — fall into this category. Though this could have been due to a tightening up of entrance procedures in that year, it seems likelier to have been due to inefficiency, since it appears that there was some confusion about the elections at the anniversary meeting in 1699, and it is possible that some of these men were, in fact, elected. This suggests a slight blurring of the categories 'proposed but not elected' and 'elected but not admitted' which should be borne in mind in connection with conclusions based on all elected Fellows as against all active ones.

In a letter to Ralph Thoresby of 2 December 1699, Thomas Kirke told him that thirteen new Fellows had been elected at the recent anniversary meeting, including Benson, included here as merely proposed.[18] The minutes for this meeting do not survive — part was mistakenly copied into the council minutes and the rest is lost[19] — so there is no authoritative list of those actually elected on that occasion, though it may be presumed that nine Fellows, FF 538–46 in the Catalogue, were. This, however, leaves us four short of the thirteen mentioned by Kirke. To make up the difference, one could add Benson on his authority, together with Boothe and Lowthorp, both of whom subsequently signed the charter book (though Boothe never appeared in the printed lists)[20] and one more from the remaining five who never signed. Alternatively, one could add Benson, Harley, and Wallace, who are recorded as being approved in the council minutes[21] and one from the further five candidates recorded in the minutes as being proposed but not approved.[22] But either stratagem would involve uncertainty, and the fact that Lowthorp was actually elected subsequently in 1702[23] suggests that those supposedly elected on this date whose election was not immediately ratified by admission and/or inclusion in the printed lists should not be included in the list of Fellows.

Candidates Proposed but Not Elected
(with date proposed and proposer)

Richard Rawlinson, 2 January 1661; Fellow of The Queen's College, Oxford, etc.[24]

John Twysden, 23 January 1661; physician and author.[25]

'Monsieur Le Febure the younger', 19 December 1666 by Moray (F 4).[26]

Sir John Colladon, 2 April 1668 by Povey (F 47); court physician.[27]

Sir Edward Rich, 12 December 1670 by Hayes (F III); reader at Lincoln's Inn.[28]

Samuel Martin, 30 March 1671 by Holder (F 39); possibly the S. M. of Durham who matriculated at St John's College, Cambridge, in 1661.[29]

Dr Bister, 13 June 1673 by Boyle (F 2); 'a physician of Hamburgh'.[30]

William Simpson, 20 May 1675 by Petty (F 8); Yorkshire physician and writer.[31]

J. F. Preiss, 17 June 1675 by H. Howard (F 218); 'physician to the prince of Newberg'.[32]

Marmaduke Foster, 17 January 1678 by Ent jun. (F 328);[33] London bookseller employed to help catalogue the Royal Society's library.[34]

Charles Steward, 18 July 1678 by Holder (F 39); son of Sir Nicholas Steward (F 238).[35]

John Wheeler, 5 June 1679 by Hoskins (F 92); probably member, and subsequently barrister-at-law, of the Middle Temple.[36]

William Russell, 12 January 1681 by Houghton (F 361); pharmacist and chemist in ordinary to Charles II.[37]

'Mr Hessack' or Heisig, 23 November 1681 by Hooke (F 136) and Gale (F 331); 'a Swedish gentleman'.[38]

William Hewer, 30 November 1681 by Houghton (F 361); naval administrator, etc.[39]

Joseph Martin, 30 November 1681 by Houghton (F 361); possibly the J. M. of London, a Turkey merchant, knighted in 1712, or a 'Mr Martin', a jeweller.[40]

Olof Rudbeck, 14 December 1681 by Gale (F 331); Swedish scholar.[41]

Andreas Arnold, said to be intended to be proposed by Haak (F 93) on 25 October 1682; German theologian and scholar.[42]

Ludwig von Hammen, 2 April 1684 by E. Browne (F 248); Danzig physician, microscopist, and author.[43]

William Charleton, 12 November 1684 by Lister (F 288); virtuoso and collector.[44]

William Briggs, 12 November 1684 by Lister (F 288); physician, oculist, and censor of the Royal College of Physicians.[45]

Caspar Langenhert, ordered to be proposed on 24 October 1688; a Belgian

virtuoso who had written to the Society describing his intellectual activities, sending a book, and requesting to be elected.[46]

Captain James Hamilton, 6 February 1689 by Hoskins (F 92) and Reading (F 287); probably the naval Lieutenant who is heard of in 1709.[47]

John Dewe, 25 March 1691 by R. Waller (F 380) and approved; amateur naturalist of Bampton, Oxfordshire.[48]

Thomas Jett, 25 March 1691 by Waller (F 380) and approved; presumably the government official and virtuoso of this name elected FRS in 1714.[49]

Mr Smith, 25 March 1691 by Houghton (F 361); perhaps John Smith, clockmaker and author of books on horology, etc.[50]

Mr Warr, 25 November 1691 and approved; almost certainly John Warr, one of Boyle's executors.[51]

Dr Garden, approved on 19 November 1695; almost certainly James Garden, Professor of Divinity at Aberdeen.[52]

Samuel Gruter, whom R. Southwell (F 107) desired be proposed on 4 December 1695; 'Minister at Harlem'.[53]

Robert Benson, 22 March 1699 by W. Bridgeman (F 357) and approved; clerk of assizes for the Northern Circuit and later politician and Baron Bingley.[54]

Peniston Boothe (Booth), 3 May 1699; afterwards DD and Dean of Windsor, probably elected FRS in 1702.[55]

John Lowthorp, 3 May 1699; non-juring divine and controversialist, elected FRS in 1702.[56]

Robert Harley, 10 May 1699 by Foley (F 496) and approved on 24 May; later first Earl of Oxford.[57]

Dr Huntington, 5 July 1699 by Sloane (F 421); probably Robert Huntington, scholar and divine.[58]

Mr Persode, 26 July 1699 by Hutton (F 507); French tutor to the Duke of Gloucester.[59]

James Wallace, 26 July 1699 by Sloane (F 421) and approved; doctor and writer.[60]

Jezreel Jones, 11 November 1699; traveller and diplomat, shortly to be employed as clerk to the Society during Halley's absence in the South Atlantic.[61]

Samuel Garth, 14 February 1700 by Woodward (F 468) and approved on 28 February; physician and poet, later knighted.[62]

Appendix 2

Proposers

THE third column in the Catalogue gives the name and number of the existing member who proposed each new Fellow for election, where this is known. The information is derived from the minutes; it appears either at the point when the candidate in question was put forward or in connection with his election, and, to save space, the exact reference has not been given in each instance.

No proposers are named for the earliest Fellows. The practice began sporadically in August and September 1661 and it was officially ratified on 13 November that year, when 'it was ordered, that the names of those, who propose candidates, be for the future specified'.[1] From December 1661 proposers are recorded for the great majority (84%) of candidates until 1685: the chief exceptions to this are eminent figures such as the bishops and statesmen elected in the mid 1660s, who were presumably not seen as requiring any recommendation; in addition, no proposer is named in an abnormal number of cases in June 1663 in the aftermath of the granting of the second charter.[2] From 1686 onwards proposers are recorded only haphazardly (in 33% of cases), the names of those putting forward candidates coming in little clumps as if it was occasionally remembered to record them but usually not. Then, from March 1698, it again became normal for the names of proposers to be included in the minutes: they appear in 75% of cases, ignoring a transitional period in March 1698.

Apart from the period 1686–98 when most proposers are unknown, there are a few minor complications. It is sometimes mentioned that a Fellow was proposed by someone 'at the request of' someone else, or a similar formula, presumably because the second person was the candidate's real sponsor and was unable to attend to propose him in person. I have therefore included the name of the Fellow requesting the candidate to be proposed, rather than the one recorded as making the proposal.[3] In addition, I have omitted the name of the first proposer in cases where a candidate was proposed abortively on an earlier occasion than that on which he was actually elected.[4]

An index of known proposers has been appended to this section, and this reveals that some Fellows were disproportionately active in proposing new members. In the early years of the Society three men stand out: John Wilkins (F 6), who proposed forty-one candidates between 1661 and his death in 1672, more than twice as many as anyone else in the whole of the seventeenth century; Sir

Robert Moray (F 4), who proposed nineteen, all but one before 1666; and Seth Ward (F 29), who proposed sixteen between 1666 and 1675. After this date, four figures stand out to a greater or lesser extent for proposing a disproportionate percentage of the candidates over a finite period (sheer quantity is in itself misleading, since it may only reflect the longevity of a Fellow's active association with the Society, as, for instance, with Sir John Hoskins (F 92)). These are Robert Hooke (F 136), who proposed ten candidates in 1678–81, John Houghton (F 361), who proposed seven in 1681, Sir Robert Southwell (F 107), who proposed five in 1692, and Hans Sloane (F 421), who proposed thirteen in 1698–1700.

As will be seen, this list includes a number of officers of the Society, since Wilkins was secretary from 1663–8, as was Hooke in 1678–81 and Sloane in 1698–1700, while Southwell was president in 1692. In addition, Wilkins, Moray, and Ward all served in the less formal capacity of vice-president for at least part of the period when they were so active as proposers, and it may be significant that Ward's profuse activity in proposing candidates began in the month in which he was sworn in as vice-president in Moray's absence, though it should be noted that the bulk of Moray's proposals occurred before he became vice-president in July 1666.[5]

There seems, however, to have been no general rule about the responsibility of officers for proposing Fellows. Though there are occasional hints that the president, or, in his absence, the vice-president, was expected to bring candidates forward, particularly when a candidate was proposed to the Society as a whole after having been approved by the council according to the decree of 1682,[6] the number of proposals by people in such offices is small, and only a minority of holders of any office during the period played a dominant role in recruitment. Thus Lord Brouncker (F 1), though president and frequently in attendance, proposed fewer candidates during his term of office than did Wilkins, Moray, or Ward, while of the other presidents during the period up to 1685 when proposals are fully recorded, two (Sir Cyril Wyche (F 83), Pepys (F 187)) proposed no candidates at all and the other three (Wren (F 12), Hoskins (F 92), and Williamson (F 101)) proposed only a small minority of the candidates who came forward during their term of office. In Wren's case this amounted to only 12%, although this includes one instance — that of Robert Pitt (F 404) — that almost certainly falls into the category of a 'formal' proposal following conciliar approval: this is suggested by the fact that, though Pitt's proposer is given as Wren, it was subsequently noted that he was 'formerly proposed' by his Oxford colleague, Robert Plot (F 332), implying that the latter was probably his real sponsor.[7]

Among secretaries, Henry Oldenburg (F 33) did not play a major role in recruitment, proposing only fifteen Fellows over a period of eleven years. Moreover, if these are examined, they turn out to be a rather distinctive group, all but three being correspondents of Oldenburg's, eleven of them living abroad: this suggests a view of Oldenburg predominantly as a correspondent and journal editor, who left the running of the Society as a whole to others, recruitment

evidently mainly forming the responsibility of men like Wilkins, Moray, and Ward. Moreover, though these men served as vice-presidents, the fact that other subsequent vice-presidents were not especially active in proposing candidates suggests that their tenure of this office and their role in proposing candidates were not directly connected but are to be seen as separate indications of their personal role in the Society.[8] This special position makes sense of the great loss that the Society felt at the deaths of Wilkins and Moray in 1672–3.[9] Evidently, either they and Ward encouraged their friends and acquaintances to join the Society to a disproportionate extent or (more likely) they acted as a sort of informal vetting agency for would-be candidates.

Moreover, at no time was the influence of any one individual dominant in recruiting or approving candidates to the exclusion of all others. Even in the periods when Hooke and Sloane as secretaries proposed an unusually large number of candidates in a short period, they respectively proposed only 19% and 37% of those elected during the period between the first and the last candidate they put forward; it is perhaps also significant that during this time Hooke proposed one and Sloane two candidates who failed to achieve election (see Appendix 1). Even Wilkins proposed only 24% of all those elected during the longer period when his unique number of proposals occurred. It is therefore impossible to accept the argument that the secretaries dominated recruitment throughout the period,[10] and neither would this be convincing if extended to include other office-holders.

Indeed, one of the individuals who had most impact on the Society through his proposals was never an officer of the Society at all, and this was John Houghton (F 361). In 1681, one year after he had been elected to the Society himself, Houghton proposed seven successful candidates, more than were otherwise proposed by one Fellow in a single year in the whole of the seventeenth century. What is most significant is that these recruits included — among others — no fewer than three merchants, so that Houghton single-handedly effected a dramatic increase in recruitment from this class, otherwise little represented among the Society's Fellows.[11] It may also be noted that a high proportion of Fellows proposed by Houghton — three out of seven — showed no sign of activity once elected, while, in addition to the seven candidates who were elected, Houghton also proposed in the very same year three who were not, including two of fairly low status.[12] It is highly likely that this untraditional intensity of recruitment by a new Fellow, including an untraditionally high percentage of men of low status, was a significant contributory factor to the change in the Society's admission policy in 1682.[13]

Though such initiatives are significant, however, in every period the bulk of candidates were proposed by Fellows who sponsored only a few new members in the whole of their career in the Society. As the index reveals, forty-eight Fellows proposed only one candidate, twelve only two, ten only three, and a further nineteen less than ten, inclusive of candidates who failed to achieve election. This

suggests that the routes by which members came to the Society were in fact quite diffuse. It also implies that the proposers normally brought candidates forward on the basis of personal knowledge, and that this was expected to be the case is suggested by contemporary evidence. Edward Chamberlayne advised readers of his *Angliae notitia: or the present state of England* that 'the Candidate is proposed by some that know him well',[14] while, when the Society expressed concern about arrears of subscriptions in 1666 and 1672, it was those who had proposed the chief culprits for membership who were assigned the responsibility for dunning them.[15]

Hence this information has been included because it clearly says something of significance about friendship and contacts between early Fellows, when not about organizational roles. Of course, it could be wrong to interpret this evidence too narrowly. Thus evidence in the minutes sometimes indicates that the candidate's proposer was not his only close contact within the Society. For instance, Richard Lower (F 234) was introduced to the Society by Boyle (F 2), but was subsequently proposed by Seth Ward.[16] Similarly, Silius Titus (F 273) was proposed by Wilkins although the Society had previously been in touch with him via Moray,[17] while Andrew Clenche (F 366), though proposed by Hooke, had previously been introduced by Edward Tyson (F 353).[18]

Nevertheless, proposals evidently frequently illustrate friendships, which are often otherwise not well documented. Thus Sir John Hoskins (F 92) not only proposed Thomas Neale (F 165) but also acted as a sort of 'contact' between him and the Royal Society,[19] and the same is true of Edmond Halley (F 347) and Joseph Raphson (F 449) or Hans Sloane and Pierre Silvestre (F 541).[20] More predictably, academic colleagues tended to propose one another: Robert Plot (F 332) proposed only Oxford dons, while Hooke proposed his fellow Gresham professors John Mapletoft (F 318) and Roger Meredith (F 375). Moreover, as might perhaps be expected, certain patterns emerge among those who proposed more than one or two candidates. John Houghton's proclivity for merchants has already been noted, while many of Lord Brouncker's proposals, for instance, reflect his contacts at the court and in the Navy Office, where he was a commissioner. Specialists in foreign members include Edward Browne (F 248), in addition to Oldenburg, and readers will undoubtedly be able to draw further conclusions for themselves from the index of proposers that follows.

Index of Proposers

Key: (f) = failed candidate
(j) = joint proposer

Ailesbury, Earl of (F 56)
Allen, Thomas (F 253)
Aston, Francis (F 342)
Aubrey, John (F 127)
Waller, Sir W. (F 352) 1679 (j)
Matthews (F 286) 1671
Musgrave (F 412) 1684
Flatman (F 260) 1668
Dorislaus (F 393) 1681

Ball, William (F 9)	Long (F 94) 1661	Ball, P. (F 135) 1663
	Brooke (F 99) 1662 (j)	Bagenall (F 122) 1664
	Cotton (F 131) 1663	
Bemde, John (F 344)	Shirley (F 532) 1699	
Berkeley, Lord (F 34)	du Moulin (F 246) 1667	
Boyle, Robert (F 2)	Southwell, Sir R. (F 107) 1662	Bister (f) 1673
	Schroter (F 110) 1662	Pacichelli (F 311) 1674
	Pett, P. (112) 1662	Hill, O. (F 329) 1677
	Coxe, T. (F 151) 1663	Sarotti (F 356) 1679
	Dungarvan (F 156) 1664	Mullen (F 408) 1683
	Woodroffe (F 261) 1668	Frémont d'Ablancourt (F 414) 1684
Brereton, Lord (F 32)	Winthrop (F 98) 1662	Curtius (F 231) 1667
	Glanvill (F 175) 1664	
Bridgeman, William (F 357)	Benson (f) 1699	
Brouncker, Viscount (F 1)	Haak (F 93) 1661	Cock (F 204) 1666
	Stanhope (F 103) 1662	Harley, T. (F 228) 1667
	Talbot, Sir J. (F 146) 1663	Hoare, jun. (F 274) 1669
	Ashley (F 148) 1663	Reading (F 287) 1671
	Earl of Peterborough (F 153) 1663	Holles (F 291) 1672
	Creed (F 155) 1663	Moore, sen. (F 313) 1674
	Hervey (F 174) 1664	Milles (F 315) 1675
	Duke of Albemarle (F 182) 1665	
Browne, Edward (F 248)	Whichcote (F 314) 1675	Hammen (f) 1684
	Aston (F 342) 1678	Munchausen (F 413) 1684
	Pighi (F 368) 1680	Stampfer (F 442) 1688
Burnet, Gilbert (F 161)	Grandi (F 451) 1690	
Charleton, Walter (F 68)	Aubrey (F 127) 1663	Godolphin (F 166) 1664
	Vossius (F 164) 1664	
Clarke, Timothy (F 18)	Carteret (F 188) 1665	
Collins, John (F 235)	Gregory, J. (F 264) 1668	
Colwall, Daniel (F 48)	Wyche, Sir P. (F 106) 1662	Turnor (F 398) 1682
	Crisp, Sir N. (F 129) 1663	Paget (F 399) 1682
	Crisp, T. (F 209) 1666	
Coxe, Thomas (F 23)	Rolt (F 176) 1664	
Croone, William (F 20)	Fane (F 117) 1662	Paman (F 354) 1679
	Terne (F 118) 1662	Leeuwenhoek (F 362) 1680
	Downes (F 247) 1667	Waller, R. (F 380) 1681
	Browne, E. (F 248) 1668	

Devonshire, 3rd Earl of (F 28)	Earl of Strafford (F 252) 1668	
Downes, John (F 247)	Arderne (F 265) 1668	
Ent, Sir George (F 31)	Clifton (F 223) 1667	
Ent, George (F 328)	Foster (f) 1678	Moxon (F 348) 1678
Erskine, William (F 79)	Beringhen (F 236) 1667	
Evelyn, John (F 38)	Slanning (F 177) 1664 Reymes (F 233) 1667	Chamberlayne (F 271) 1668
Flamsteed, John (F 327)	Haynes (F 406) 1683 (j)	
Foley, Thomas (F 496)	Harley, R. (f) 1699	
Gale, Thomas (F 331)	Heisig (f) 1681 (j)	Rudbeck (f) 1681
Goddard, Jonathan (F 7)	Banks (F 272) 1668	
Graunt, John (F 105)	King, Sir A. (124) 1662 Portman (F 179) 1664	Coplestone (F 206) 1666 Clerke (F 237) 1667
Grew, Nehemiah (F 289)	Browne, T. (F 538) 1699	
Haak, Theodore (F 93)	Bemde (F 344) 1678 Clüver (F 346) 1678	Hannisius (F 349) 1678 Spanheim (F 350) 1679
Halley, Edmond (F 347)	Haynes (F 406) 1683 (j)	Raphson (F 449) 1689
Harley, Sir Robert (F 81)	Harley, Sir E. (F 144) 1663	
Hayes, Sir James (F 111)	Lake (F 221) 1667	Rich (f) 1670
Henshaw, Nathaniel (F 51)	Paston (F 97) 1661	
Henshaw, Thomas (F 15)	Bridgeman, W. (F 357) 1679	
Hill, Abraham (F 11)	Jenkes (F 312) 1674 King, J. (F 324) 1676	Gwynne (F 388) 1681
Holder, William (F 39)	Martin, S. (f) 1671 Steward, C. (f) 1678	Rogers (F 376) 1681 Krull (F 389) 1681
Hooke, Robert (F 136)	Grew (F 289) 1671 Mapletoft (F 318) 1676 Ent, jun. (F 328) 1677 Lane, J. (F 341) 1678 Mayow (F 343) 1678 Tyson (F 353) 1679 Heusch (F 359) 1680 Firmin (F 360) 1680 Houghton (F 361) 1680	Moore, jun. (F 364) 1680 Clench (F 366) 1680 Meredith (F 375) 1681 Heisig (f) 1681 (j) Woodward (F 468) 1693 Fryer (F 517) 1698 Williams (F 536) 1699 Mencke (F 542) 1699

Horneck, Anthony (F 275)	Langham (F 337) 1678	
Hoskins, Sir John (F 92)	Neale (F 165) 1664	Sylvius (F 434) 1687
	Corbett (F 195) 1665	Fatio de Duillier (F 439) 1688
	Herbert, Lord (F 299) 1673	Hamilton (f) 1689 (j)
	Wyndham (F 330) 1677	Copley (F 452) 1691
	Smith, T. (F 333) 1677	Kirke (F 470) 1693
	Wheeler (f) 1679	Hutton (F 507) 1697
	Pigott (F 358) 1679	Moivre (F 508) 1697
	Vincent (F 410) 1683	Norris (F 524) 1698
	Bailey (F 411) 1683	
Houghton, John (F 361)	Russell (f) 1681	Penn (F 387) 1681
	Chamberlen (F 373) 1681	Lodwick (F 391) 1681
	Salusbury (F 377) 1681	Hewer (f) 1681
	Sambrooke (F 381) 1681	Martin, J. (f) 1681
	Braddon (F 382) 1681	Smith (f) 1691
	Goodwyn (F 383) 1681	
Howard, Charles (F 123)	Wheler (F 336) 1677	
Howard, Henry (F 218)	Rycaut (F 220) 1666	Howard, E. (F 267) 1668
	Gascoigne (F 229) 1667	Preiss (f) 1675
	Colepeper (F 263) 1668	
Hutton, John (F 507)	Seafield (F 523) 1698	Persode (f) 1699
	Stanley, J. (F 525) 1698	
Justel, Henri (F 394)	Villermont (F 423) 1685	
Kincardine, Earl of (F 3)	Bruce, D. (F 134) 1663 (j)	
King, Sir Edmund (F 212)	Dickinson (F 340) 1678	
Lane, Joseph (F 341)	Nelson (F 365) 1680	
Le Hunt, William (F 254)	Hall (F 320) 1676	
Leijonberg, Johan (F 241)	Hjarne (F 280) 1669	Helmfeld (F 283) 1670
Lister, Martin (F 288)	Beaumont, R. (F 416) 1684	Briggs (f) 1684
	Robinson, T. (F 419) 1684	Sloane (F 421) 1685
	Charleton (f) 1684	Reay (F 522) 1698 (j)
Long, Sir James (F 94)	Isham (F 141) 1663	Ford, H. (F 145) 1663
Mapletoft, John (F 318)	Perry (F 345) 1678	
Merrett, Christopher (F 17)	Smith, E. (F 158) 1664	
Molesworth, Robert (F 518)	Haistwell (F 527) 1698	
Montagu, Charles (F 484)	Prior (F 513) 1698	
Moore, Sir Jonas (F 313)	Halley (F 347) 1678	

Moray, Sir Robert (F 4)	Murray (F 85) 1661	Leighton (F 154) 1663
	Le Fevre (F 91) 1661	Earl of Tweedale (F 159) 1664
	De Vic (F 108) 1662	Burnet (F 161) 1664
	Shaen (F 109) 1662	Hevelius (F 163) 1664
	Neile, W. (F 126) 1663	Earl of Manchester (F 198) 1665
	Bruce, D. (F 134) 1663 (j)	Yester (F 207) 1666
	Fraizer (F 142) 1663	Stormont (F 213) 1666
	Beaufort Vabres de Fresars (F 143) 1663	Mercator (F 215) 1666
		Le Fevre, jun. (f) 1666
	Earl of Argyle (F 150) 1663	Leibniz (F 298) 1673
Morgan, Sir Anthony (F 16)	Aglionby (F 240) 1667	Conway (F 249) 1668
	Soame (F 242) 1667	Eustace (F 250) 1668
Moxon, Joseph (F 348)	Wood, J. (F 367) 1680	
Musgrave, William (F 412)	Leigh (F 425) 1685	
Needham, Walter (F 230)	Isham (F 141) 1673	
Neile, Sir Paul (F 5)	Williams, R. (F 160) 1664	Earl of Carlisle (F 201) 1665
	Thynne (F 173) 1664	Berkeley, Sir M. (F 232) 1667
	Stafford (F 183) 1665	Locke (F 269) 1668
Northampton, Earl of (F 26)	Earl of Dorset (F 196) 1665	Hawarde (F 199) 1665
Oldenburg, Henry (F 33)	Auzout (F 208) 1666	Lister (F 288) 1671
	Boulliau (F 224) 1667	Cassini (F 293) 1672
	Petit (F 225) 1667	Vernon (F 294) 1672
	Ubaldini (F 243) 1667	Bernard, E. (F 297) 1673
	Allen (F 253) 1668	Sluse (F 309) 1674
	Malpighi (F 277) 1669	Travagino (F 321) 1676
	Barrington (F 279) 1669	Clutterbuck (F 323) 1676
	de Mere de Souza (F 281) 1669	
Oudart, Nicholas (F 245)	Flower (F 255) 1668	
Paget, Edward (F 399)	Baker (F 417) 1684	
Pepys, Samuel (F 187)	Blackburne (F 395) 1681	Isted (F 526) 1698 (j)
	Reay (F 522) 1698 (j)	
Petty, Sir William (F 8)	Brooke (F 99) 1662 (j)	Churchill (F 178) 1664
	Lane, Sir G. (F 102) 1662	Le Gassick (F 308) 1673
	Hoare, W. (F 119) 1662	Simpson (f) 1675
Plot, Robert (F 332)	Pitt (F 404) 1682 (j)	Gould (F 405) 1683
Povey, Thomas (F 47)	Williamson (F 101) 1662	Colladon (f) 1668
	Pepys (F 187) 1665	

Prior, Matthew (F 513)	Reay (F 522) 1698 (j)	
Reading, Sir Robert (F 287)	Edgcumbe (F 322) 1676	Hamilton (f) 1689 (j)
Shaen, Sir James (F 109)	Annesley (F 125) 1663	
Slare, Frederic (F 370)	Jordis (F 384) 1681	Dolaeus (F 457) 1692
	Mills (F 397) 1682	Franck von Frankenau
	Stanley, W. (F 448) 1689	(F 474) 1693
	Moult (F 450) 1689	Leyoncrona (F 545) 1699
Slingsby, Henry (F 14)	Harley, Sir R. (F 81) 1661	Hotham (F 251) 1668
	Hoare, J. (F 167) 1664	
Sloane, Hans (F 421)	Bernard, C. (F 502) 1696	Buissière (F 540) 1699
	Molesworth (F 518) 1698	Silvestre (F 541) 1699
	Bekker (F 519) 1698	Huntington (f) 1699
	Baglivi (F 520) 1698	Wallace (f) 1699
	Geoffroy (F 521) 1698	Cunningham (F 543) 1699
	Isted (F 526) 1698 (j)	Sperling (F 547) 1700 (j)
	Krieg (F 535) 1699	Cyprianus (F 548) 1700
Southwell, Edward (F 463)	Worth (F 533) 1699	
Southwell, Sir Robert	Alvares da Cunha (F 257) 1668	Douglas (F 467) 1692
(F 107)	Percivale, Sir P. (F 316) 1675	Montagu (F 484) 1695
	Percivale, Sir J. (F 374) 1681	Foley (F 496) 1696
	Trumbull (F 459) 1692	Lowndes (F 497) 1696
	Isaac (F 460) 1692	Spoleti (F 500) 1696
	Heinson (F 461) 1692	Petty, H. (F 501) 1696
	Gregory, D. (F 464) 1692	
Stafford, Viscount (F 183)	Howard, J.S. (F 300) 1673	
Stanley, William (F 448)	Lany (F 462) 1692	
Tuke, Sir Samuel (F 58)	Howard, C. (F 123) 1662	Long (F 130a) 1663
Tyson, Edward (F 353)	Eve (F 385) 1681	Pechlin (F 440) 1688
	Payne (F 386) 1681	Vieussens (F 441) 1688
	Robinson, R. (F 390) 1681	Cowper (F 537) 1699
	Monson (F 415) 1684	
de Vaux, Sir Theodore	Leijonberg (F 241) 1667	Birch (F 305) 1673
(F 197)	Oudart (F 245) 1667	Leti (F 392) 1681
Vincent, Nathaniel (F 410)	Harwood (F 431) 1686	
Waller, Richard (F 380)	Pitfield (F 418) 1684	Jett (f) 1691
	Dewe (f) 1691	
Wallis, John (F 57)	Pound (F 544) 1699 (j)	

Ward, Seth (F 29)	Laney (F 214) 1666	Lawrence (F 301) 1673
	Robartes, Lord (F 216) 1666	Ford (F 302) 1673
	Lower (F 234) 1667	Player (F 303) 1673
	Collins (F 235) 1667	Winn (F 304) 1673
	Steward, Sir N. (F 238) 1667	Robartes, F. (F 306) 1673
	Horneck (F 275) 1669	Strangways (F 307) 1673
	Newton (F 290) 1672	Castell (F 310) 1674
	Tillotson (F 292) 1672	Halifax, Viscount (F 317) 1675
Wetenhall, Edward (F 407)	Willoughby (F 409) 1683	
Whistler, Daniel (F 49)	Lowther, Sir J. (F 157) 1664	Herbert, J. (F 335) 1677
Wilkins, John (F 6)	Pockley (F 86) 1661	Thrustone (F 200) 1665
	Hoskins (F 92) 1661	Harrington (F 205) 1666
	Willughby (F 95) 1661	Parker (F 210) 1666
	Proby (F 100) 1662	Nelthorpe (F 211) 1666
	Hayes (F 111) 1662	King, Sir E. (F 212) 1666
	Winde (F 113) 1662	Smethwick (F 226) 1667
	More (F 114 and 164a) 1662–3	Skippon (F 227) 1667
		Needham, W. (F 230) 1667
	Cudworth (F 116) 1662	Ray (F 239) 1667
	Bysshe (F 122) 1663	Berkeley, Sir C. (F 244) 1667
	Sprat (F 132) 1663	Le Hunt (F 254) 1668
	Lowther, A. (F 133) 1663	Ward, E. (F 256) 1668
	Power (F 141a) 1663	Colwall, J. (F 262) 1668
	Waterhouse (F 147) 1663	Courthope (F 266) 1668
	Carkesse (F 162) 1664	Lucy, Sir K. (F 268) 1668
	Newburgh (F 168) 1664	Finch, D. (F 270) 1668
	Woodford (F 169) 1664	Titus (F 273) 1669
	Atkyns (F 170) 1664	Jeffreys (F 278) 1669
	Blount, T. (F 186) 1665	Williams, Sir J. (F 285) 1671
	Coxe, D. (F 189) 1665	Howard, H. (F 295) 1672
	de Vaux (F 197) 1665	Howard, T. (F 296) 1672
Williamson, Sir Joseph (F 101)	Sheeres (F 319) 1676	Chetwynde (F 339) 1678
	Kerckring (F 338) 1678	Waller, Sir W. (F 352) 1679 (j)
Woodward, John (F 468)	Bowes (F 539) 1699	Garth (f) 1700
	Pound (F 544) 1699 (j)	Sydenham (F 549) 1700
	Sperling (F 547) 1700(j)	

Wren, Sir Christopher (F 12)	Castle (F 276) 1669	Chardin (F 402) 1682
	Wood, R. (F 371) 1681	Pitt (F 404) 1682 (j)
	Justel (F 394) 1681	Gordon, Sir R. (F 427) 1686
	Paris (F 401) 1682	
Wren, Matthew (F 21)	Pearson (F 222) 1667	
Wyche, Sir Peter (F 106)	Harby (F 259) 1668	Colleton (F 334) 1677

Appendix 3

Biographical Information about Fellows

My brief notes are meant to summarize the leading features of each Fellow's career while he was a member of the Society. I have only incidentally mentioned offices held but relinquished before election, and, in the case of Fellows who resigned or were expelled, I have ignored offices held or titles acquired after the termination of their membership. Where a Fellow acquired a new title after joining, I have added this in brackets with the date at which it was conferred.

I have deliberately made much use of 'etc.', since my remarks often necessarily fail to do justice to a full and varied life: those seeking fuller information should turn to the biographical sources cited. Dictates of space have limited the number of such sources which it has been possible to include in the Catalogue entries. I have invariably noted which Fellows receive entries in the *Dictionary of national biography*, Henning's *The House of Commons, 1660–90* and the *Dictionary of scientific biography*, even if the information given is rather cursory. While the DNB forms the obvious starting point for further enquiry in the case of Fellows that it deals with, Henning's well-researched and documented volumes usefully supplement and update the DNB account of figures covered by both;[1] the DSB also provides a up-to-date assessment, while the fact of inclusion there provides an index of twentieth-century views of Fellows' scientific significance. In the case of Fellows who are referred to in any of these three sources, I have been sparing in citing additional references, limiting myself to books or substantial articles or sections of books devoted to the individual in question. For Fellows who do not appear in any of the three main sourcebooks, I have referred to the fullest available source (or sources, if no single one is very full): books are cited merely by name of author and date of publication.

In general, it has been relatively easy to identify Fellows, since a high percentage appear in the standard reference books on the different élites of British society, an index of the general distinction of the membership. Only a handful have proved wholly untraceable, though an element of uncertainty remains concerning a few more; occasionally, alternative identifications exist, notably when Fellows' Christian name is unknown, which makes definite identification almost impossible. In some cases, I have pieced together an identification from scattered hints that cannot easily be briefly summarized in the Catalogue entries. All cases falling into any of these categories will be dealt with here in numerical order.

William Hammond (F 70). *Topographical miscellanies* (1792) under 'Kent' claims that the FRS of this name was educated abroad as a physician; DNB has a poet of this name, of the same Kentish family; while Foster mentions a barrister of this name at Gray's Inn in 1663. A reference in the minutes suggests that the Fellow so named had travelled abroad,[2] while the likelihood that he was a lawyer is increased by a reference in a letter from John Collins to John Wallis of 14 February 1677 to William Hammond, 'a Student of Grays Inn and a great lover of Mathematics' who had translated some of Wallis's works;[3] this could be the same man.

William Schroter (F 110). This certainly cannot be the German diplomat of this name mentioned in *Allg. Deutsch. Biog.*, who died in 1663. For the travels and interests of the Fellow in question, see the discussion in Oldenburg, IX: 168 n. He was called 'Monsieur Schroter' when admitted, but I have not counted him as a foreign Fellow.[4]

Edward Smith (F 158). This is most likely to be the brother of George Smith (F 120), since the minutes of the 'georgical committee' show that both hailed from Gloucestershire.[5] Bulloch's suggestion that this is the Edward Smith who married Olivia, child of Thomas Pepys, Master of the Jewel House to Charles II, is chronologically impossible.[6]

Roger Williams (F 160). This cannot be either the famous colonist (*d.* 1683) or the Welsh cleric mentioned by Venn (*d.* 1703), since it is clear from the Royal Society's accounts that the FRS of this name had died by 1666. Foster has a 'gent.' of this name who matriculated at Merton College, Oxford, in 1653, but no further details have been found.

Francis Smethwick (F 226). This amateur optical instrument-maker and former pupil of the famous mathematician, William Oughtred, was in the Restoration period 'Library-Keeper at Westminster', according to John Aubrey;[7] this is confirmed by a letter of 30 June 1675 from Smethwick to Christiaan Huygens, written from St Peter's, Westminster.[8]

Mr Flower (F 255). It seems likeliest that this Fellow was a mathematical instrument-maker, though Foster has two minor clerics of this name.[9] It is improbable that the FRS was Stephen Flower, agent of the East India Company in Persia, who sent information for Oldenburg, but had to be introduced by Lannoy later in 1668.[10]

Edward Jeffreys (F 278), given as MA in the 1669 and 1670 printed membership lists and as LL.D in that of 1671. Foster has an E. J. of Exeter College, Oxford, who matriculated in 1655 and became an MA of Jesus in 1661, but nothing else seems to be known of him.

John le Gassick (F 308). He was said when elected to be an MD, but he appears in neither Munk nor Innes Smith. He was proposed by Petty, and he evidently died soon after his election.[11]

Mr Wyndham (F 330). Though no Christian name is recorded in the Society's papers, it is almost certain that this was Edmund Wyndham, son of Thomas

Wyndham of Minehead, Somerset, and an undergraduate of The Queen's College, Oxford, about whom the Oxford scholar, John Mill, corresponded with Sir Joseph Williamson (F 101) in 1675–7.[12] It is perhaps significant that this was one of the first elections during Williamson's presidency, though Wyndham's proposer was Sir John Hoskins (F 92).

John Herbert (F 335). A letter survives from the FRS of this name, dated Montpellier, 22 February 1699,[13] which shows him to have been a widely cultured and enthusiastic virtuoso, an impression born out by the occasional references to him in the minutes. The likeliest identification would seem to be with the J. H., son of James H. of London, gentleman, mentioned in Foster as matriculating at Oriel College, Oxford, in 1663, aged sixteen, and becoming a student of the Inner Temple in 1664. A Middlesex JP called John Herbert was involved in trying to retrieve a volume of the Royal Society's journal books in 1703, but comparison of the signature on the warrant involved with that of the FRS of this name does not make it seem likely that this was the same person.[14]

John Bemde (F 344). This Fellow signed his name thus in the charter book and is so described in the printed membership lists, but he was referred to as 'John Vande Bemde' when he was proposed and elected,[15] and he is given as 'Van de Bemde' by Venn. Though some scholars have mistakenly presumed from his un-English name that Bemde was foreign,[16] it should be noted that Bemde is always included among the British Fellows, as against 'Persons of Other Nations', in the membership lists. The position is as follows. The Van den Bempdens were a prominent Amsterdam family, of which a branch had emigrated to London during the previous century, including Jan van den Bempden, born in Brussels in 1515, grandfather of the FRS.[17] John Bemde's father, Abraham Van de Bemde, was a successful London merchant and financier and John followed in his father's footsteps after an education at Gray's Inn and Cambridge (though the fact that one of the schools that Venn mentions that he attended was in Transylvania, together with comments that he made at meetings of the Royal Society, suggest that business frequently took them abroad); his London address was Pall Mall. In 1707, Bemde bought the manor of Hackness, Yorkshire; his daughter married William Johnston, fourth Earl and first Marquis of Annandale, and subsequently Lt Col. John Johnstone, and Bemde insisted in his Will that the name 'Van den Bempde' be taken by the Johnstone family, from whom the present Earls of Derwent (who still own Hackness) are descended. Bemde resigned from the Royal Society in 1711, evidently as a result of the controversies in the Society the previous year.[18]

William Napper (or perhaps Napier) (F 355). Bulloch suggests that the FRS was of the Dorset family of this name, but in the genealogy of the family in J. Hutchins's *History of Dorset* (3rd edn; London, 1869–70), III : 125, the only man of this name of approximately this date would have been seventy-two at the time of his election. A William Napper mentioned in J. Gillow's *Biographical dictionary of English Catholics*, V : 155–6, Catholic chaplain to the Spanish embassy in

London in 1678, was involved in the Popish Plot and unlikely to have become FRS at the date in question.

Henry Eve (F 385). This Fellow is identified in the 1682 accounts as 'Captain' and so is definitely not either of the men of this name mentioned in Venn, but I have not been able to locate him in any reference book of military or naval officers.

Samuel Blackburne (F 395). This was conceivably the 'Mr Blackburne' considered by Oldenburg as a possible curator for the History of Trades to the Royal Society in the early 1670s, though a likelier candidate for that is the doctor, Richard Blackburne, a friend of Hooke's who is frequently referred to in Hooke's diary, who acquired his doctorate only in 1676.[19] An alternative possibility, though his Christian name is not known, is a Mr 'Blackbourn' or 'Blackbon', deputy to the Commissioners for Sick and Wounded, mentioned in entries for 1678 in the journal of the Plymouth surgeon, James Yonge.[20] This seems all the more plausible in view of the fact that the FRS concerned was proposed by Pepys, and he could have been related to the Robert Blackbourne who was secretary to the Admiralty in the Interregnum and an acquaintance of Pepys's.[21]

Edward Haynes (F 406). A. Armitage in his *Edmond Halley* (London, 1966), p. 206, mentions an observation by Haynes at Totteridge, Hertfordshire, and a man of this name was a Commissioner for poll tax in Hertfordshire in 1692.[22] This suggests that the FRS is not the Cranleigh doctor of this name who died in 1708, whose epitaph is given in *London Magazine*, XXIV : 295, though he remains a shadowy figure. In the subscription list to Moses Pitt's *English atlas* (1680), Haynes is referred to as 'of London'.

George Moult (F 450) was an apothecary, whom the council agreed to propose to the Society 'as a person fit to be employed in the making of chemical operations' in 1685, though no more is heard of this ;[23] his personal laboratory is referred to in the minutes on a subsequent occasion.[24] His death was reported under a Bath date-line in the *London Journal* and the *British Journal* of 27 May 1727, when he was described as 'an eminent and rich Chymist of this city'.[25] George and his brother Francis Moult, another apothecary, were involved in a dispute with Nehemiah Grew over the manufacture of Epsom salt in the 1690s.[26]

Thomas Day (F 453), described in the council minutes as 'Mr Day of Bristol'.[27] This cannot be Sir Thomas Day, who died in 1710, Mayor of Bristol in 1688 and 1694–5 and MP for Bristol from 1695 to 1701,[28] since the FRS remains 'Mr' in the membership lists after 1694, when the mayor was knighted. However, in a survey of the inhabitants of Bristol in 1696 a 'Thomas Day, gent.' appears,[29] possibly a relation, and this was perhaps the FRS.[30]

Louis Paule (Paul) (F 456). He is designated a doctor of medicine in the printed membership lists. When approved by the council on 25 November 1691 he was described as 'Dr Pau of Mompellier [sic]', but, although he is included among 'Persons of Other Nations' in the membership lists, the fact that he was placed in the accounts for 1692 suggests that he was already domiciled in England.[31] He is presumably the father of Lewis Paul (d. 1759), an inventor of spinning machinery

who appears in DNB; the DNB entry states that the father, 'one Dr Paul', died when Lewis was very young, leaving him under the guardianship of the third Earl of Shaftesbury and his brother, the Hon. Maurice Ashley Cooper, but I have not been able to find out any more about him.

Jonas or Jonathan Blackwell (F 465). This Fellow signed his name in the charter book as Jonas, but appears in the printed membership lists as Jonathan. The man in question must be the Jonathan B. 'of Austin Fryars, Esq.', said to be worth £200,000, whose death in 1754 is recorded in *The Gentlemen's Magazine*, XXIV (1754): 292, since the death of the FRS of this name is noted in the Society's minutes for that year.[32] The address and wealth suggest that Blackwell was almost certainly a merchant, presumably related to the citizen Blackwells referred to in Woodhead, p. 32. On his links with Richard Waller (F 380) and Ralph Lane (F 466) see above, p. 14. In 1718 his address was given as Broad Street.[33]

John Henley (F 471). He may, like Day (F 453), have been a Bristol figure. A John Henley, Esq. 'Customer of the Port', is referred to in a document of 1724,[34] and this is perhaps the same man as the John Henley, Esq., of the Red Lodge, near Bristol, referred to in Hutchins's *History of Dorset*.[35]

Moise Pujolas (F 486). He was described when proposed as 'tutor to Lord Mount Harmer', in other words, Winwood Montagu, Lord Monthermer, who died in 1700.[36] Pujolas had contributed to the periodical, *Histoire des Ouvrages des Savans*, in 1688.[37] He became a 'denizen' for naturalization on 10 July 1696, when he was described as a 'clerk'; he petitioned unsuccessfully (with Paul Buissière (F 540), another Huguenot who joined the Royal Society) to be added to a naturalization bill that was pending in 1700, and was naturalized in 1706.[38] There are various letters from him to Sloane from 1698 onwards in the Sloane manuscripts, suggesting medical interests on his part: in 1698–9 he was in The Hague and Aix-la-Chapelle, and in 1699 in Bath.[39] In 1728 he became governor of the Hospital for Poor French Protestants in London, a post in which he was replaced by Buissière in 1729.[40]

Mr Chadwick (F 498). The likeliest candidate appears to be James Chadwick, *d.* 1697, son-in-law of Archbishop Tillotson, who had enrolled at Lincoln's Inn in 1693.[41] Since the FRS involved never appeared in the printed membership lists and his Christian name is not known, it is hard to be certain about this.

Balthasar Bekker (F 519). It is possible that this was Balthasar Bekker, 1634–98, the Dutch reforming divine whose controversial book on witchcraft had been translated into English in 1695, on whom see especially J. P. de Bie and J. Loosjes (eds.), *Biographisch Woordenboek van Protestantesche Godgeleerden in Nederland*, I (n.d.), 389–412. However, the printed membership lists give the FRS of this name as 'M.D.', which could be a mistake or could mean that a different person is involved; the fact that the FRS was elected in 1698 and remained in the lists till 1703, although the divine, Bekker, died in 1698, supports the latter hypothesis, but no likely candidate has been found in the appropriate reference books.[42]

R. Shirley (F 532). He signed his name thus in the charter book. Bulloch

suggests that this might be Robert Shirley, later Lord and then Earl Ferrers, but the first Earl Ferrers was already Lord Ferrers when the FRS of this name was elected. None of the Robert Shirleys referred to in the Ferrers entry in GEC seems likely to have been the FRS, but Musgrave, in his *Obituary*, refers to the death on 12 July 1738 of Robert Shirley, brother of the Earl Ferrers,[43] who could have been the Fellow in question. The proposer was John Bemde (F 344), which is consistent with this identification, since Bemde and his father had aristocratic as well as commercial links.[44]

Mr Williams (F 536). It is clear from the reference to this Fellow in the journal book that he was an arithmetician.[45] The only person mentioned by E. G. R. Taylor who would fit the bill is Reeve Williams, who flourished *c.*1682–1703, an engraver and teacher who kept a mathematical school in London.[46]

In a handful of other cases I should note alternative possible identifications that I have dismissed. Though John Alleyn (F 69) has been identified in the Catalogue as a lawyer, Beavan (II: 89) has a London alderman of this name, a painter-stainer, who died in 1663 and who could conceivably have been the FRS. With Sir Francis Fane (F 117), the dramatist of this name seems to me to be a likelier candidate than his father (*d.* 1681), who is identified as FRS in DNB, since the Fellow of this name was expelled in 1682. With Thomas Barrington (F 279), Venn has an alternative, slightly earlier Essex gentleman of this name, who was at Gray's Inn in 1655, and who could have been the FRS. However, Venn's suggestion that the FRS called James Monson (F 415) came from a Hertfordshire family is rendered doubtful by the fact that the FRS is described on the bond for payment of subscriptions that he signed as 'of Burton in the County of Lincoln, Esq.'[47] It is odd, however, that no seventeenth-century James Monson appears in the pedigree of the Monson family of Burton,[48] while the date of the disappearance of the FRS of this name from the printed membership lists tallies with the date of death of the J. M. who appears in Venn.[49]

In other cases, a Fellow can be genealogically or otherwise identified but his status remains somewhat obscure, as with Cornelius Vermuyden (F 64), John Colwall (F 262), James Hoare junior (F 274),[50] and Oliver Hill (F 329), a curious figure whose background would repay further investigation. There are a few other Fellows about whom I know frustratingly little, including John Austen (F 25),[51] Sir William Persall (F 53), Edward Nelthorpe (F 211),[52] Thomas Lake (F 221), William Le Hunt (F 254),[53] Esay Ward (F 256), Sir Philip Matthews (F 286), Benjamin Middleton (F 438), and Martin Bowes (F 539). It would be gratifying in these cases to find extra information like that provided by Sloane's papers about the otherwise shadowy Thomas Isted (F 526), for instance, who married Sloane's step-daughter and whose surviving letters illustrate his virtuoso interests and his other concerns and transactions.[54] Further data like this, if forthcoming, might alter the identifications given in the Catalogue for these (and conceivably other) Fellows. But the number of cases in which uncertainty is involved is tiny in proportion to the body of Fellows as a whole.

Appendix 4
Office-Holders and Council Members

THE fifth column of the Catalogue gives details of all offices held, including membership of the Society's council, from 1660 to 1700. I have refrained from mentioning any offices held after 1700 — even in such classic cases as the later presidency of Newton (F 290) — so as to ensure that the coverage given is wholly uniform. Most offices — those of president, treasurer, and (in general) secretary — were entirely honorary, but (as already noted) Oldenburg was paid a salary as secretary and some piecemeal payments were made to holders of this office in the 1680s.[1] I have also included in this column other paid posts held by Fellows of the Society — the curatorship of experiments of Hooke (F 136) and (more briefly) of Grew (F 289), Tyson (F 353), Papin (F 369), and Slare (F 370), and the clerkship of Halley (F 347) — but I have ignored the more menial holders of minor posts who never became Fellows.

A list of holders of the offices of president, treasurer, and secretary is given at the end of this Appendix; curatorships and Halley's clerkship have not been included. The list is based on that in *The record of the Royal Society*, which is accurate with one exception, the date of election of Alexander Pitfield (F 418) as treasurer, which is there given as 1700. The difficulty arises here because the minutes for the anniversary meeting of 1699 are only imperfectly preserved,[2] but in the account books the accounts for 15 November 1699 to 20 November 1700 are clearly marked 'The Accompts of Alexander Pitfeild [*sic*] Esq.', so it may be presumed that he took office in 1699.[3]

As for council membership, it should be noted that, whereas I have given inclusive dates for the tenure of such offices as president and secretary, I have given only the date of election to the council and not the inclusive dates of membership. Fellows were elected to the council at the meeting on St Andrew's day each year to serve for twelve months: 'Council 1692' in the relevant column in the Catalogue therefore implies 'Council, November 1692 to November 1693'.

Though the significance of office-holding barely needs elucidation here, it is perhaps worth briefly considering what was involved in council membership. In general it is clear that active enthusiasts tended to be elected to the council, and they were often regularly present: this can be evaluated precisely, since a full record of attendance was kept in the council minutes. The fact that a Fellow was elected to the council does not mean, however, that he was necessarily active in the Society. Elections to the council were entirely democratic, those being chosen

who received most votes from the members present at the anniversary meeting each year, and votes could be cast for anyone: Pepys, to his surprise, got three in 1666 although 'but a stranger, nor expected any'.[4] It is clear that some of those elected to the council were not particularly willing — some never attended a single meeting — and conclusions from membership of the council should take into consideration the evidence about activity that follows in the Catalogue.

One interesting fact revealed by comparing council membership with activity is that some active Fellows were never on the council, including Charleton (F 68), Aubrey (F 127), Collins (F 235), Clüver (F 346), Houghton (F 361), Paget (F 399), Doody (F 480), and Petiver (F 481). This must mean that they were not considered suitable for the office by the members voting on St Andrew's day, but the reasons for this are not entirely clear. It may have been felt that members like Charleton, Collins, Paget, and (from 1698) Doody and Petiver, who were exempt from subscriptions, were unfit for membership of a body that had to deal, *inter alia*, with financial questions. But this did not prevent others who were exempt from being elected, such as Pope (F 72), Flamsteed (F 327), Perry (F 345), and Woodward (F 468), and this objection did not apply to Clüver and Houghton, both of whom were regular subscribers at least for some years. In their case it may have been felt that they were unsuitable on more subtle, social grounds, and the same may also have applied in the case of Aubrey, living the life of a scholar-vagrant from the early 1670s onwards.

That this was the case is suggested by the voting figure recorded when Petiver stood for election as auditor of the Society's accounts in 1699: the unusually large number of twelve votes were cast against him, whereas all the other Fellows nominated were elected with hardly a vote against them.[5] It should be noted, incidentally, that membership of such committees appointed to audit the Society's annual accounts has been considered insufficiently significant to merit an entry in the Catalogue under office-holding, though I have taken it into account in assessing activity as reflected in the minutes.

There are a few other offices the tenure of which, for one reason or another, I have not included in the Catalogue. One is the rotating 'presidency' (effectively just chairmanship of meetings) that existed before August 1662: those who held this position were Brouncker (F 1), Robert Boyle (F 2), Moray (F 4), Wilkins (F 6), and perhaps Sir George Ent (F 31).[6] Another is the editorship of *Philosophical Transactions* and (in 1679–82) *Philosophical Collections*. I have omitted this partly because the journal was usually edited by Fellows who held office in the Society in any case, as clerk (as with Halley (F 347)) or as secretary (as with Oldenburg (F 33), Grew (F 289), Hooke (F 136), Aston (F 342), Plot (F 332), Waller (F 380), Musgrave (F 412), and Sloane (F 421)), and partly because the responsibility for specific issues is often far from clear.[7]

I have also ignored the office of vice-president held by various council members, due largely to a certain inconsistency concerning the post on the Society's part, which makes it difficult to summarize its tenure neatly in tabular form. This

office was a further corollary of the Society's formal organization, discussed in Chapter 1, since meetings could only take place under the aegis of the president, or, in his absence, a deputy, and occasions are known when no meeting was held because neither was present.[8] The charter provided for the appointment of such a deputy by the president, and various such appointments are recorded in the minutes, as is the formal swearing-in of those who held the office, though, in contrast to the main offices listed in the Catalogue, this was not something that came up regularly each St Andrew's Day.

The charters of 1663 provided for only a single vice-president, but the charter issued in 1669 in connection with the grant of Chelsea College went into the issue of deputyship in much more detail than hitherto, and gave the President discretion to appoint two or more such proxies.[9] The charter implied that such appointments were to be coterminous with the President's own tenure of office, but in fact the question of how long a Fellow who had been appointed a vice-president retained the office seems to have remained unclear: thus on 2 January 1681, Sir John Hoskins (F 92) was appointed to the office 'for the year ensuing'.[10] By the 1690s the Society seems to have settled into a rhythm of incoming presidents nominating a group of vice-presidents, and this is occasionally paralleled earlier,[11] but it does not seem to have been by any means mandatory: instead, appointments seem to have been made on a piecemeal and irregular basis, while vice-presidents apparently often continued in office from one presidency to another.[12] In addition, people are occasionally mentioned as officiating as vice-presidents although no reference exists to their being elected — presumably due to an oversight in the minutes[13] — while in other cases a long-established Fellow, such as John Evelyn (F 38), was called upon to stand in for the absent president despite the fact that he had never been vice-president and only became one much later:[14] clearly there was no sharp demarcation between vice-presidents and respected, long-standing Fellows more generally.

Hence tenure of this office (which in any case overlapped with active council membership) has not been included in the Catalogue. It may be useful, however, to give some information here on successive vice-presidents. The earliest to whom reference is made is Wilkins (F 6), who is heard of acting in this capacity in 1663.[15] Moray was nominated for the office in 1666, and Seth Ward (F 29) was sworn into the post in Moray's absence in November that year.[16] Under the additional charter granted in 1669, Moray and Jonathan Goddard (F 7) were appointed to the office, Moray's tenure presumably being deemed to have lapsed, though Wilkins and Ward continued to appear in this role thereafter although not reappointed on this occasion.[17]

After the death of all these figures in the early 1670s various appointments were made to replace them, and from the 1670s there was a much more pluralist approach to the office. Sir William Petty (F 8) and Sir Christopher Wren (F 12) were appointed vice-presidents on 12 February 1674; on 18 May 1676 they were joined (or replaced) by John Pell (F 19), John Pearson (F 222), Walter Needham

(F 230), and Sir Jonas Moore (F 313), while Thomas Henshaw (F 15) was sworn vice-president in 1677.[18] In 1681, Hoskins was appointed vice-president on the terms already noted, while in 1682 Philip Packer (F 89) and Robert Wood (F 371) took the office on 10 May and Daniel Colwall (F 48) and Sir Cyril Wyche (F 83) on 13 December, when Wren and Henshaw were also reappointed. Between 1684 and 1687 a further series of appointments and reappointments were made, including Wren, Henshaw, Wyche, Hoskins, Sir Joseph Williamson (F 101), Samuel Pepys (F 187), Martin Lister (F 288), Thomas Gale (F 331), and the Earl of Pembroke (F 422).[19]

In the 1690s, the minutes contain the following references to the appointment of new vice-presidents when a new president came to office: in 1690, Sir Robert Southwell (F 107) as president appointed as vice-presidents Henshaw, Wyche, Hoskins, and Gale;[20] in 1695, when Montagu (F 484) replaced him, Henshaw, Wyche, and Hoskins were continued and Southwell and Pepys added;[21] and in 1698 Somers (F 528) appointed as his deputies Abraham Hill (F 11), Wren, John Evelyn (F 38), Hoskins, Southwell, William Bridgeman (F 357), and Montagu.[22]

It may be added that some were much more active in this office than others and that (as with council membership) tenure of the vice-presidency did not necessarily imply great activity on the part of the individual concerned. To some extent this reflected the degree of activity of the then president: thus Henshaw was disproportionately active in the latter part of Williamson's presidency, as was Hoskins in the late 1690s, whereas others at other times had little to do. In addition, it was explained in 1698 that there was a seniority among vice-presidents, so that if two or more were present at the same meeting the chair was taken by 'the senior of them according to their having severally passed the Chair as Presidents of the Society or were admitted into the Society'.[23] As a result, various 'junior' vice-presidents, starting with Goddard in 1669, appear never to have taken the chair at all.

Principal Officers of the Royal Society, 1660–1700

(*Dates of office are from anniversary meeting to anniversary meeting unless otherwise stated.*)

Presidents	William, Viscount Brouncker (F 1)	15 July 1662–1677
	Sir Joseph Williamson (F 101)	1677–1680
	Sir Christopher Wren (F 12)	1680–1682
	Sir John Hoskins (F 92)	1682–1683
	Sir Cyril Wyche (F 83)	1683–1684
	Samuel Pepys (F 187)	1684–1686
	John Vaughan, 3rd Earl of Carbery (F 63)	1686–1689
	Thomas Herbert, 8th Earl of Pembroke (F 422)	1689–1690
	Sir Robert Southwell (F 107)	1690–1695
	Charles Montagu (F 484)	1695–1698
	John, Lord Somers (F 528)	1698–1700
Treasurers	William Ball (F 9)	1660–1663
	Abraham Hill (F 11)	1663–1665, 1679–1699
	Daniel Colwall (F 48)	1665–1679
	Alexander Pitfield (F 418)	1699–1700
Secretaries	John Wilkins (F 6)	22 April 1663–1668
	Henry Oldenburg (F 33)	22 April 1663–5 Sept. 1677
	Thomas Henshaw (F 15)	1668–1672, 1675–1677
	John Evelyn (F 38)	1672–1673
	Abraham Hill (F 11)	1673–1675
	Robert Hooke (F 136)	1677–1682
	Nehemiah Grew (F 289)	1677–1679
	Thomas Gale (F 331)	1679–1681, 16 Dec. 1685–1693
	Francis Aston (F 342)	1681–9 Dec. 1685
	Robert Plot (F 332)	1682–1684
	William Musgrave (F 412)	1684–1685
	Tancred Robinson (F 419)	30 Nov.–9 Dec. 1685
	Sir John Hoskins (F 92)	16 Dec. 1685–1687
	Richard Waller (F 380)	1687–1700
	Hans Sloane (F 421)	1693–1700

Appendix 5
Activity at Meetings and the Evidence of the Minutes

For the sixth column of the Catalogue, the source is the Society's minutes. Those for the period up to 1687 were published in the eighteenth century by Thomas Birch as *The history of the Royal Society of London.* Birch provides an accurate copy of the minutes recorded in the Society's journal books, inserting the council minutes at the appropriate chronological points from their separate manuscript. Though there are occasional small errors of nomenclature and the like in Birch's printed edition, some of which I have noted piecemeal, none is of great significance. The journal books themselves were copied from 'original minutes', most of which also survive. I have examined these to see whether anything of importance there is omitted in the journal book version printed by Birch, but have found that such omissions and differences as exist are trivial, except for notes of 'arrears' of business kept in the 1660s, which subsequently degenerate into memoranda by Oldenburg, and two meetings wholly omitted in 1674.[1] On the whole, therefore, Birch's text may be taken as reliable, and reference to it has been greatly facilitated by the publication of a complete index of names by G. E. Scala in the *Notes and records of the Royal Society*, XXVIII (1974), 263–329.

After 1687, when Birch's *History* terminates, the minutes are available only in the manuscript journal books and council minutes preserved at the Royal Society (or the microfilm version of these now available). Both the journal books and council minutes have been cited here from the copy versions made in the eighteenth century. As in the period up to 1687, the minutes of a few meetings were never copied into the journal book, but these, too, can sometimes be reclaimed from the surviving original minutes, which the journal books otherwise closely follow; copies of the relevant sections have been inserted in typescript at the appropriate points of the journal books and copy journal books at the Royal Society.[2] In order to facilitate the analysis of these minutes, it was necessary for an index of names to be compiled to supplement that available for Birch's *History*, and this task was carried out at my behest by the late Jennifer Bray. Her manuscript index to the copy journal books and council minutes, 1687–1700, is, in fact, slightly more complex than the published one of Birch, using a system of classification to distinguish contributions to the proceedings from attendance or mere

mentions of the person in question; it has now been deposited at the library of the Royal Society.

Jenny Bray also dealt with a serious problem resulting from the way in which the minutes were compiled, which was evidently by copying out notes taken at meetings on loose sheets of paper. Clearly those responsible sometimes got rather behind with this, the most serious effect of this being that the council minutes for 1696–1700 — including the crucial period of reform in 1698–9 — were copied out in the wrong order, probably at least in part in 1700.[3] Pencil comments in the original and copy manuscripts bear witness to previous attempts to establish an order for these, and Jenny Bray worked out what seems to be a correct sequence: this can be established partly by the internal logic of the matters discussed at successive meetings, partly by reference to events that can be dated from other sources (including the proposal of new members), partly by the coincidence of the dates of meetings of the council and of the whole Society, and partly by the fact that attendance is recorded and can be collated with the differing council membership in different years.[4] A list of these meetings in the correct order is given at the end of this appendix.

The minutes provide a uniquely detailed account of the proceedings at meetings, preserving a lengthy record of even somewhat trivial discussions, and the spoken or written contributions of individual numbers can easily be assessed. What I have done is to go through the contributions of Fellows as recorded in the minutes, giving a general assessment of the offering of each — both his level of activity and any fluctuations in this that seems noteworthy. My findings are admittedly impressionistic, but they can easily be checked by following the lists of references to each Fellow conveniently provided by Scala's and Bray's indexes.

I have used the following categories. 'Very active' implies that for the period specified or throughout his career as FRS the Fellow in question was part of the most active section of the Society, one of those who helped to direct research or who frequently contributed to discussion. Though it would be possible to analyse more precisely just how much each of these contributed to the Society's achievement, this is not feasible here, and I have not even differentiated those who were most active as experimenters from those more inclined to comment on the work of others. Next comes 'active', the label I have used for those who made frequent contributions but not the overwhelming number encountered in the 'very active' group. There follow the 'fairly active', those who are mentioned perhaps a dozen times in the minutes in a decade; then the 'slightly active', with a handful of references scattered over a few years (naturally in these cases I have made allowance for the length of time involved). Lastly, there are the 'barely active', with one or two references (which I have often dated) scattered over several years, and the 'inactive'. In cases where Fellows appear in the minutes not for joining in discussions at meetings but as correspondents, I have indicated this. It should be noted, incidentally, that though, as with office-holding, I have made no reference to activity after 1700, I have examined the minutes from the early years of the

eighteenth century and have allowed my estimates of the activity of men elected at the very end of the period to be influenced to some extent by their subsequent performance.

I have ignored references in the minutes that do not imply activity on the part of the individuals concerned, notably mentions in connection with moves to collect arrears or make expulsions. This also applies to membership of the committees that the Society set up to deal with various aspects of its research in 1664, since all Fellows were put on one committee or another, and membership of them meant very little: some who were put on them were not even in England, such as Huygens (F 139) or Hevelius (F 163), and the council evidently had a penchant for putting peers, politicians, and suchlike Fellows who were otherwise barely active on the mechanical committee, intended 'to consider and improve all mechanical inventions'.[5]

The categories that I have used may seem rather subjective, but it is not clear that it would be wise to categorize the material provided by the minutes more strictly by (for instance) quantifying the number of references to each Fellow: this would give a misleading sense of precision where no such precision exists, except possibly in the case of the most active members. For, though the evidence provided by the minutes is full, it is almost beguilingly so, seeming to be complete when in fact it is clear that it is not. Such sources as Oldenburg's letters and Evelyn's Diary show that transactions took place and comments were made at meetings that were not recorded in the minutes, and it seems likely — hardly surprisingly — that the minutes provide only a partial record of all that took place at any meeting.[6] In the 1690s matters were made worse by a carelessness about the minutes that has meant that no record survives for various meetings, apart from those that were never copied into the journal books, which have already been referred to. The most serious gap is from 20 May to the end of July 1691, when an unknown number of meetings went unminuted; in addition, some meetings were not minuted in the winter of 1697-8, while the only record that survives of the anniversary meeting of 1699 is a list of those elected to the council that was mistakenly copied into the council minutes rather than the journal book when the minutes were retrospectively written up.[7]

Besides, the journal book included only minutes of meetings of the whole Society and the council minutes only for those of the council, although minutes also survive for a few committee meetings, particularly in 1664–5; these record attendance, and they occasionally suggest the activity of members who were little in evidence at ordinary meetings, including John Austen (F 25) and Sir Edward Harley (F 144).[8] It is also clear from sources like Hooke's *Diary* that much important discussion went on before and after meetings in coffee-houses and elsewhere, while, in the case of correspondence, the minutes naturally only mention letters that were read out at meetings, a mere fraction of the Society's total correspondence, much of which survives: thus Sir George Croke (F 325), for instance, entirely 'inactive' as far as the minutes are concerned, had corresponded at length

with Oldenburg before his election,[9] and my classifications may seem unfair to such members. My criteria of activity, however, refer exclusively to activity at the council meetings and ordinary meetings that were crucial to the institutional life of the Society, regardless of the importance of what may have gone on in less formal ways outside them: for the sake of consistency, I have therefore stuck entirely to the evidence of the minutes.

It might be thought possible that the level of minute-taking fluctuated during the forty years covered by this study, which would imply that the chronological variations in Fellows' activity that I have noted might merely reflect changes in the relative conscientiousness of the secretaries at different times. In an attempt to test this, I have roughly analysed the average quantity of minutes devoted to each meeting over the period (allowing for the texts of papers read and other material inserted by Birch), and have found that this remains relatively similar; this suggests that the problem is not a serious one, so far as it is possible to judge. In any case, the Catalogue only comments on chronological changes in Fellows' activity when these seem marked, as a large number do.

If contribution to the Society's proceedings is relatively easy to judge, attendance at meetings presents more difficulties. As already noted, attendance at council meetings was fully recorded in the council minutes, so the assiduity of council members can easily be assessed, and I have conflated the evidence from this source with that of activity at ordinary meetings as recorded in Birch, indicating 'frequent attendance' by council members when there is evidence for this. Attendance at ordinary meetings is more problematic, since, although the total numbers present at ordinary meetings are occasionally known, the minutes give the names of all the ordinary members present at a meeting only once in this period — on 28 March 1666, when thirty-one Fellows attended.[10] Apart from this, our knowledge of attendance is haphazard, depending on whether a Fellow happened to make a remark that was recorded in the minutes, and, in theory, a Fellow who attended every meeting while he was FRS but never said a word at any of them would misleadingly appear in my classification as 'inactive'. Certainly, the comments made by Fellows whom I have classified as 'slightly' or 'barely active' often come quite at random in the course of discussion, suggesting that the Fellow in question was in fact present on other occasions without making any verbal contribution to the proceedings.[11]

There are also occasions when otherwise barely active members are mentioned as observers of the proceedings. The only reference to the Marquis of Halifax (F 317) after his admission, for instance, concerns an experiment that had been shown at an earlier meeting and was repeated for his benefit, he being 'then present'.[12] Likewise, the minutes for the meeting on 1 March 1682 note that Frederic Slare's experiments with phosphorous were especially appreciated by 'the Earl of Aylesbury, the Lord Cavendish, and Mons. Justel, who had not seen the like', and whereas Justel (F 394) is known from other references to have been active at this time, the Earl of Ailesbury (F 56) had otherwise not been mentioned

in the minutes since 1676 nor Cavendish (F 35) since the meeting on 28 March 1666 when attendance was recorded in full.[13] Indeed, it is interesting that of the Fellows listed as present on that occasion, Cavendish is only one of four who would otherwise have seemed almost entirely inactive.[14] It is also instructive that the council members whose attendance at council meetings is fully recorded include several who would otherwise not have seemed very active, notably William Erskine (F 79), John Creed (F 155), and (except for a sudden outburst of contributions to discussion in 1677–9) Sir John Lowther (F 157).

Further evidence on this point is provided by Robert Hooke's notes on attendance at meetings in the latter part of the period, referred to in Chapter 1.[15] If these are collated with the Catalogue, it turns out that Hooke names as present some members who appear from the minutes to have been inactive or barely active, in addition to others who were more predictably classified as slightly or more active.[16] Confirmatory evidence concerns James Brydges, later Lord Chandos (F 476), classified in the Catalogue as only 'slightly active', whose journal shows him dining with the Royal Society some forty-three times between 1697 and 1702 and usually going on to meetings afterwards.[17] It is interesting, however, that at least some of those whom Hooke noted as attending were — like Chandos, Ailesbury, and others — regular or fairly regular in their subscriptions despite their lack of 'activity' recorded in the minutes, and it is possible that regular payment of subscriptions is a clue to frequent inarticulate attendance (see Appendix 6).

All this should, however, be a warning against too strict a reliance on the classifications of minor members' activity based on the references to them in the minutes. The difficulty is, however, absolute rather than relative: it does not affect the evaluation of different levels of activity, since our knowledge of the attendance of active members at ordinary meetings is as dependent as that of the less active on what was set down in the minutes, and the record of their activity is only an approximation to their actual attendance. Thus the *Diary* of John Evelyn allows an independent check to be made on his attendance at meetings other than those at which he was mentioned in the minutes, and if the two sources are collated, it transpires that neither provides a full record: in 1664, for instance, Evelyn noted his attendance at ten meetings, Birch records his presence at nine, and only three of these overlap; in 1668, Evelyn mentions nine, Birch five, and one overlaps; in 1679, eleven meetings appear in the *Diary*, Birch notes Evelyn's presence at nine, and four overlap; while in 1683 the equivalent figures are twelve, six and three.

My conclusion is that, if all these caveats are born in mind, the minutes can be used to gain a valid idea of who did most to sustain the Society's organized activity at successive stages, their reliability shading off as one moves from the core of the membership to the periphery.

Council Meetings, 1696–1702

	Date (revised where necessary)	*Page(s)* *Original*	*Copy council minutes*
1	29 April 1696	91, 93–5	123–4, 127–8 (entry duplicated)
2	25 November 1696	95–6	128–9
3	30 November 1696	96	130
4	24 March 1697	93	126–7
5	30 November 1697	96	130–31
6	19 January 1698	97	131
7	23 March 1698	97	132
8	11 May 1698	97	132
9	6 July 1698	98	133
10	9 November 1698[18]	98	133–4
11	probably between 1 and 21 December 1698	108	151–2
12	21 December 1698	98	134–5
13	28 December 1698	99–100	135–7
14	4 January 1699	100–101	137–9
15	11 January 1699	101–2	139–40
16	18 January 1699	102	140–41
17	25 January 1699	102–3	141–3
18	8 February 1699	104–5	144–6
19	15 February 1699	105	146–7
20	8 March 1699	106–7	147–9
21	15 March 1699	107	149
22	22 March 1699	107–8	150–51
23	24 May 1699	111	156
24	19 July 1699	111	156–7
25	1 November 1699[19]	116	163
26	15 November 1699	112	157–8
	30 November 1699 anniversary meeting election results[20]	112	158–9
27	28 February 1700	109–110	152–5
28	20 March 1700	110	155–6
29	6 November 1700	113–14	159–61
30	20 November 1700	114–15	161–2
31	between 1 December 1701 and 30 November 1702	115	162

Appendix 6

The Account Books and Fellows' Financial Contributions

As has already been mentioned, every Fellow when admitted was liable to pay admission money and thereafter to make weekly contributions; complete details of their payment or non-payment of these dues were kept by successive treasurers in a series of account books, which have survived in full, except that the accounts for 1674 were never entered.[1] There were, however, various exceptions to this general rule. Foreign members were never expected to make contributions,[2] and a number of English members were wholly or partially exempted for different reasons: these are designated 'exempt' in the Catalogue. Among these were such 'Honorary Fellows' as the Duke of York (F 181), Prince Rupert (F 191), Sir John Cutler, Hooke's benefactor (F 171), the various Bishops who joined the Society in 1665, and such eminent statesmen as Lord Robartes (F 216) and the Earls of Albemarle (F 182), Clarendon (F 185), Manchester (F 198), and Lindsey (F 217).[3] Another class of Fellows who were never charged dues were the professors of Gresham College, evidently because of the hospitality extended to the Royal Society by the College at this time.[4] Beyond this, some Fellows were allowed to pay only half the normal subscription,[5] while a number of Fellows were totally exempted by order of the council at different times. These included diplomats,[6] scientific enthusiasts in the provinces,[7] dons at Oxford, Cambridge, and St Andrews,[8] officers of the Society, and some members who were active in contributing experiments and other business.[9] In addition, a number of Fellows were exempted for no very clear reason,[10] while various people were never included in the accounts although there is no note of their formal exemption: many of these were Fellows who joined after perhaps the most elaborate list of exempt members was drawn up in 1682, but who were not mentioned in the last list of exemptions of our period compiled in 1698. These are designated 'never in accounts' (as opposed to 'exempt') in the Catalogue, but there was evidently some change in practice over the years, and too much significance should not be attached to the difference between the two categories. Those in the latter include the Society's curator of experiments, Denis Papin (F 369), various members of the aristocracy,[11] two prominent churchmen,[12] some travellers abroad,[13] two Fellows resident in Oxford,[14] various foreign residents in London,[15] and a few for whom no reason can be given.[16]

From the mid-1680s, and especially in the 1690s, when the royal endowment of 1682 had made the Society less dependent on subscriptions than hitherto, the Society came to take a less stern attitude towards arrears; as a result, the dues of many Fellows who consistently failed to pay ceased to be calculated in the accounts, despite the fact that the Fellows involved were left in the printed membership lists and in some cases were active in the Society. This new attitude forms a striking contrast with the stricter attitude earlier, which culminated in the expulsions of the earlier 1680s. At first, a blank column was left against the name of the Fellow concerned and no arrears calculated, but often in the following (or a later) year his name was omitted altogether.[17] A few Fellows were omitted from the accounts in this way in 1685–7,[18] while this treatment was applied on a large scale between 1693 and 1696, with one further case occurring in 1698.[19] From 1698–9 there is a further change. Up to that time, the accounts for each year included a list of the names of all eligible Fellows in alphabetical order; beside each name, it was noted what they had paid, or, if they had paid nothing, their arrears were calculated (from the early 1690s, a space was left against their name instead). Now, however, only those who paid and the amounts they contributed are entered into the accounts, in the order in which the money was received.

The Society was slightly inconsistent towards those let off in these ways. For example, Sir Robert and Thomas Harley (FF 81, 228) were officially exempted in 1668, but in 1673 the council made inquiries about exactly when they were admitted to the Society so that their arrears could be assessed; similar inquiries were made concerning two Fellows who had not previously been in the accounts although not exempted.[20] Two of those who were half-exempted, Wren (F 12) and Holder (F 39), were later charged at the full rate, the former from 1675 and the latter from 1682, while although Pell (F 19) was excused payments in 1660–63, his 'arrears' were assessed in the accounts until 1678, when he was omitted; Tyson (F 353) was comparably treated in the 1680s and 1690s although 'exempted' in 1682. Similarly, neither Lister (F 288) nor Newton (F 290) appeared in the list of exemptions compiled in 1682 and their mounting arrears were entered into the accounts year by year, but isolated notes elsewhere suggest that they were treated as exempt.[21] One of those 'exempted' in 1698 in fact paid subscriptions at that time, George Moult (F 450),[22] while two Fellows were omitted from the accounts in the 1690s despite the fact that they had up to that point been pretty regular in their payments: Francis Lodwick (F 391) in 1693 and Charles Howard (F 123) in 1696. In this there may have been an element of pure administrative inefficiency, which is also in evidence elsewhere in the accounts. There was thus a tendency for arrears to be mechanically added on quarter after quarter even after the member in question had died or resigned,[23] and even — in the case of Anthony Lowther (F 133), Henry Eve (F 385), and John Turnor (F 398) — after they had been expelled. Moreover, in at least one case there is evidence that arrears were miscalculated. Thus the arrears cited against Sir James Hayes (F 111) in the 1680s suggest that he had paid no subscriptions since 1667, whereas in fact he was regular until

1670: this was due to the fact that an extra £10 was inadvertently added when the figure was carried forward from 1681 to 1682.

More significant than all these complications concerning non-payment is the question of who actually contributed, and on this the evidence of the accounts is more straightforward. The terminology that I have used to characterize the conscientiousness of each Fellow in paying his dues should be fairly self-explanatory, but the precise meaning of the phrases that I have employed is as follows. 'Regular' means that the Fellow in question was normally less than a year in arrears and never more than two (or, in the period after 1685 when there was greater slackness towards arrears, three). 'Fairly regular' implies that the Fellow concerned was mainly regular but occasionally fell behind by as much as five years. 'Irregular but persistent' indicates that the member tended to fall into arrears of more than three years at a time, but ultimately paid several years' dues at once. I should also point out that the date when people ceased to be regular is often marked 'circa', since it obviously took a few years for this to be noticeable. Apart from this, however, subscriptions provide a more sensitive barometer than the minutes of the chronological fluctuations in Fellows' interest in the Society, and this column indicates who, at each stage, provided the crucial financial support on which the Society depended.

Naturally subscription-paying and activity did not entirely overlap. When the evidence from the accounts is collated with that of the minutes, it transpires that if a member was active, the council was inclined to turn a blind eye on his arrears. Among active members who paid no dues at all, or almost none, were Thomas Povey (F 47), Daniel Coxe (F 189), Thomas Allen (F 253), Sir Jonas Moore (F 313), Frederic Slare (F 370), Hans Sloane (F 421), Clopton Havers (F 432), Samuel Doody (F 480), and James Petiver (F 481);[24] in addition, many others fell more or less badly into arrears, especially in the latter part of the period. Since a number of the most active Fellows were exempt from subscriptions altogether, this means that at the best of times only about two-thirds, and at the worst less than a third, of the most active members were among the regular subscribers, a high percentage of whom were less active: thus to a significant extent the Society drew its expert and financial support from differing sections of the membership.

If one looks at more minor members, on the other hand, it seems likely that there is some correlation between those who were regular in their payments and thus provided the Society's financial support, and that anonymous band of Fellows who swelled the Society's numbers at meetings without appearing very often in the minutes. Certainly, the Catalogue shows considerable overlap between slight activity as evidenced in the minutes and fairly regular payment of subscriptions, while in cases where 'good paymasters' appear from the minutes to have been hardly active, the Fellows in question may have been frequent, silent spectators at meetings. Possible examples of this at different times include Gilbert Burnet (F 161), James Carkesse (F 162), Edward Nelthorpe (F 211), John Colwall (F 262), Sir Kingsmill Lucy (F 268), James Hoare junior (F 274), Sir John Williams

(F 285), Thomas Firmin (F 360), Sir Jeremy Sambrooke (F 381), Benjamin von Munchausen (F 413), Joseph Raphson (F 449), John Henley (F 471), Richard Bentley (F 485), the two Orlando Bridgemans (FF 491, 511), Thomas Isted (F 526), Edward Haistwell (F 527), and Thomas Browne (F 538). In such cases the accounts might almost be taken as supplementary evidence concerning attendance.

It would be wrong to pursue this too far, however, since some of these may not have attended much, and others in this class certainly did not. Elias Ashmole was consistently regular in his payments, yet in all the mass of information about Ashmole's life and activities accumulated by C. H. Josten there is hardly any evidence for Ashmole's presence at any meeting of the Society after his admission, as there is hardly any in the minutes, and he was evidently a useful source of financial support though almost entirely inactive.[25] Other regular subscribers at different times included a number of Fellows who are known to have lived in the country and who therefore can hardly have attended very frequently, such as (for longer or shorter periods) the Earl of Devonshire (F 28), Francis Potter (F 130), John Newburgh (F 168), and Malachy Thrustone (F 200), apart from Edmond Castell (F 310) in Cambridge. Obviously the Society valued financial assistance from those who, for one reason or another, were unable to be present.

In any case, without trying to make over-precise correlations, the combined evidence of minutes and accounts at least brings one nearer to evaluating who were the 'useful' rank and file members as against that section of the membership at any one time which was entirely inactive. For if someone appears in the minutes barely or not at all and was also bad at paying subscriptions, the presumption is that they were marginal to the Society. If, on the other hand, they did pay their subscriptions with or without also appearing occasionally in the minutes — with the benefit of the doubt extended to them concerning attendance — they formed a valuable section of the Society, helping to provide the funds without which it could not have survived and possibly also swelling its numbers at meetings. The Catalogue illustrates in detail which Fellows, at different times, formed this group.

Appendix 7

Arrears Lists

THE evidence of the accounts concerning Fellows' payment, or rather non-payment, of subscriptions may be supplemented by a series of lists of Fellows' arrears compiled in 1666, 1673, and 1678, which now survive among the Society's domestic manuscripts. Material overlapping with the 1673 lists is to be found among the Petty Manuscripts, formerly at Bowood House, while a comparable list linked to the reform effort of 1698–9 survives among the Society's minutes for that period.

These arrears lists bear some similarity to the crucial lists of more or less 'useful' Fellows compiled by the council in the 1670s, referred to in Chapter 1, which will be analysed and printed in full in the next appendix. In contrast, though these lists of Fellows' arrears will be exhaustively analysed, their text will not be included here. A complete transcript of them would be quite voluminous, particularly in the case of the lists dating from the 1670s, when the problem of arrears reached its peak, while, in contrast to the lists to be dealt with in the next appendix, which give a positive appraisal of which Fellows were useful to the Society, these are largely negative in import. Moreover, since they simply abstract the accounts for their respective years, giving the amount owed by those Fellows most dilatory in their contributions, the evidence that they provide largely overlaps with the conclusions as to who was bad at paying their subscriptions which has been independently derived from the accounts in the relevant column in the Catalogue; it has therefore seemed inappropriate to give a separate reference to Fellows' appearance or non-appearance in these lists in the Catalogue. However, none of the lists is a straight transcript of the sums owed by the most recalcitrant Fellows in the year in which it was compiled: in each case there has been some selection, partly explicable in terms of ignoring the arrears of active or absent members, and partly not. Here, I have recorded such discrepancies, both because they might be significant and because they illustrate the difficulties of depending on such material rather than on the Catalogue's examination of such evidence as there is to substantiate or challenge them. It should be remembered that all were private documents, intended for the eyes of the council and not for public consumption; they were probably never checked carefully, so that some of the omissions (and perhaps the inclusions) could be entirely accidental. On the other hand, where appropriate, I have speculated on the significance that should be attached to such anomalies, and these findings should be used

in conjunction with those concerning the more significant evaluative lists in Appendix 8.

The 1666 list (DM v: 2) contains thirty-two names and is divided into four parts. The main list of twenty-three names is merely entitled 'Arreares at Michaelmas 1666'; the others comprise a note of the arrears of three Fellows who had died, a short section entitled 'Consider of their arreares', containing Pell (F 19) (see Appendix 6) and two members who lived away from London and were subsequently half-exempt, Barrow (F 115) and Bathurst (F 149), and a list of six names to be considered for expulsion, which I shall discuss in Appendix 10. In general, the list tends to concentrate on those who were both in arrears and inactive, ignoring various Fellows who were (or had been) active or slightly active, and various absent members who had accumulated arrears.[1] But it inexplicably omits a few inactive members with large arrears, including two aristocrats, and it is slightly inconsistent concerning those with less than two years' arrears, including some but omitting many others.[2] One feature that this list shares with some of those from the 1670s is that some of the names on it are accompanied by the names of those Fellows who were expected to dun the person in question: this information will be considered at the end of this Appendix.

The main 1673 list (DM v: 3) contains eighty names, but it is accompanied by a separate list (DM v: 7) itemizing the arrears due from fourteen 'absent Members' which was evidently made in conjunction with it, perhaps at the suggestion of Henry Howard of Norfolk, who proposed 'that the absent in remote places might be considered'; I shall consider this below in connection with the question of 'provincial' Fellows.[3] In addition, three further lists survive which are clearly derived from the main list, DM v: 4, 5, and 6, which itemize respectively the arrears of 'some of the Scotch Nobility and some others', 'Physitians', and 'some of the Nobility'. The main list basically follows the accounts, ignoring some of the large and incorrect sums charged against Fellows who had died or left the Society due to the rather mindless way in which the accounts were compiled;[4] it also omits various active members, some absent ones (other than those on the separate list) and a few that are less easily explained.[5] On the other hand it includes five members whose arrears were seemingly excusably small.[6]

A duplicate of this list survives among Sir William Petty's papers, MS H (8) 9. It is in the same clerkly hand, the only difference between the two being that in Petty's copy, forty-five of the Fellows have been marked with an initial or name, evidently indicating who was expected to dun them. Those who were asked to speak to Fellows in arrears in this way are in some cases identified in full, in others only by capital letters: however, most of those so indicated can be identified from the personnel of the committee for arrears referred to in the minutes.[7]

In addition, Petty MS H (8) 13 is a copy in Oldenburg's hand of this list of Fellows, and of the accompanying list of 'Absent Members' in DM v: 7. The two parts of the document are respectively endorsed 'A List of the Fellows of the

R. Society, to whom the Commissioners are desired to apply themselves for their Arrears' and 'A List of the Fellows of the R. Society to be written to by the said Commissioners'. These lists are identical with those in DM v, except that the main list has only seventy-nine instead of eighty names, due to the accidental omission of Esay Ward (F 256). It is perhaps of interest to note that this document must therefore be the source of the figure of seventy-nine given in the minutes.[8]

The Petty manuscripts contain a further list of forty names in Oldenburg's hand endorsed 'A List of the Fellows of the R. Society, to whom the Commissioners are desired to apply themselves for Arrears', H (8) 11. There is no equivalent of this list in the Royal Society's archives, but it is obviously derived from DM v: 3, and Petty's copy of this in H (8) 9, and I have attempted to understand its mode of selection by collating it with them. It seems to omit a number of people who fit into the following categories: four Fellows who fail to appear here died in 1673–4, while all but one of those in the arrears list whose arrears seem excusably small are omitted;[9] also omitted are various aristocrats and courtiers obviously uninterested in the Society's work, often with huge arrears, while so are other Fellows who, though considerably in debt to the Society, were evidently deemed to be interested in the Society's work or likely to pay what they owed;[10] finally, a handful of Fellows may not have been included in this shorter list because they were absent from London.[11] Others who fall into all but the first of these categories are included in the list, however,[12] and, as with the lists already dealt with, clearly criteria of selection were being applied which are retrospectively elusive.

Returning to the Royal Society archive, the 1678 list (DM v: 16 and 18), which is in the hand of the then Secretary, Robert Hooke, has eighty-one names. It is similar to the main 1673 list, except that here absent members are silently ignored.[13] As before, the arrears of various active or slightly active members are omitted and a few Fellows appear whose arrears seem excusably small.[14] Again, some omissions from the list are surprising, though some of those omitted in 1673 are now included, while some relatively large debts were evidently ignored because it seemed unlikely that they would ever be forthcoming.[15]

After the 1670s, no further arrears lists were made except during the more muted reform effort of 1698–9. In November 1699, a list was compiled of Fellows in arrears who 'were ordered to be spoken to & if they do not pay their names were ordered to be struck out of the next list', their answers being recorded in the minutes of the subsequent meeting.[16] How the men in question were chosen is unclear: they represented a minority of those who were irregular in paying, and, apart from some inactive and non-paying members, included one who had formerly been exempt and two who had recently been fairly regular. The fact that a substantial percentage responded to the approach, either by paying or becoming active, suggests that the list had been quite carefully devised.[17]

Lastly, this seems the best place to summarize the evidence provided by the

inclusion in certain of the earlier lists of the names of Fellows who were requested to approach those in arrears. Such notes may help to provide evidence of networks of acquaintance and influence within the Society, not dissimilar to that available from the names of proposers in Appendix 2, since activists in the Society may be presumed to have been asked to dun Fellows whom they knew. In fact, the evidence provided by the earliest of these lists, that for 1666, overlaps with that laid out in Appendix 2, since, as noted there, it was the proposers of those in arrears who were made responsible for dunning them, and the bulk of the names so given are of the proposers of the candidates in question; beyond this, Boyle (F 2) was to speak to his nephew, Richard Jones, the future Viscount Ranelagh (F 84), while Seth Ward (F 29) was to speak to the Marquis of Dorchester (F 55), perhaps a reflection of his general role in putting forward new members.[18]

Moving to the lists dating from 1673, the Society seems initially (in November 1672) to have had the same idea of using proposers, since it was ordered that those in arrears 'should be sollicited to pay by those, who had proposed them for candidates'.[19] In fact, however, those named as responsible for soliciting payment in the 1673 lists were in most cases not the candidates' proposers. First, there are the lists of nobility and doctors derived from the main 1673 arrears list which have already been referred to; these are accompanied by notes to the effect that the first group — of Scottish and other nobles — was to be spoken to by Sir Robert Southwell (F 107) and the third — of other nobles — by Henry Howard (F 218), while a space has been left for the person who was to dun the doctors.[20]

More forthcoming are the endorsements to the arrears list in Petty MS H (8) 9, the existence of which have already been noted. The two letters which appear most often are 'S' and 'L', which must stand respectively for the names of two of Petty's colleagues on the committee, Viscount Stafford (F 183) and Sir John Lowther (F 157); both were allocated a selection of aristocrats and government figures.[21] 'P', evidently Petty, was given responsibility for such contacts as John Graunt (F 105) and Anglo-Irish figures like Sir Henry Ford (F 145).[22] 'G', perhaps Jonathan Goddard, was to approach his fellow-physician, Thomas Allen (F 253), while 'C', probably Daniel Colwall (F 48), was allocated his fellow merchant Sir Thomas Crisp (F 209), whom he had proposed. Oldenburg (identified as 'S.R.S.') was allocated five defaulters, one of them, the Marquis of Dorcester (F 55), in conjunction with Seth Ward (F 29) (indicated as 'B[ishop of] Sar[um]), while another figure, indicated as 'H', who has not been identified, was allocated three.[23] The rest of those who were to dun colleagues are named in full. Boyle (F 2) was to approach his relatives Lord Clifford (F 156) and Viscount Ranelagh (F 84) and the poet, Edmund Waller (F 43), while Hooke was allocated Sir Willaim Portman (F 179), son-in-law of his patron Sir John Cutler, and James du Moulin (F 246). In addition, the Earl of Kincardine (F 3) was allocated to William Erskine (F 79), Anthony Horneck (F 275) to Theodore Haak (F 93), the Earl of Peterborough (F 153) to Thomas Coxe (F 23 or 151), and Viscount Yarmouth to Henry Howard (F 218).

Comparable clues are available from the 1678 arrears list in the Royal Society's archives, which in a number of cases is marked with the names of those who 'undertook to write to' those in arrears or otherwise contact them. Various active members of the council were given responsibility for contacting two or more Fellows in arrears — Hill (F 11), Wren (F 12), Hooke (F 136), and Thomas Allen (F 253).[24] Beyond this, a miscellaneous range of contacts were exploited: Boyle (F 2) was again put onto his relative Lord Clifford (F 156); William Croone (F 20) was asked to approach John Newburgh (F 168), with whom he had corresponded in the 1660s;[25] Seth Ward (F 29) was to contact his fellow cleric Ralph Bathurst (F 149); John Evelyn (F 38) was requested 'to get ten Guinnys in Full' from his fellow courtier Thomas Povey (F 47) (he failed); Hoskins (F 92) was given responsibility for Sir Richard Corbett (F 195), whom he had proposed; Sir Joseph Williamson (F 101) was evidently to exploit his Oxford contacts in approaching Henry Clerke (F 237); while George Smith (F 120) was to deal with his Gloucestershire neighbour, Lord Dursley (F 244). Other juxtapositions suggest less predictable links, for instance between William Holder (F 39) and Sir Nicholas Steward (F 238), or Daniel Whistler (F 49) and Anthony Lowther (F 133).[26] A study based on such sources cannot be begun here, but it might help to shed light on some of the intricacies of the Society's internal structure alluded to in the Introduction.

Appendix 8

The Society's Evaluative Lists of Fellows

COMPLEMENTARY to these papers about arrears are the various lists drawn up by the council in the 1670s, illustrating their view as to which members were more or less useful, together with a comparable list drawn up during the reform effort of 1699. The importance of these lists was indicated in Chapter 1, where it was pointed out how it was in effect they that inspired the analytical Catalogue at the heart of this study. For this reason, it has been decided to annex a transcript of the lists here. They vividly illustrate whom the Society's organizers perceived as its real supporters at a crucial point in its history, providing valuable evidence to supplement and often confirm the conclusions drawn from the sources already outlined. On the other hand, sometimes the lists include Fellows whom one would not have expected to be in them, while alterations to the texts of the lists, together with discrepancies between them, indicate priorities and uncertainties, particularly about the penumbra surrounding the Society's active core. Such complexities are revealing even if it is not always easy to estimate the significance of discrepancies in the evidence so provided, since when an evaluative list makes a member seem marginally more desirable than one would otherwise have expected, it is impossible to know whether this was because he attended more regularly than one would have guessed from other sources or because he had powerful friends on the council. Conclusions based on this class of evidence should make allowance for this.

First, it is worth referring to a list that appeared in the council minutes in connection with the attempted reform of the Society in 1674, of thirteen Fellows to whom application was made for an experimental discourse.[1] I have not entered this into the Catalogue since it refers to too restricted a portion of the membership, although its content is not without interest. It mainly consists of such active Fellows as Wren (F 12), Croone (F 20), Evelyn (F 38), King (F 212), Walter Needham (F 230), and Collins (F 235); there are also some fairly active ones like Holder (F 39), George Smith (F 120), and Edward Browne (F 248), and one, Pope (F 72), who had been active in the 1660s but barely since. Slightly unexpected is the inclusion of Wylde (F 44) and Vossius (F 164), otherwise not very active, and Edward Bernard (F 297), recently elected and entirely inactive until the 1690s.

This brings us to the main group of evaluative lists, to which a column has been devoted in the Catalogue and which are printed below, since the information that they provide is both highly significant and equally applicable to the

entire membership. One of these (hereinafter called List 1) was entered into the council minutes of 22 October 1673, compiled after the council had 'consulted the treasurer's book concerning the persons, that may be looked upon as good paymasters'.[2] It contains fifty-nine names, and is almost identical with a manuscript list in a volume of Royal Society papers now in the British Library, except that the latter lacks two names that the former contains, while two names that appear in both were erased in the council minutes and therefore do not appear in the version printed by Birch.[3] The British Library list is merely entitled 'Persons selected', but with it is a second list of thirty-two names that was not included in the council minutes (hereinafter List 2), entitled 'Others to make up the number of 70 or more': it was perhaps compiled at the behest of William, Viscount Brouncker, who suggested at the meeting 'that it was necessary to secure first of all the anniversary elections, at which there must be present thirty-one fellows; and therefore such a number of fellows must be fixed, as might be likely to afford such a number of electors' — an interesting illustration of the importance of attendance by ordinary members in constitutional terms.[4] Together, these lists evidently comprise the council's view of which members would be retained if all but the most useful were to be discarded.

If so, their basis is not entirely comprehensible. The list of fifty-nine names certainly contains almost all the most regular subscribers in 1673, though it omits a few.[5] It also, however, includes two active members who were somewhat irregular in paying,[6] and three who were neither regular in paying nor active.[7] The supplementary list of thirty-two names comprises three absent Fellows who were hardly, if at all, behind in their subscriptions but were not in the first list,[8] a few Fellows who were exempted from dues,[9] two who were active but heavily in arrears,[10] and various others who were behind with their subscriptions by between three and ten years, three of them Fellows who had once been active but had since fallen away,[11] and others who were abroad or in the country (though not including all those listed as absent in the separate arrears list of 1673).[12] Also included was Thomas Willis (F 90), doubtless because the Society hoped that he would have more to do with them than he had hitherto, and five for whose inclusion no good reason can be adduced.[13] Not mentioned in either list, however, were a number of Fellows who were behind with their subscriptions by between two and five years: if the Society was really prepared to jettison these, it was taking a very extreme view.[14]

A third list (List 3) that is evidently closely related to these two survives as Royal Society DM v.39. It contains eighty-four names, most of them those in the two lists just described (fifty from the first and twenty-four from the second). But it omits a few from each and includes ten that appear in neither, four of them members owing between two and five years' dues, one regular subscriber, one absent Fellow, one Honorary Member, two recently elected, and one whose inclusion is impossible to explain.[15]

To some extent this list overlaps, in its departure from the first two, with

another pair of lists which survive in the volume of Royal Society papers in the British Library, evidently of slightly later date than the others.[16] This double list is entitled 'List of members that are likely to promote the dessein of the Royal Society', and its two parts are entitled 'Members that will probably both pay and give yearly one entertainment to the Society' (i.e. the experimental discourses already referred to) and 'Such as will pay and procure an entertainment to be made by others'. The first half (called here List 4) contains thirty names, the second (List 5) forty-one. The first (fourth) has many of those in the first of the earlier pair, but it includes a few who there appeared in the second and three who were formerly in neither (one of whom had appeared in the third).[17] The second (fifth) list has more of those from the first of the earlier pair, some from the second, and several who had previously appeared in neither, some of them marginally active but others who had never been active and whose presence is inexplicable.[18] Thirteen of those in the first of the earlier pair of lists are in neither here.[19]

Some of these discrepancies can be explained in terms of the different intentions of the lists: a few active figures in the fourth list paid badly and thus did not appear in the first, while some of the regular payers in this might have been thought incapable of giving an experimental discourse themselves and so were relegated to the fifth in the second pair, of those merely expected to pay for them. Yet there is inconsistency even in this, since one of these was Edmund Wylde (F 44), who was in the short list made in 1674 of those to be positively asked for such a discourse. The difficulties evidently encountered in deciding exactly who to put in which list are illustrated by the fact that three Fellows — Smethwick (F 226), Newton (F 290), and Edward Bernard (F 297) — were originally inserted in list 5 but their names were then erased there and inserted in List 4,[20] and the general discrepancies between the different lists show their idiosyncrasy and the need for caution in interpreting them.

In the Catalogue I have noted which lists people appear in, since this illustrates the council's view of their role in the Society, and could provide supplementary evidence about support, particularly by barely active members. As has already been pointed out, the criteria involved are often retrospectively obscure, and this evidence should be used with care. But its value is shown by the fact that hardly anyone who was active and/or regular in subscribing failed to appear in one or more list,[21] while the substantial number who appear in three provides an idea of what contemporaries saw as the 'core' of the Society, bearing a recognizable relationship to the more exact picture based on documentary sources offered here.

The 1699 list

The reform effort of 1699 produced a further list comparable to those of the 1670s: the council minutes for 8 March 1699 itemize thirty-eight Fellows whom it was decided to request to provide the Society with an experimental discourse, as noted in Chapter 3. Since this list is comparable to List 4 of the 1670s group,

it has been printed here and its data inserted in the Catalogue (1699 list). On the whole its content is fairly predictable, comprising a mixture of Fellows actually active in the Society,[22] some formerly active members whose activity had lapsed,[23] and a couple of people who had never been more than barely active, but, it was perhaps thought, ought to have been.[24] Most active or fairly active Fellows of the period appear in the list, the main exceptions being either men who were temporarily abroad or those presumably thought incapable of giving papers, though one or perhaps two omissions are surprising.[25] Some fifteen of those approached agreed to oblige.[26] As earlier, the list of those approached is a less reliable guide to actual activity than the Catalogue, though a collation of the two is not without interest.

The Text of the Evaluative Lists

Lists 1 and 2 follow a basically alphabetical ordering of the Fellows, evidently taken from the printed membership lists. In List 3, however, the Fellows selected have been placed in groups which clearly reflect rank — knights, followed by gentlemen, followed by doctors — thus providing further evidence of the instinctive concern for status on the part of the Royal Society in this period.[27] Lists 4 and 5 and the 1699 list are arranged neither alphabetically nor by rank, and it is possible that their ordering reveals something about the relative perceived significance of the Fellows whose names appear in them. In the transcript that follows, the names have been left spelt as in the original, but contractions have been expanded and cross-references to the catalogue have been inserted in the form '(F 1)'.

Lists 1 and 2: British Library Add. MS 4441, fol. 86^{r-v}

This paper, in the hand of Oldenburg, was formerly folded to produce two tall, thin pages. It will be noted that nos. 21 and 23 are repeated in list 1, while nos. 38 and 50 are added between the lines and the next two numbers altered, as if the accidental omission of the entry in question was noted two lines further on. In List 2, names that are here bracketed were added in a second column beside those that precede them in the list.

[*List 1*]
Persons selected

1 President, Lord Brouncker (F 1)
2 Earl of Alisbury (F 56)
3 Earl of Anglesey (F 258)
4 Mr Aerskins (F 79)
5 Dr Ardern (F 265)
6 Mr Ashmole (F 37)
7 Lord Berkley (F 34)
8 Lord Brereton (F 32)
9 Mr Boyle (F 2)
10 Sir John Banks (F 272)
11 Mr Barrington (F 279)
12 Mr Brook (F 99)

13 Dr Brown (F 248)
14 Lord Bishop of Chester (F 222)
15 Mr Colwall (F 48)
16 Dr Chamberlain (F 271)
17 Dr Cotton (F 131)
18 Dr Croon (F 20)
19 Mr Creed (F 155)
20 Earl of Devonshire (F 35)
21 Mr Evelyn (F 38)
21[*bis*] Dr Glisson (F 59)
22 Dr Goddard (F 7)
23 Mr Haak (F 93)
replaced by Earl of Norwich (F 218)
replaced by Mr Hook (F 136)
23[*bis*] Mr Haak (F 93)
24 Mr Hill (F 11)
25 Dr Holder (F 39)
26 Mr Hoskins (F 92)
27 Lord Howard of Castle-rising (F 295)
28 Charles Howard Esq.[28] (F 123)
29 Edward Howard Esq. (F 267)
30 Thomas Howard Esq. (F 296)
31 Mr Henshaw (F 15)
32 Mr Le Hunt (F 254)
33 Dr King (F 212)
34 Mr Lock (F 269)
35 Sir John Lowther (F 157)
36 Mr Lyster (F 288)
37 E[arl] of Norwich Earl Marshall (F 218)
38 Sir Paul Neile (F 5)
39 Dr Jasper Needham (F 82)
40 Dr Walter Needham (F 230)
41 Mr Oldenburg (F 33)
42 Mr Packer (F 89)
43 Mr Pepys (F 187)
44 Sir William Petty (F 8)
45 Lord Viscount Stafford (F 183)
46 Lord Bishop of Sarum (F 29)
47 Dr Smith (F 120)
48 Sir Robert Southwell (F 107)
49 Dr Tillotson (F 292)
50 Sir Th. de Vaux (F 197)
51 Dr Wallis (F 57)
52 Dr Ward (F 256)
53 Sir John Williams (F 285)
54 Sir Joseph Williamson (F 101)
55 Dr Christopher Wren (F 12)
56 Sir Cyrill Wyche (F 83)
57 Mr Wylde (F 44)

[*List 2*]
Others to make up the number of 70 or more

Dr Barrow (F 115)
Dr Bathurst (F 149)
Dr Beal (F 128)
[Mr Ball] (F 135)
Sir Charles Berkley (F 244)
Dr Henry Clerk (F 237)
Mr Collins (F 235)
Dr Daniel Cox (F 189)
[Sir George Ent] (F 31)
Sir John Cutler (F 171)
Mr Glanvil (F 175)
Dr Grew (F 289)
[Sir John Finch] (F 65)
Mr Thomas Neile (F 165)
Mr Newburg (F 168)
[Sir James Long] (F 94)
Mr Newton (F 290)
Dr Pell (F 19)
Dr Pope (F 72)
Mr Rycaut (F 220)
Sir James Shaen (F 109)
Mr Skippon (F 227)
Mr Slingsby (F 14)
Mr Smethwick (F 226)
Dr Sprat (F 132)
Sir Niclas Steward (F 238)
Sir Gilbert Talbot (F 71)
Sir John Talbot (F 146)

Dr Thruston (F 200)
Dr Whistler (F 49)
Dr Willis (F 90)
Mr Wray (F 239)

List 3: Royal Society Domestic Manuscripts v: *39*

Untitled; in the hand of Oldenburg. Entries 4, 10, 24, 33, 35, 54, 60 were added between the lines but before the list was numbered. Southwell, Packer, and Bernard were added in the margin beside the entry that precedes them in the transcript, and are not numbered. Between nos. 64 and 65, 'Dr Thomas Coxe' has been written between the lines, but then deleted again.

1 The President (F 1)
2 Lord Chancellour (F 148)
3 Earl Marshall (F 218)
4 Earl of Devonshire (F 28)
5 Earl of Carlile (F 201)
6 Earl of Alisbury (F 56)
7 Lord Viscount Stafford (F 183)
8 Lord Bishop of Salisbury (F 29)
9 Lord Berkley (F 34)
10 Lord Herbert (F 299)
11 Lord Howard of Castelrising (F 295)
12 Lord Brereton (F 32)
13 Mr Charles Howard (F 123)
14 Mr Edward Howard (F 267)
15 Mr Thomas Howard (F 296)
16 Mr Robert Boyle (F 2)
17 Mr Aerskin (F 79)
18 Sir Gilbert Talbot (F 71)
19 Sir John Talbot (F 146)
20 Sir Paul Neile (F 5)
21 Sir John Lowther (F 157)
22 Sir John Finch (F 65)
23 Sir Niclas Steward (F 238)
24 Sir John Cutler (F 171)
25 Sir Cyril Wyche (F 83)
26 Sir Joseph Williamson (F 101)
Sir Robert Southwell (F 107)
27 Sir John Banks (F 272)
28 Sir William Petty (F 8)
29 Sir John Williams (F 285)
30 Sir James Hayes (F 111)
31 Sir James Shaen (F 109)
32 Mr Surveyor Wren (F 12)
33 Mr Balle (F 9)
34 Mr Henshaw (F 15)
35 Mr Pepys (F 187)
36 Mr Evelyn (F 38)
37 Mr Colwall (F 48)
38 Mr Ashmole (F 37)
39 Mr Brook (F 99)
40 Mr Hill (F 11)
41 Mr Hoskins (F 92)
42 Mr Wylde (F 44)
43 Mr Skippon (F 227)
44 Mr Newburg (F 168)
45 Mr John Colwall (F 262)
46 Dean Tillotson (F 292)
47 Archdeacon Cotton (F 131)
48 Dr Wallis (F 57)
49 Dr Pell (F 19)
50 Dr Holder (F 39)
51 Dr Bathurst (F 149)
52 Dr Barrow (F 115)
53 Dr Beal (F 128)
54 Dr Sprat (F 132)
55 Dr Ardern (F 265)
56 Mr Glanvill (F 175)
57 Dr Glisson (F 59)
58 Dr Goddard (F 7)
59 Dr Willis (F 90)
60 Dr Thomas Coxe (F 23)
61 Dr Walter Needham (F 230)
62 Dr Jasper Needham (F 82)
63 Dr Thruston (F 200)

64 Dr Pope (F 72)
65 Dr Daniel Coxe (F 189)
66 Dr Brown (F 248)
67 Dr Grew (F 289)
68 Dr King (F 212)
69 Mr Newton (F 290)
Mr Packer (F 89)
70 Mr Lister (F 288)
Mr Bernard (F 297)
71 Mr le Hunt (F 254)
72 Mr Horneck (F 275)
73 Mr Wray (F 239)
74 Mr Smethwick (F 226)
75 Mr Vernon (F 294)
76 Mr Hook (F 136)
77 Mr Gregory (F 264)
78 Mr Creed (F 155)
79 Mr Haak (F 93)
80 Mr Collins (F 235)
81 Oldenburg (F 33)

Lists 4 and 5: British Library Add. MS 4441, fol. 28r

In the hand of Oldenburg. The list is arranged in columns; the main title runs across the whole page, but beneath it the document is divided into two parts, each of which has a subtitle. The second column is then further subdivided at the top, with a second numbered column comprising nos. 34–9 and a further column comprising the names of five aristocrats added between this and the first column. These aristocrats have no numbers assigned to them, while nos. 35 and 38 are also missing from the sequence in the second list. In the first list, members exempt from normal subscriptions are endorsed 'no pay'.

Liste of Members that are likely to promote the dessein of the R[oyal] S[ociety]

[*List 4*]
Members that will probably both pay and give yearly
one entertainment to the Society

1 Lord Brouncker (F 1)
2 Bishop of Salisbury (F 29)
3 Mr Boyle (F 2)
4 Sir William Petty (F 8)
5 Sir Christopher Wren (F 12)
6 Dr Goddard (F 7)
7 Dr Walter Needham (F 230)
8 Mr Evelyn (F 38)
9 Dr Daniel Coxe (F 189)
10 Mr Hoskins (F 92)
11 Dr Wallis (F 57)
12 Dr King (F 212)
13 Mr Hill (F 11)
14 Dr Brown (F 248)
15 Dr Smith (F 120)
16 Dr Croon (F 20)
17 Dr Grew no pay (F 289)
18 Dr Pell no pay (F 19)
19 Mr Mercator no pay (F 215)
20 Mr Henshaw (F 15)
21 Dr Holder (F 39)
22 Mr Hook no pay (F 136)
23 Mr Lister (F 288)
24 Mr Wray (F 239)
25 Dr Pope (F 72)
26 Mr Collins no pay (F 235)
27 Mr Newton no pay (F 290)
28 Mr Bernhard (F 297)
29 Mr Smethwick no pay (F 226)
30 Dr du Moulin (F 246)

[*List 5*]

Such, as will pay, and procure an entertainment to be made by others

1 Lord Brereton (F 32)
2 Bishop of Chester (F 222)
3 Lord Herbert (F 299)
4 Lord Alisbury (F 56)
5 Sir John Lowther (F 157)
6 Sir John Cutler (F 171)

[Inserted in a parallel column, adjacent to the first six names; unnumbered:]

Earl Marshal (F 218)
Lord Stafford (F 183)
Earl of Anglesey (F 258)
Lord Fitzharding (F 232)
Lord Castelrising (F 295)

7 Sir John Banks (F 272)
8 Mr Barrington (F 279)
9 Mr Ashmole (F 37)
10 Mr Pepys (F 187)
11 Mr Lock (F 269)
12 Mr Daniel Colwall (F 48)
13 Mr John Colwall (F 262)
14 Mr Creed (F 155)
15 Mr Crispe (F 209)
16 Sir James Hayes (F 111)
17 Sir Cyril Wyche (F 83)
18 Sir Peter Wyche (F 106)
19 Mr Wilde (F 44)
20 Mr Neile (F 165)
21 Mr Newburg (F 168)
23 Mr Oudart (F 245)
24 Sir Joseph Williamson (F 101)
25 Sir William Portman (F 179)
26 Sir James Shaen (F 109)
27 Sir Robert Southwell (F 107)
28 Sir Niclas Steward (F 238)
29 Dr Tillotson (F 292)
30 Dr Ward (F 256)
31 Mr Brook (F 99) [replacing Newton and 'Smeth', deleted]
32 Mr Le Hunt (F 254) [replacing Bernhard, deleted]
33 Mr Haak (F 93)
34 Mr Charles Howard (F 123)
36 Mr Howard Stafford (F 300)
37 Dr Chamblin (F 271)
39 Mr Thomas Howard (F 296)

1699 List of Fellows to be Requested to Make a Presentation: Royal Society Original Council Minutes, II*: 106–7*

Dr Hooke (F 136)
Dr Tyson (F 353)
Dr Woodward (F 468)
Dr Sloan (F 421)
Sir Christopher Wren (F 12)
Mr Charles Bernard (F 502)
Mr Evelyn (F 38)
Dr Bentley (F 485)
Dr Lister (F 288)
Mr Newtoun (F 290)
Mr Flamsted (F 327)
Mr Waller (F 380)
Sir Anthony Dean (F 372)
Mr Doudy (F 480)
Dr Grew (F 289)
Dr Havers (F 432)
Mr Houghton (F 361)
Sir Edmund King (F 212)
Mr Pettiver (F 481)
Dr Robinson (F 419)

Dr Slare (F 370)
Dr Cox (F 189)
Dr Hutton (F 507)
Mr Pepys (F 187)
Dr Wallis (F 57)
Dr Gregory (F 464)
Mr Cowper (F 537)
Sir Richard Bulkley (F 426)
Mr Paget (F 399)
Mr Pitfield (F 418)
Dr Cockburn (F 504)
Sir Robert Southwell (F 107)
Mr Molt (F 450)
Dr Smith (F 487)
Mr Fatio (F 439)
Mr Aston (F 342)
Mr Byrd (F 492)
Mr Bridgman (F 357)

Appendix 9

Bonds for Subscriptions

It seems appropriate at this point to deal with a further source of evidence stemming from the reform effort of 1673–5, in this case the 'bonds' for payment of subscriptions that various Fellows signed from 1674 onwards. It was evidently intended that these might form the basis of litigation as a means of enforcing the payment of arrears, though in the event this did not materialize; nevertheless, the bonds provide useful corroborative evidence as to which Fellows were supportive of the Society, and an asterisk has been added to the column 'MS lists' to denote Fellows for whom a document of this kind is extant.

The bonds which survive from the late seventeenth century form part of a longer series in the Royal Society library, bound up in two volumes in a laminated green paper binding of a type that can be dated to the 1850s. MS 390 covers the years 1674–1727 and MS 391 the years 1729–1809; the bonds were evidently placed in their current order at the time when they were bound up. These are printed documents, bearing a text approved by the attorney general in which the Fellow in question committed himself to payment of his subscription by quarterly instalments during his membership of the Society.[1] At the top of each form, sufficient space was left for a brief identification of each signatory in addition to his name: thus William Winde (fol. 39), for instance, is identified as 'Coronet to his Majesties owne Troup of Gards in the Royal Regiment', while Gilbert Burnet (fol. 66) is described as 'Proffessor of Divinity and Preacher at the Rolls London', and, where appropriate, this information has been drawn on in identifying Fellows.[2] On the other hand, the scribe who filled in the forms appears to have used standard formulae such as 'Gentleman of London' when he had no further information, and hence the information they contain is rarely to be relied on if it conflicts with other evidence about a Fellow's status or livelihood. The completed forms were signed and sealed by the Fellow to whom they applied, usually with their personal seal, though the royal seal was used in three cases, presumably because the men in question had no seal of their own.[3] This transaction was witnessed, usually by two people, who in the bulk of cases were officers or employees of the Royal Society — Henry Oldenburg, Richard Shortgrave, Michael Wicks, Henry Hunt, and Edmond Halley — though in a handful of cases other names appear, perhaps because the form was signed away from the Society's premises: this information seems worth noting, in case it throws further light on Fellows' acquaintance networks.[4]

It should be pointed out that it is clear that more bonds were signed than are now extant, since there are references in the minutes to bonds that do not survive, usually because they were 'taken up' by the Fellows in question at a later date;[5] other bonds to which no such reference survives may also be missing, though the majority are probably extant. Hence, though positive conclusions can be drawn from the existence of bonds, caution needs to be exercised in drawing conclusions from their absense. On the other hand, such conclusions are of interest, while, since the bonds are dated, they can be used to reconstruct the progress of the reform effort of 1674–5 and the various bursts of conscientiousness that occurred later: it seems unlikely that the non-survival of certain bonds would have distorted the chronological patterns thus revealed.

The wording of the bond was agreed on 9 November 1674, and the earliest dated bonds were signed at the council meeting on 23 November 1674; bonds survive for all but one of those present on that occasion, though it was noted in the minutes that the bonds would not be valid unless fifty Fellows signed them altogether.[6] On 25 November Robert Boyle (F 2) signed a bond (fol. 21), which had presumably been proffered to him privately since no meeting took place on that day. On 26 November the one council member who had not signed on 23 November — Seth Ward (F 29) — and eight non-council members signed extant bonds.[7] Then, at the anniversary meeting on 30 November, when it is known that forty-two were present, a further twenty-two signed,[8] thus bringing the total number of surviving bonds signed up to that date to forty.

Bonds survive signed between 3 December 1674 and 4 January 1675 inclusive for a further eleven Fellows, so that fifty-one bonds survive from dates earlier than 21 January 1675, when it was stated at a council meeting that 'about sixty' had signed and the council therefore sent out a 'declaration' to the membership as a whole.[9] There then followed the activity in proffering bonds to members at large referred to in the minutes, in connection with which various lists were made of Fellows to whom application was made to sign the bond: one, of those Fellows to whom application was made to sign it in December 1674, another of those sent a letter in this connection in January 1675, and a third of those asked for a positive answer as to whether or not they would sign it in October of the same year.[10] The first two of these comprise a cross-section of the Society from the point of view of regularity of paying — the first mainly containing Fellows who appear in one or more of the evaluative lists, the second a rather broader selection of the membership — while the third is a selection of those in arrears to a greater or lesser extent.[11] Of the seventy Fellows who appear in one or other of the lists, bonds survive for only twelve.[12] Indeed, despite the fact that some bonds that were signed are probably now lost, it is undoubtedly revealing of the disparity between the Society's active core and the indolence of the remainder of the membership which so preoccupied the Society's organizers at the time, that, despite assiduous efforts, only a total of eighteen further bonds survive from the months following January 1675, of which four were from Fellows newly admitted during those months.[13]

Apart from one outlier of 1676 — William Ball (F 9), whose bond (fol. 70) is dated 20 October — there are then no further extant bonds until 1682. Bonds survive signed by six Fellows in November 1682[14] and ten in January 1683,[15] some of them newly or recently elected, others of somewhat longer standing for whom no earlier bond survives. The context to this was evidently the tightening-up of membership policy in 1682 referred to in Chapter 3, since at the meeting of 1 November 1682 at which the first of this batch of bonds was signed it was ordered 'that a paper should be drawn up concerning the conditions, upon which persons were admitted into the Society'.[16] If a new rigour was intended, however, it did not last long; instead, bonds survive rather haphazardly over the rest of the period, either individually or in little clumps, suggesting occasional bursts of conscientiousness. Thus three survive from later in 1683,[17] six from 1684,[18] one from 1685,[19] four from 1686,[20] one from 1689,[21] one from 1691,[22] four from 1695,[23] two from 1696,[24] and three from 1698.[25] In addition, seven Fellows elected before 1700 signed bonds in the minor purge of arrears that took place in 1706–7, two of them duplicating existing bonds.[26]

If the main group of bonds from 1674–5 is collated with the evaluative lists set out in Appendix 8, a few conclusions may be drawn. Twenty-six Fellows who appeared on one or other of the lists failed to sign a bond, which represents a minority of the 108 who appear on at least one of the lists. This number is further reduced if allowance is made for exempt and absent members, and Fellows who resigned in 1674–5.[27] In addition, since in three cases already alluded to it is known that bonds were signed that have not survived, there is the possibility that further bonds may once have existed that are now lost.[28] Hence the bonds tend to reinforce the view of the membership given by the evaluative lists, though it is odd that, despite the fact that Lists 4 and 5 are apparently later than Lists 1–3, there seems to be more overlap with the latter than the former.[29]

If the Society had some disappointments, it also had a few pleasant surprises, with Fellows signing bonds although not indicated as 'useful' in any of the lists. Apart from various recently elected or admitted Fellows,[30] some Fellows elected before 1671 who had not been included in any list signed bonds, though only about half of these proved of much use to the Society thereafter.[31] It may be added that these were not unusual among signatories of the bond in failing to sustain the promise that it was hoped such signature would entail, as five other signatories of bonds were subsequently expelled,[32] while legal action was considered against six in 1682,[33] though these represented only a minority of signatories of the bond who nonetheless fell into deepening arrears.[34] It is interesting that some exempt Fellows signed bonds, both in 1675 and later.[35]

Appendix 10

The Expulsions

COMPLICATIONS of the kind that arise in assessing the evaluative lists of members are no less marked in connection with the lists of those considered for expulsion from the Society in 1666, 1675, 1682, 1685, and 1698–9. In each case (though least in 1685, when the process begun earlier was almost completed), only some of those deeply in arrears and barely active were ordered for expulsion, and, though some omissions are explicable, others are not. As has already been explained, expulsion was actually accomplished by omitting Fellows' names from the annual printed membership lists, and in fact not all those ordered for expulsion on each occasion were expelled, while further complications are added by the fact that, both at these dates and on other occasions, various Fellows were omitted from the printed lists although there is no record of a council order to this effect (nor of their formally resigning from membership).[1]

The first expulsions were made in 1666, when the names of six Fellows were listed and marked 'Consider of leaving theis out of the list: and to make an order to leave their arreares out of the accompt'.[2] How the six names were selected is far from clear: they were not the six Fellows with the largest arrears at this time (though all were among the larger), and though four of them had been entirely inactive, two, Vermuyden (F 64) and Schroter (F 110), had occasionally contributed to the Society's proceedings. The selection of such eminent figures as Scarburgh (F 40), Denham (F 42), Lord Lucas (F 54), and Dryden (F 121) may have been intended to caution others, but, if so, the inclusion of Vermuyden and Schroter is less easily explained. In any case, the council evidently changed its mind about the latter two, since they were not actually expelled although the others were; Vermuyden (who was thereafter omitted from the accounts) remained in the printed lists until 1672 and Schroter (thereafter exempt) until 1685.

The next group of expulsions was made in 1675, when ten Fellows were formally named in the minutes in this connection.[3] Again, the mode of selection is puzzling, since many members with huge arrears were ignored. It is conceivable that the selection reflects a deliberate policy on the part of the Society, intended to warn once-active Fellows who were falling behind in their dues and attendance of the consequences of this rather than to impress Fellows who had never taken the slightest interest in the Society's proceedings. Several of the Fellows selected were physicians, civil servants, and others who had been active or at least paid their subscriptions at one stage but not lately, rather than courtiers and aristocrats

who had never paid or done anything. They included Henry Slingsby (F 14), who had once been very active, Edmund Waller (F 43), active only in the 1660s, Sir Edward Bysshe (F 122), who had paid his dues regularly at first, James Carkesse (F 162), who had subscribed until about 1670, Richard Lower (F 234), active only in 1667–8, when he first joined the Society, and John Downes (F 247), who had paid his dues in the 1660s but not since. The remainder of the list, however, comprised Fellows who had hardly ever, if at all, been either active or regular, including Sir Peter Pett (F 45), Sir Thomas Nott (F 80), David Bruce (F 134), and Thomas Colepeper (F 263). It is also possible that the selection reflected the Society's weakness at this time, since few of those considered for expulsion were of great social consequence, in contrast to the prominent figures of whom examples were made in the Society's halcyon days in 1666. The absence of aristocrats is striking, and Colepeper had actually sold up his family estates in 1675, living thereafter a career of ineffectual projecting, while Carkesse had been consigned to Bedlam.

As in 1666, not all those considered for expulsion were actually expelled — Waller remained in the lists until 1682 and Bysshe until his death in 1679 — while a few Fellows were quietly dropped from the lists at this time although not officially ordered for expulsion in the council minutes. In the accounts for 1675 several members were marked 'out', most of them Fellows ordered for expulsion by the council,[4] but including in addition Thomas Harley (F 228), who was also omitted from the lists. Another Fellow, Francis Potter (F 130), who was not so marked in the accounts, was also quietly omitted from the lists at this time, as were two further members in 1678, Sir Elisha Leighton (F 154) and Malachy Thrustone (F 200).[5]

A surviving manuscript draft illustrates the uncertainties lying behind the list printed by Birch of twenty-three Fellows considered for expulsion in 1682.[6] Concerning the Earl of Ranelagh (F 84), the draft notes 'consult Mr. Boyle', while beside the name of Francis Smethwick (F 226) is the word 'quaere'; there is also an erased name that I have been unable to decipher.[7] As before, it is not clear how those ordered for expulsion at this point were selected from the larger number of members with sizeable arrears who showed no sign of activity. Again, some of those ordered for expulsion were not in fact removed from the printed list — the minutes note that the list had been compiled 'with reservation to make amendments at the next meeting'[8] — and two Fellows were omitted from the printed list although not ordered for expulsion, William Hammond (F 70) and Edmond Castell (F 310), the latter possibly accidentally, since he was not in arrears.

Only with the largest group of expulsions, that of 1685, was anything approaching a clean sweep made of inactive members who were badly in arrears: indeed, a few members who were removed from the printed lists at this time had to be replaced a few years later.[9] As before, not quite all those who were omitted from the printed lists were named by the council as liable for expulsion[10] and not all of the forty-eight listed in the council minutes were actually expelled, though in

these cases there were good reasons why the members in question were allowed to remain in the Society despite their arrears, for both were eminent in some way — Henry Clerke (F 237), President of Magdalen College, Oxford, and Sir William Soame (F 242), a diplomat.

If stock is taken of Fellows not even threatened with expulsion in 1685 although heavily in arrears, these fall into predictable classes. Several were active members, such as Thomas Povey (F 47), Sir Joseph Williamson (F 101), John Creed (F 155), Daniel Coxe (F 189), Sir Theodore de Vaux (F 197), Sir Edmund King (F 212), Martin Lister (F 288), and Frederic Slare (F 370). Others were diplomats,[11] Fellows living in Oxford, Dublin, or the provinces,[12] and a few prominent churchmen and aristocrats, presumably retained more as inactive patrons than as contributing members in the normal sense, an impression borne out by the fact that several of them were thereafter omitted from the accounts.[13] There were also, not surprisingly, a few recently elected Fellows who subsequently proved to be neither active nor regular subscribers.[14] Apart from this, however, the expulsions had by this time cut the bulk of the dead wood out of the Society.

Though the membership lists were thus brought up to date, as it were, between 1682 and 1685, the continued tendency of once-active members to lapse in the subsequent years (referred to in Chapter 3) meant that it was not long before the lists were again laden with the names of men who were making no contribution to the Society. No systematic attempt to remove these was ever again made — symptomatic, perhaps, not only of the general slackness in the later 1680s and 1690s that has already been referred to, but also of a realization that the rigour of the early 1680s had been almost counterproductive in excluding from the Society some men who were ambivalent and had to be reinstated, at least two of whom (Bemde (F 344) and Bridgeman (F 357)) were subsequently valuable to the Society.[15]

A handful of names disappear from the lists between 1688 and 1696,[16] while a larger number — six — were removed in 1698–9 in connection with the general retrenchment that took place then.[17] The men concerned were, however a small minority of the numerous inactive, non-paying Fellows in the lists at the dates in question, and there is no apparent reason why they were singled out in this way, except that two were among those omitted from the accounts but not from the lists in 1685,[18] and two were among those reinstated after being omitted in 1685, one of them John Locke (F 269), who, ironically, was slightly active at this time:[19] it is conceivable that his name was removed because the Society did not wish to be associated with imputations of heresy.[20] As a result of this overall restraint the lists by 1700 were more inclusive than in 1685, with a range of inactive figures on them, some retained for their eminence,[21] some perhaps because they had once been active though they no longer were,[22] and some for reasons that are less clear.[23]

As this illustrates, except in 1685, speculation as to how Fellows were selected for expulsion is largely futile. Expulsion was a final and radical way of treating

inactive and non-contributing members to which the Society was unwillingly driven as a last resort. Although arrears were the Society's objective ground for expelling members this did not mean that all sorts of other considerations were not taken into account, and any hope of greater contribution in future was likely to persuade the council to refrain from this step: the fact that the attempt at a systematic purge in 1685 did lead to errors of over-inclusiveness, as we have seen, rather bears this out. It is clear, for instance, that William Winde (F 113) was retained in the membership list in 1682 although ordered for expulsion because, when approached about arrears, he implied that he might pay (though in fact he did not).[24] As far as others in arrears were concerned, many, when dunned, replied regretting their debts, questioning only the precise figures named, and expressing their intention of paying. Even reactions like that of Edmund Waller — who '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 upon a new score' when approached about the new bond in 1674–5[25] — suggested a hopeful intention of mending things in future. Whenever the council considered expelling those deepest in arrears they always added the proviso 'and gave no hope of being of use to the Society'.[26]

There must also have been subtler reasons, few of which can be adequately reconstructed, as will be familiar to any who have since had to consider similar steps in comparable institutions. For one thing, active members were often heavily in arrears, which made it less easy to criticize others, and among those who were active in the campaign against arrears in the 1670s were two who were deeply in debt themselves:[27] similarly, in the 1680s doubts were expressed about the number of Fellows who were exempt from paying subscriptions, on the grounds that this was unfair to those who were not.[28] From another point of view, John Beale had reservations on principle about expelling any member once he had been admitted, least of all 'before much endeavour is used to reclaime him; & to remove all miss-understandings'.[29] He was not alone in this,[30] and there were doubtless those on the council who expressed similar views, quite apart from the fact that the arguments for retaining distinguished members on the printed lists in order to enhance the respectability of the new philosophy must always have remained seductive.

Moreover, the sort of petty misunderstandings that those threatened with expulsion could claim in their favour are obliquely illustrated by a surprising and fortunate survival, Benjamin Woodroffe's reply to the Society's request to members to sign the new bond guaranteeing payments in 1675. In a letter to Sir Robert Southwell, Woodroffe claimed that the request had only just arrived, although it demanded a reply by a few days previously. 'This is not the first neglect their officers have been guilty of to me and others', he continued,

> I having for a long while received no summons, though upon the place on such occasions as they have been given out to others, so that I have long since esteemed myself as not of the Society, nor shall I therefore at all look

> back to what is past, although as to the ends of the Institution I am so far from being an enemy to them that I should be glad to contribute far more to promote them than the penal bond obliges me to.[31]

Doubtless when faced with expulsion many pleaded similar more or less legitimate extenuating circumstances.

As all these qualifications show, there are too many complications for expulsion to be more than a partial guide to the usefulness of numbers of the Society. Only when this evidence is collated with fuller information from all surviving sources can reliable conclusions be reached concerning the more or less important role of different Fellows in the Society's development.

Appendix II

Absent Members

THE reader will have noticed passing references to 'absent' or 'provincial' Fellows; though I have not differentiated these in the Catalogue, they would clearly not be expected to be 'active' in the same way as those living in London. Obviously the minutes would hardly reflect evidence of their contribution to the Society's business apart from occasional letters, and even normal subscriptions might seem slightly unreasonable, since, as John Wallis pointed out when reporting to Oldenburg on his activity in dunning Ralph Bathurst and Henry Clerke at Oxford in 1675, being rarely in London they received little benefit from the Society and 'it seemes a little hard that having been scarce there this six year, to pay as those that be there constantly'.[1]

The difficulty is that any such blanket term as 'provincial member' would hide a great deal of significant variety. The most obvious class comprises the relatively small number who evidently lived almost exclusively in the country, visiting London only very rarely — Sir William Persall (F 53), Henry Power (F 104), John Beale (F 128), Francis Potter (F 130), John Newburgh (F 168), Joseph Glanvill (F 175), Malachy Thrustone (F 200), Martin Lister (F 288) (when originally elected), Thomas Baker (F 417), John Beaumont (F 424), Charles Leigh (F 425), and Ralph Thoresby (F 510). These were provincial virtuosi elected either for their eminence or for reasons less easily divined, and they were genuinely 'provincial': the most they could hope to do for the Society was to keep in touch by letter, like Charles Leigh, who promised when elected that he would 'to the Utmost of my Capacity give you an account of the Naturall Curiosities here'.[2]

Even these 'provincial' Fellows seem to have been in London very occasionally, however: Sir William Persall attended a few meetings in 1661–2, for instance; John Newburgh was sometimes in London;[3] and most of them were admitted Fellow in person (in fact, all in the list above except Baker, Beaumont, and Leigh, and though Leigh was never admitted his letters show that he hoped to be).[4] The same applies to another class of non-metropolitan Fellows, those university dons who became Fellows but whose chief preoccupations kept them away from London — at Oxford, John Wallis (F 57), Ralph Bathurst (F 149), Henry Clerke (F 237), Edward Bernard (F 297), Robert Plot (F 332), Thomas Smith (F 333), Robert Pitt (F 404), William Gould (F 405), William Musgrave (F 412), and David Gregory (F 464); at Cambridge, Henry More (F 114), Isaac Barrow (F 115), Ralph Cudworth (F 116), Isaac Newton (F 290), Edmond Castell (F 310), and Nathaniel Vincent

(F 410); and at St Andrews, James Gregory (F 264). (One might add those members of the Dublin Philosophical Society who were elected to the Royal Society in the 1680s: Allen Mullen (F 408), Charles Willoughby (F 409), Sir Richard Bulkeley (F 426), William and Thomas Molyneux (FF 428, 430), St George Ashe (F 429), and Jacobus Sylvius (F 434).) All these were in London at least occasionally — only Cudworth, Mullen, William Molyneux, and Sylvius were never admitted, but Molyneux appears to have attended at least once,[5] while Mullen was active in the Society for a while — and others were there frequently, even, in the case of Plot, enough to play an important part in the running of the Society.

Moreover, though such classes are relatively clear, a spectrum opens out between these Fellows and those who are known to have been based wholly on the metropolis. As has already been explained, many Fellows who lived in London much of the year also had country estates and commuted between the two at different times of year, so that they should perhaps be classified as 'absent' during their vacations. Between this group and the 'truly' provincial, and overlapping with both, is an intermediate group of members who were not infrequently in London but more often in the country. Thus Sir George Croke (F 325), for instance, is shown by his letters to Oldenburg before his election as a typical country virtuoso, developing his scientific interests deep in Oxfordshire and requesting Oldenburg to send him the necessary books and equipment; but he occasionally refers briefly to recent visits to London.[6] Others who were evidently sometimes in London but more often in the country include the Earl of Devonshire (F 28), Sir James Long (F 94), Edward Cotton (F 131), and John Ray (F 239).

Related to these are a class of Fellows who were evidently frequently in London at the time when they were elected, but subsequently retired to the country. The Earl of Crawford and Lindsay (F 137), for instance, retired from public life to his Scottish estates in 1663; William Ball (F 9) increasingly lived in Devonshire after about 1665; while Edmund Waller (F 43) is known to have spent most of his time on his estate at Beaconsfield after 1677. To these might be added those who went abroad on diplomatic missions for longer or shorter periods, including Thomas Henshaw (F 15), Sir William Godolphin (F 166), Sir Paul Rycaut (F 220), and Sir William Soame (F 242), while some were often in Ireland, such as Sir William Petty (F 8) and Sir Robert Reading (F 287). Similarly, Sir John Finch (F 65), Thomas Baines (F 66), and John Winthrop (F 98), though in England at the time of their election, subsequently went abroad again; Thomas Coxe (F 23), for example, is said to have died a bankrupt in France; while Fellows who were abroad for long periods at the very end of the century included Edward Norris (F 524), James Cunningham (F 543), and James Pound (F 544).

Matters would be simpler if the Royal Society had had a consistent policy in dealing with absent members, which would enable some classification to be based on the Society's records. Doubtless reflecting the variety of reasons for absence just outlined, however, the Society tended to take a piecemeal line towards such absentees, sometimes exempting them or half-exempting them from subscrip-

tions and sometimes not: such exemptions have been listed above, but several Fellows who were clearly 'absent' were never let off subscriptions, including Potter, Newburgh, Thrustone, Clerke, and Castell, and only in the 1680s did the Society make a consistent ruling on a related subject, ordering that members of the Oxford and Dublin Philosophical Societies who were also Fellows need only pay half the normal dues.[7] The nearest that the Society came to evaluating its membership from this point of view is the list of 'Arrears due . . . from absent members' made in 1673 and referred to in Appendix 7, above, which, because of its interest in the present connection, I have appended to this section.

It contains several of the names just given of fully provincial members, Oxbridge dons, diplomats, and 'retired' Fellows, and it also includes some whom one would not otherwise have had evidence for placing in this category, including Sir Thomas Nott (F 80), Sir Francis Fane (F 117), Anthony Lowther (F 133), and Samuel Woodford (F 169). On the other hand, its basis of selection is not clear, since members like Henry Clerke, who were clearly 'absent', were placed in the main arrears list that it supplemented. Others may lurk there, while any Fellows who were not in arrears although absent would not, of course, be expected to appear. Though it is a helpful indication, it should be regarded as no more than this: at most, its relative shortness in comparison with the main arrears list underlines the extent to which the Society was always focused on London.

Apart from this rather unsatisfactory list, information as to where Fellows spent their time is only available from biographical sources, and it is therefore as uneven as those sources. In each case a miniature biography is needed to show whether any particular Fellow was inactive because he was incurious or because he was rarely in London, or whether a Fellow's activity fluctuated due to his retirement from London circles or to his loss of interest in the Society's work. In a few cases the brief biographical notes in the Catalogue may help to elucidate this, but with more minor Fellows such detail could often only be guessed at; for the sake of consistency, I have therefore refrained from differentiating 'provincial' from 'London' Fellows. The Catalogue is only intended to illustrate which Fellows were active, which were not, and when: only incidentally and haphazardly does it illustrate why.

Names of 'Absent Members' in the Arrears List of 1673 (Royal Society DM v.7)

William Ball (f 9)
Sir Thomas Nott (f 80)
Isaac Barrow (f 115)
Sir Francis Fane (f 117)
Francis Potter (f 130)
Edward Cotton (f 131)
Anthony Lowther (f 133)
Ralph Bathurst (f 149)
John Newburgh (f 168)
Samuel Woodford (f 169)
Joseph Glanvill (f 175)
Malachy Thrustone (f 200)
Sir Paul Rycaut (f 220)
Sir Robert Reading (f 287)

Appendix 12

Foreign Members

THE Royal Society deliberately set out in its early years to foster links with virtuosi in other countries, and it quickly became famous throughout Europe, as is illustrated by the adulation of the Society expressed by foreign virtuosi in their letters to Henry Oldenburg.[1] For both reasons, it is not surprising that a number of foreigners were either invited to become members, or requested that their names be put forward for election. Altogether, seventy-two foreign members were elected between 1660 and 1700. The first were Huygens and Sorbière (FF 139–40), elected in June 1663, and thereafter the percentage of foreigners among the total elected rose markedly, from 7% (19 out of 280) in the 1660s to 16% (12 out of 77) in the 1670s, 18% (16 out of 93) in the 1680s, and 24% (24 out of 97) in the 1690s.[2] This is one of the most marked and consistent trends in recruitment during the period, and it is a tribute to the Society's steadily growing overseas reputation even while its fortunes fluctuated at home. In a sense, through such elections, the Society was laying the foundations for the international network of interrelating membership of scientific institutions that came to fruition in the eighteenth century,[3] when the proportion of foreign members increased so greatly — reaching one third of the total membership at one point — that it had to be taken in hand.[4]

At first, those who were elected in this way were merely included in the printed membership lists in alphabetical order among all the other Fellows. In 1682, however, doubtless in connection with the tightening up of elections that took place in that year, the foreign members were segregated into a separate column in the membership list entitled 'Persons of Other Nations'. This practice thereafter became normal and this figure has been given separately in Table 2 from that year onwards; the way in which a class of Fellows which had grown haphazardly was thus formalized was typical of the manner in which the Society evolved in its early years.

On the whole the Society seems to have been delighted with the way in which recruitment of this kind reflected overseas respect for the institution and what it stood for. The foreign membership was slightly pruned in 1682 and 1685, like the British;[5] in addition, a few foreigners are known to have been proposed for election but not actually elected, while a number of others, though elected, were never placed in the printed membership lists.[6] But there was no systematic reform of this — by definition somewhat formal — class of members like that

attempted in the eighteenth century. Virtually the only time when reservations about it were expressed was in 1700, when it is clear that the Society was slightly irritated by the way in which foreign virtuosi who had been elected to the Society expected the Society to act as a sort of arbiter in quarrels. The minutes record that 'on consideration of the many foreigners of the Society it was ordered no diploma should be sent to any Foreigners chosen of the Society'.[7]

Eminent foreign scientists who were elected included such members of the Académie des Sciences as Adrian Auzout (F 208), Ismael Bouillau (F 224), Pierre Petit (F 225), and G. D. Cassini (F 293). Other correspondents of the Society who achieved membership included famous natural philosophers like Marcello Malpighi (F 277) and Antoni van Leeuwenhoek (F 362), and lesser virtuosi like C. A. Balduin (F 326), Esprit Cabart de Villermont (F 423), and Otto Sperling (F 547). By no means all of the Society's correspondents became Fellows, and, though sometimes their election was at their own request,[8] in other cases the reason was fairly arbitrary: in the case of Silvestro Bonfigliuoli (F 494), for instance, he seems to have been elected just for sending the Society Malpighi's posthumous manuscripts. Other absent foreigners were recommended to the Society by English Fellows, as with Antonio Alvares da Cunha (F 257), proposed by Sir Robert Southwell (F 107), whom da Cunha had asked 'to procure for him the honour of being received into the society'.[9] In other cases there is no evidence as to why the man in question became a Fellow.

In some cases, foreign virtuosi corresponded with the Society only until their election and not thereafter, which might conceivably suggest that they were actually in pursuit of election and lost interest once they had achieved this: cases of this include Francisco Travagino (F 321), Johann Weikhard, Freiherr von Valvasour (F 435), and Vincenzo Viviani (F 489). However, since 61% of all foreign members took no interest in the Society after their election, sometimes not even acknowledging it, though most remained in the printed lists till their death, too much significance should not be attached to this.

Though it is as 'corresponding members' that one would expect foreigners to be elected Fellow, an equally important source of non-British members, especially in the Society's early years, comprised foreigners who were in England and attended meetings of the Society at the time of their election. Some thirty-one, or 43% of all non-British Fellows elected in the period 1660–1700 fall into this category and whereas before 1670 58% of foreigners elected fall into this category, after 1670 this fell to an average of 38%, thus showing how the notion of corresponding members evolved and superceded this.

Men who attended in this way included scientists and philosophers like Christiaan Huygens (F 139), G. W. Leibniz (F 298), and Jacques Cassini (F 512), but also a more miscellaneous group including various diplomats, travellers, and others — men like Vital Dumas (F 202), Marcantonio Borghese (F 400), and Christopher Leyoncrona (F 545). Again, by no means all such men who attended were elected. For instance, Lorenzo Magalotti and others who attended in 1668

were not elected,[10] and there is no very clear reason for the selection of those who acquired the distinction of membership. Many, but not all, of those who are known to have been present in this way signed their names in the charter book.[11] In a few cases, as with Johan Leijonberg (F 241) or David Krieg (F 535), the man in question was slightly or more active in the Society for some time while he remained in England, though in general such members were only briefly active, returning home and in more cases than not never contacting the Society again: with such men 60 %, as against 62 % with corresponding members, were inactive after the time of their election.

In general foreign members were exempted from payments, as they were from the normal formalities of election, as agreed by the council in April 1664,[12] and therefore it is in the column devoted to Fellows' financial affairs that they are designated foreign. A few of them paid the normal admission money, however, and three signed bonds that are still extant in the Royal Society's archives;[13] there is thus a slight element of overlap between such 'genuinely' foreign members and an intermediate class between these and British ones — men of foreign extraction who were permanently domiciled in England, some of whom were nevertheless included after 1682 in the column 'Persons of Other Nations' in the membership lists. Such men were often active in the Society for long periods and they were expected to pay subscriptions unless specifically exempted for their services to the Society. They have not been included in the figures for foreign members here, but have been included in the main analysis of the British membership in the text.

In the Society's early years, these include Oldenburg (F 33), Haak (F 93), and William Schroter (F 110): though Schroter is classified as a 'Person of Other Nations' in the lists from 1682 onwards, he was slightly active and was almost expelled for arrears in 1666, and the references to him in the minutes suggest that he was sometimes in London and travelled fairly frequently between England and the continent. Isaac Vossius (F 164) was 'foreign' until 1670, when he settled in England, while Nicolas Mercator (F 215), who had been permanently domiciled in England since the Interregnum, has been counted as British until 1683, when he left for France. Detlev Clüver (F 346) has also been counted as British (as he is in the lists), as has Denis Papin (F 369), until his departure to France in 1687, and Benjamin von Munchausen (F 413), who never appears in the printed lists but who paid subscriptions (at a reduced rate), and who may have been in this country as early as 1673, although not elected till 1684.[14] Nicolas Fatio de Duillier (F 439) has likewise been classified as British, although a 'Person of Other Nations' in the membership lists, as has Abraham Cyprianus (F 548), 'Person of Other Nations' till 1713 and then British.[15]

This brings us to a last group of emigrés who have been counted as British although classified in the membership lists as 'Persons of Other Nations': the Huguenots Henri Justel (F 394), Louis Paule (F 456), Moise Pujolas (F 486), Abraham de Moivre (F 508), Paul Buissière (F 540), and Pierre Silvestre (F 541). Paule, though probably already in England when elected,[16] always remained

classified as a 'Person of Other Nations', as did Justel and Pujolas, but the permanence of settlement in England of the other Huguenots was recognized by the fact that Moivre, Buissière, and Silvestre were transferred from the 'Persons of Other Nations' category to the main list in 1713.

To return, however, to the 'Persons of Other Nations' who were not permanently domiciled in England, readers may be interested in a breakdown of them by country of residence at the time of their election (this has seemed to me a more helpful criterion than place of birth in the case of scholars who left their country of origin in pursuit of employment or patronage, as with Huygens (F 139), Pechlin (F 440), or Sperling (F 547)). Out of a total of seventy-two, France, Italy, and Germany and Austria are almost equally represented at fifteen, sixteen and seventeen respectively; the Low Countries (almost exclusively the Netherlands) follow with ten, Scandinavia with six, and Portugal with three, while the remainder comprises one Fellow from Morocco, one from Danzig, one from Riga, and two whose place of residence is uncertain.[17] A more precise breakdown by period seems to me undesirable, since much depends on unpredictable factors like personal recommendation — as with the group of Swedish Fellows elected in 1669 (FF 280, 282–3), two of them proposed by an existing Swedish Fellow, Leijonberg (F 241). More important, the numbers involved are small: thus, though in percentage terms the French contingent falls dramatically after the 1660s, it is doubtful if much significance should be attached to this.

As for the occupations of foreign Fellows, only the most numerous classes seem worthy of comment. But it is worth pointing out that, as might be expected with an international network of scientific communication, men making their living as scholars were proportionately more significant as a group than in the British membership, making up 26% of the whole group. Doctors follow at 25%, but it is striking how, having been not very numerous early in the period, they comprise 43% of the foreign numbers elected in the 1690s. Diplomats make up 14% of such Fellows, but the other occupational groups are too small and miscellaneous to be worthy of comment.

Tables

TABLE 1
Elections per Year (Including Re-Elections)

1660	35	1670	2	1680	12	1690	1
1661	62	1671	5	1681	25	1691	5
1662	27	1672	7	1682	9	1692	11
1663	39	1673	13	1683	7	1693	8
1664	25	1674	5	1684	9	1694	3
1665	24	1675	4	1685	7	1695	8
1666	17	1676	7	1686	7	1696	19
1667	27	1677	12	1687	5	1697	5
1668	25	1678	13	1688	8	1698	20
1669	10	1679	9	1689	4	1699	16
						1700	5

TABLE 2
Total Membership per Year (from Printed Lists)

	Total		*Total*		*Total*	*Persons of Other Nations*		*Total*	*P.O.N.*
		1670	221	1680	209		1690	140	25
		1671	223	1681	220		1691	136	24
		1672	216	1682	191	22	1692	135	24
1663	131	1673		1683	163	24	1693	138	25
1664	148	1674	219	1684	163	25	1694	140	25
1665		1675	204	1685	141	21	1695	139	22
1666	173	1676		1686	141	21	1696	142	23
1667	204	1677	198	1687	135	18	1697	144	24
1668	219	1678	185	1688	136	21	1698	159	28
1669	228	1679	203	1689	137	24	1699	158	31
							1700		
							1701	162	37

TABLE 3
Number of Meetings per Year

		1670	32	1680	34	1690	37
1661	52	1671	30	1681	32	1691	[33]*
1662	53	1672	33	1682	39	1692	35
1663	51	1673	30	1683	39	1693	39
1664	51	1674	23	1684	37	1694	38
1665	25	1675	36	1685	38	1695	40
1666	35	1676	27	1686	41	1696	42
1667	40	1677	29	1687	34	1697	[40]*
1668	41	1678	38	1688	38	1698	[36]*
1669	35	1679	35	1689	39	1699	43
						1700	41

* On meetings in these years, see App. 5 n. 7.

TABLE 4

(*a*) Attendance at Anniversary Meetings, 1663–89

1663	57–8	1677	
1664	53–4	1678	33
Apr. 1666	46	1679	?31
Nov. 1666	42	1680	
1667	59	1681	about 30
1668	60	1682	?31
1669		1683	43
1670		1684	39
1671	46	1685	more than 37
1672		1686	
1673	55	1687	
1674	42	1688	23
1675	50	1689	'neer 40'
1676			

(*b*) Highest Number of Votes Cast for Any One Candidate at Anniversary Meetings, 1692–1700

1692	30	1697	33
1693		1698	33
1694		1699	37
1695		1700	32
1696	35		

For sources, see Ch. 1 n. 70.

TABLE 5
Distribution by Occupation of All British Fellows
Elected during Various Periods

	1660–64	*1665–9*	*1670–79*	*1680–89*	*1690–99*	*Total*
Uncertain	5 3%	3 3%	3 5%	2 3%	3 4%	16 3%
Aristocrats	27 16%	20 22%	6 9%	3 4%	12 16%	68 14%
Courtiers & politicians	43 25%	11 12%	6 9%	2 3%	14 19%	76 16%
Gentlemen	23 13%	12 13%	13 20%	14 19%	9 12%	71 15%
Lawyers	8 5%	4 4%	2 3%	4 6%	2 3%	20 4%
Divines	13 7%	12 13%	2 3%	6 8%	5 7%	38 8%
Doctors	25 15%	13 15%	9 14%	17 23%	14 19%	78 16%
Scholars & writers	14 8%	7 8%	14 22%	12 16%	8 11%	55 12%
Civil servants	8 5%	3 3%	3 5%	6 8%	0 0%	20 4%
Merchants & tradesmen	6 3%	4 4%	7 11%	9 12%	6 8%	32 7%
TOTAL	172	89	65	75	73	474

TABLE 6
Distribution by Occupation and Period of All British Fellows Who Showed Some Sign of Activity after Admission

	1660–4	*1665–9*	*1670–9*	*1680–9*	*1690–9*	*Total*
Uncertain	5 4%	2 4%	2 5%	1 2%	1 2%	11 3%
Aristocrats	20 14%	5 10%	5 13%	2 4%	6 13%	38 11%
Courtiers & politicians	33 24%	6 12%	2 5%	1 2%	9 19%	51 15%
Gentlemen	17 12%	7 13%	5 13%	10 19%	6 13%	45 14%
Lawyers	8 6%	2 4%	2 5%	3 6%	1 2%	16 5%
Divines	11 8%	3 6%	2 5%	4 8%	3 6%	23 7%
Doctors	22 16%	13 25%	5 13%	13 25%	10 21%	63 19%
Scholars & writers	10 7%	7 13%	12 30%	9 17%	6 13%	44 13%
Civil servants	7 5%	3 6%	2 5%	4 8%	0 0%	16 5%
Merchants & tradesmen	5 4%	4 8%	3 6%	6 11%	6 13%	24 7%
TOTAL	138	52	40	53	48	331

TABLE 7
Distribution by Occupation of All Slightly, or More, Active Fellows at Various Dates

	1665	*1672*	*1680*	*1685*	*1692*	*1700*
Uncertain	3 3%	1 1%	3 4%	2 3%	1 2%	2 3%
Aristocrats	15 14%	11 14%	7 9%	4 5%	2 4%	3 4%
Courtiers & politicians	21 20%	12 15%	11 14%	12 16%	10 18%	12 16%
Gentlemen	14 13%	10 13%	8 10%	9 12%	8 15%	9 12%
Lawyers	4 4%	4 5%	3 4%	3 4%	2 4%	3 4%
Divines	11 11%	11 14%	7 9%	4 5%	3 5%	4 5%
Doctors	20 19%	15 19%	13 17%	14 19%	9 16%	21 28%
Scholars & writers	8 8%	10 13%	15 19%	17 23%	13 24%	12 16%
Civil servants	5 5%	3 4%	3 4%	3 4%	2 4%	2 3%
Merchants & tradesmen	3 3%	3 4%	8 10%	7 9%	5 9%	8 11%
TOTAL	104	80	78	75	55	76

TABLE 8
Distribution by Date of Election of All Slightly, or More, Active Fellows at Various Dates

	1665	*1672*	*1680*	*1685*	*1692*	*1700*
Elected in previous five years		16 20%	23 29%	20 27%	5 9%	20 26%
Elected six to ten years previously			7 9%	16 21%	9 16%	13 17%
Elected 1660–64		48 60%	34 44%	26 35%	17 31%	9 12%
TOTAL	104	80	78	75	55	76

TABLE 9

The Society's Active Nucleus, 1665–1700, Arranged in Order of Election

(P) = President (T) = Treasurer (S) = Secretary (C) = Clerk

	1665	*1672*	*1680*	*1685*	*1692*	*1700*
1660	Brouncker (P)	Brouncker (P)				
	Boyle	Boyle				
	Moray	Moray				
	Neile, P.	Neile				
	Wilkins (S)					
	Goddard	Goddard				
	Petty, W.	Petty	Petty	Petty		
	Ball, W.					
	Hill, A. (T)	Hill	Hill (T)	Hill (T)	Hill (T)	Hill
	Wren	Wren	Wren	Wren		
	Henshaw, T.	Henshaw (S)	Henshaw	Henshaw		
	Morgan					
	Merrett					
	Clarke					
	Pell					
	Croone	Croone	Croone			
	Ward, S.	Ward				
	Ent					
	Brereton					
	Oldenburg (S)	Oldenburg (S)				
1661	Evelyn	Evelyn	Evelyn	Evelyn	Evelyn	Evelyn
	Holder	Holder	Holder			
	Povey					
	Colwall, D.	Colwall (T)	Colwall	Colwall		
	Whistler	Whistler				
	Charleton					
	Pope					
	Palmer					
	Erskine					
1662					Wyche, C.	
	Packer		Packer	Packer		
	Hoskins	Hoskins	Hoskins	Hoskins	Hoskins	Hoskins
	Haak	Haak	Haak	Haak		
			Williamson (P)			
	Graunt					
	Southwell, R.	Southwell	Southwell	Southwell	Southwell (P)	Southwell
	Howard, C.	Howard				
1663	Aubrey	Aubrey	Aubrey	Aubrey	Aubrey	
	Ball, P.					
	Hooke	Hooke	Hooke (S)	Hooke	Hooke	Hooke
	Coxe, T.					
	Creed	Creed	Creed	Creed	Creed	
1664	Lowther, J.	Lowther	Lowther	Lowther		
1665	Blount					
	Pepys	Pepys	Pepys	Pepys (P)		
	Coxe, D.	Coxe				
	de Vaux	de Vaux				
1666		King, E.	King	King	King	
		Howard, H.				

1665	*1672*	*1680*	*1685*	*1692*	*1700*
1667	Needham, W.				
	Collins	Collins			
			Aglionby	Aglionby	Aglionby
1668	Browne, E.	Browne			
1671			Lister		Lister
	Grew	Grew	Grew	Grew	
1677		Flamsteed	Flamsteed		
		Gale (S)	Gale	Gale (S)	Gale
		Plot	Plot	Plot	
		Herbert, J.	Herbert	Herbert	Herbert
1678		Aston	Aston (S)		Aston
				Bemde	Bemde
		Perry	Perry	Perry	
		Clüver	Clüver		
		Halley	Halley	Halley (C)	Halley
1679		Tyson	Tyson	Tyson	Tyson
1680		Houghton	Houghton	Houghton	Houghton
		Perkins			
		Papin	Papin		
			Slare	Slare	Slare
1681			Deane		
			Meredith		
			Waller, R.	Waller (S)	Waller (S)
			Lodwick	Lodwick	
			Justel		
1682			Paget		
			Pitt	Pitt	
1683			Haynes		
			Vincent	Vincent	
1684				Pitfield	Pitfield (T)
			Robinson, T.		
1685			Vaughan		
			Sloane	Sloane	Sloane (S)
1686				Harwood	Harwood
				Havers	Havers
1687				Middleton	Middleton
1688				Fatio	Fatio
1691				Copley	Copley
1692					Southwell, E.
1693					Woodward
					Kirke
1695					Doody
					Petiver
1696					Smyth, E.
					Byrd
					Harris
					Foley
					Bernard, C.
					Cockburn
1697					Hutton
					Moivre
					Cowper
1699					Buissière
					Silvestre

Catalogue of Fellows
1660–1700

NOTE: in the Catalogue, references without author or title in the form '11: 245' denote volume and page of Birch; those in the form '7: 498' denote volume and page of Copy Journal Book. An asterisk in the 'MS lists' column indicates that a signed bond survives (see Appendix 9).

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
1	Brouncker, William 2nd Viscount (*c.*1620)	Present 28 Nov 1660		Mathematician, Chancellor to Queen, etc. (DNB; DSB)
2	Boyle, Robert (1627)	"		Aristocrat & natural philosopher (DNB; DSB; R. E. W. Maddison, 1969)
3	Bruce, Alexander (2nd Earl of Kincardine, 1662) (*c.*1629)	"		Landed aristocrat with learned interests, PC, etc. (DNB)
4	Moray (Murray), Sir Robert (1608)	"		Courtier, Lord of Exchequer for Scotland, etc. (DNB; A. Robertson, 1921; *Proc. Soc. Antiq. Scotland*, CXIV (1984): 405–31)
5	Neile, Sir Paul (1613)	"		Courtier & astronomer (DNB sup.; H. Hartley, ed., *The Royal Society*, 1960, 159–66)
6	Wilkins, John (1614)	"		Dean of Ripon (1663), Bishop of Chester (1668), etc. (DNB; DSB; B. Shapiro, 1969)
7	Goddard, Jonathan (1616)	"		Gresham Prof. of Physic, etc. (DNB)
8	Petty, William (knighted 1661) (1623)	"		Political economist, etc. (DNB; DSB; E. Strauss, 1954)
9	Ball (Balle), William (*c.*1627)	"		Devonshire gent. & astronomer (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
President & Council, 1662–77	Very active, esp. in 1660s; barely after 1677	Regular	1, 3, 4*		1684
Council 1662–3, 1666, 1667, 1671, 1673, 1680	Very active till *c.*1670: subsequently barely active but supportive	Regular (except 3 yrs' arrears in 1673)	1, 3, 4*		1691
	Slightly active up to 1666; thereafter inactive	Regular in 1660s; arrears paid 1675 but not thereafter	*		1680
Council 1662–72	Very active	Regular			1673
Council 1662–73, 1675, 1677	Very active in 1660s; fairly in 1670s; inactive thereafter	Regular; extra payments in 1664–6	1, 3*		1686
Secretary 1663–8; Council 1662–71	Very active	Regular; posthumous bequest of £400			1672
Council 1662–6, 1668–74	Very active	Regular	1, 3, 4*		1675
Council 1662–4, 1666, 1671, 1673–4, 1679, 1682, 1687	Very active, esp. early 1660s, early 1670s, 1680s	Irregular but persistent till 1682 only	1, 3, 4*		1687
Treasurer 1660–63; Council 1662–3	Very active in early 1660s; fairly active 1667–8; barely thereafter	Regular till 1670; nothing paid thereafter	2, 3*		1690

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
10	Rooke, Lawrence (1622)	Present 28 Nov 1660		Astronomer; Gresham Prof. of Geometry (DNB; DSB)
11	Hill, Abraham (1633)	"		London citizen with learned interests, etc. (DNB; *Arch. Cantiana*, XXIV (1900): 227–36, XXIX (1911): 268–9)
12	Wren, Christopher (knighted 1673) (1632)	"		Natural philosopher, Surveyor General, etc. (DNB; DSB; Henning; J. Summerson, 1953; B. Little, 1975; J. A. Bennett, 1982)
13	Powle, Richard (knighted 1661) (1628)	(?)		Courtier, MP, etc. (Henning)
14	Slingsby, Henry (*c.*1621)	(?)		Master of the Mint, etc. (Evelyn, *Diary*, III: 335 n)
15	Henshaw, Thomas (1618)	(?)		Courtier, diplomat, writer, etc. (DNB; N&RRS, XXXVI (1982): 177–82)
16	Morgan, Sir Anthony (1621)	(?)		Soldier & courtier (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Very active in 1661–2	Regular 1661–2			1662
Treasurer 1663–5, 1679–99; Secretary 1673–5; Council 1663–6, 1672–99	Very active	Irregular but persistent till 1686 only; exempt 1698	1, 3, 4*		1721
President 1680–82; Council 1662, 1666, 1669, 1673, 1676–89, 1691–93, 1695, 1698, 1699	Very active till mid 1680s; slightly thereafter	After 1661 14 yrs' arrears paid in 1674; irregular payments thereafter	1, 3, 4, 1699*		1723
	Inactive	Payments 1660–63 only			1678
Council 1662–4	Fairly frequent attendance 1661–3; barely active thereafter	Irregular but 1662–4 persistent till 1668 only	2	Exp. 1675	*c.*1689
Secretary 1668–72, 1675–7; Council 1662–4, 1666, 1668–71, 1674–80, 1682–97	Very active till mid 1690s; inactive after 1697	Regular	1, 3, 4*		1700
Council 1663, 1666–7	Regular attendance; active as legal adviser	Regular			1668

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
17	Merrett (Merret), Christopher (1615)	(?)		London physician & writer (DNB; DSB)
18	Clarke, Timothy (*c.*1620)	(?)		Physician to Charles II, FRCP (DNB)
19	Pell, John (1611)	(?)		Mathematician & divine (DNB; DSB)
20	Croone (Croune), William (1633)	Appointed 'Register' 28 Nov 1660		MD, Gresham Prof. of Rhetoric, Anatomy Lecturer to Surgeons Co., etc. (DNB; DSB)
21	Wren, Matthew (1629)	(?)		Secretary successively to Clarendon & Duke of York, etc. (DNB s.v. M. Wren, 1585–1667; Henning)
22	Wren, Thomas (1633)	(?)		Archdeacon of Ely (1663), MD, etc. (DNB s.v. M. Wren, 1585–1667)
23	Coxe, Thomas (1615)	(?)		Physician & FRCP (DNB)
24	Digby, Sir Kenelm (1603)	12 Dec 1660		Virtuoso & courtier (DNB; DSB; R. T. Petersson, 1956; V. Gabrieli, 1957)
25	Austen (Austin?), John (? 1613)	"		? Gent. & Catholic writer (DNB)
26	Compton, James, 3rd Earl of Northampton (1622)	(?)		Lord Lieutenant of Warwicks., PC, etc. (GEC)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1663, 1666	Very active till mid 1660s; inactive thereafter	Regular till *c.*1668 only		Exp. 1685	1695
Council 1662–4, 1666, 1668, 1670	Active	Regular			1672
Council 1675	Active in early 1660s; slightly active thereafter	Nothing ever paid (see p. 90)	2, 3, 4		1685
Council 1664, 1666, 1668, 1670, 1672, 1675–6, 1678–81, 1683	Very active	Regular in 1660s & 1676–8; 9 yrs' arrears paid in 1682	1, 4*		1684
Council 1662, 1663, 1666	Slightly active	Regular			1672
	Inactive	Payments in 1660–63 & 1665–6 only			1679
	Barely active (1664)	Regular in 1660s; arrears cleared 1675 but not thereafter	3		1685
Council 1662–3	Fairly active, esp. in 1661	Payments in 1660–63 only			1665
	Barely active (1666)	Regular		(last in 1667 list)	?1669
Council 1666	Some attendance on Council; otherwise barely active	Only part of adm. paid			1681

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
27	Powle, Henry (1630)	(?)		Gloucs. gent. & politician (DNB; Henning)
28	Cavendish, William, 3rd Earl of Devonshire (1617)	(?)		Landed aristocrat with learned interests (DNB)
29	Ward, Seth (1617)	Adm. 18 Dec 1661		Bishop of Exeter (1662), trans. to Salisbury (1667), etc. (DNB; DSB)
30	Bate, George (1608)	12 Dec 1660		Court physician & author (DNB)
31	Ent, George (knighted 1665) (1604)	(?)		Physician, Pres. RCP, etc. (DNB; DSB)
32	Brereton, William (3rd Baron Brereton 1664) (1631)	Prop. 19 Dec 1660		Nobleman & natural philosopher (Henning; Crossley, ed., Worthington, *Diary*, 1 (Chetham Soc., 1847): 212–3)
33	Oldenburg, Henry (?1618)	?26 Dec 1660		Natural philosopher (DNB; DSB)
34	Berkeley, George, 9th Baron (1st Earl of Berkeley 1679) (1628)	(?)		Statesman with colonial interests (DNB)
35	Cavendish, William, Lord Cavendish (4th Earl of Devonshire 1684) (1641)	(?)		Politician, etc. (DNB; Henning)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Slightly active to 1666; thereafter inactive	Payments in 1660–63, 1666 only		Exp. 1685	1692
	Inactive except 11 : 245	Regular (except 3 yrs' arrears in 1682)	1, 3*		1684
Council 1664, 1666–78	Regular attendance & occasional contributions till 1675; barely active thereafter	Regular till 1682 only	1, 3, 4*		1689
	Inactive	£10 paid in 1663; nothing thereafter		(See no. 136a)	1668
Council 1662–3, 1666–8	Very active in 1660s; inactive after 1670	Regular till *c.*1670; £5 paid in 1675	2	Res. 1675	1689
Council 1662–3, 1667–9, 1671	Active in 1660s; barely thereafter	Regular in 1660s; 11 yrs' arrears paid in 1680	1, 3, 5*		1680
Secretary 1663–77; Council 1662–76	Very active	Exempt	1, 3*		1677
Council 1668, 1671–3, 1676, 1679, 1683–4, 1687–8	Slightly active, mainly in 1660s	Regular till 1685 only	1, 3*		1698
	Barely active (present 1666, 1682)	Payments in 1660–63 only		Exp. 1685	1707

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
36	Rawlins, Giles (?)	Prop. 26 Dec 1660		Gentleman of Privy Purse to Duke of York (N&RRS, XIV (1960): 177)
37	Ashmole, Elias (1617)	"		Windsor Herald, govt. official & virtuoso (DNB; DSB; C. H. Josten, 1966)
38	Evelyn, John (1620)	"		Govt. official, courtier, & virtuoso (DNB; DSB; Evelyn, *Diary*)
39	Holder, William (1616)	16 Jan 1661		Divine & writer (DNB)
40	Scarburgh, Charles (1615)	"		Physician to Charles II, etc., & author (DNB; Henning)
41	Boyle, Richard (?)	Prop. 26 Dec 1660		Second son of Earl of Cork; naval volunteer (Foster)
42	Denham, John (KB 1661) (1615)	"		Poet, courtier & Surveyor General (DNB; Henning; B. O. Hehir, 1968)
43	Waller, Edmund (1606)	16 Jan 1661		Poet, etc. (DNB; Henning; W. L. Chernaik, 1968)
44	Wylde (Wilde), Edmund (*c.*1614)	"		Landed gent. & virtuoso (A. Powell, *John Aubrey*, 2nd edn, 1963, 253–8)
45	Pett, Peter (knighted 1663) (1630)	"		Lawyer & Irish office-holder (DNB)
46	Coventry, William (? 1628)	"		Politician & courtier (DNB; R. J. A. Shelley, 1932)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Regular 1661–2			1662
	Barely active	Regular	1, 3, 5*		1692
Secretary 1672–3; Council 1662–3, 1668, 1670, 1672, 1676, 1679, 1681–2, 1684–6, 1689–92, 1694, 1696–8	Very active esp. in early years	Regular	1, 3, 4, 1699*		1706
Council 1675, 1677, 1679, 1682, 1689, 1695	Fairly active till 1683; barely thereafter	Fairly regular (half exempt)	1, 3, 4*		1698
	Inactive	Payments in 1661–3 only		Exp. 1666	1694
	Inactive	Nothing paid			1665
	Inactive	Not even full adm. paid		Last in 1663 list, but exp. 1666	1669
	Slightly active in 1660s	Payments in 1661–3 only		Last in 1682 list	1687
Council 1673	Slightly active 1662, 1667–9 only	Regular	1, 3, 5		1696
	Inactive (but cf. 1 : 81)	Payments in 1661–3 only		Exp. 1675	1699
	Inactive	Payments in 1661–3		Not O.F.	1686

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
47	Povey, Thomas (*c.*1615)	(?)		Administrator & courtier (DNB; G. A. Jacobsen, *William Blathwayt*, 1932, 43–9)
48	Colwall, Daniel (?)	16 Jan 1661		Citizen of London, etc. (DNB)
49	Whistler, Daniel (1619)	Prop. 9 Jan 1661		Physician, writer, etc. (DNB)
50	Mountagu (Montagu), Edward, 1st Earl of Sandwich (1625)	Adm. 13 Feb 1661		Admiral, diplomat, & courtier (DNB; Henning; F. R. Harris, 1912)
51	Henshaw, Nathaniel (1628)	Prop. 26 Dec 1660		Physician & writer (DNB)
52	Hatton, Christopher, 1st Baron Hatton (1605)	(?)		PC, Govn. of Guernsey (DNB)
53	Persall (Pearsall), Sir William (?)	Prop. 26 Dec 1660		Staffs. gent. with scientific interests (Taylor, 236)
54	Lucas, John, 1st Baron Lucas (1606)	(?)		Royalist nobleman renowned for his learning (GEC)
55	Pierrepont, Henry, 1st Marquis of Dorchester (1606)	(?)		PC, etc., with scholarly interests (DNB)
56	Bruce, Robert, Lord Bruce (2nd Earl of Elgin 1663; 1st Earl of Ailesbury 1665) (*c.*1626)	(?)		Courtier & politician (GEC)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1663, 1679, 1691	Active in 1660s, late 1670s, 1686–92	Payments in 1661–3 only			Last in 1702 list
Treasurer 1665–79; Council 1663–86, 1689	Very active till 1686 only	Regular	1, 3, 5*		1690
Council 1663, 1666, 1674, 1676–7	Active in 1660s & 1670s; inactive thereafter	Regular in 1660s; 13 yrs' arrears in 1683, 8 of which paid	2		1684
Council 1668	Barely active except for frequent corresp.	Payments in 1661–3 only			1672
	Slightly active 1661–3	Payments in 1661–3 only			1673
	Inactive	Small contrib. in 1661–3 only			1670
	Slightly active 1661–2	Exempt			Last in 1670 list
	Inactive	Payments in 1661–3 only		Exp. 1666	1671
Council 1663	Inactive	Not even full adm. paid			1680
Council 1669, 1670, 1674, 1675	Slightly active	Fairly regular	1, 3, 5*		1685

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
57	Wallis, John (1616)	6 Mar 1661		Savilian Prof. of Geometry at Oxford, etc. (DNB; DSB; J. F. Scott, 1938)
58	Tuke, Samuel (knighted 1664) (?)	"		Courtier, diplomat, & dramatist (DNB)
59	Glisson, Francis (1597)	"		Regius Prof. of Physic at Cambridge, etc. (DNB; DSB)
60	Blount, Sir Henry (1602)	"		Traveller, etc. (DNB)
61	Cowley, Abraham (1618)	"		Poet & courtier (DNB; A. H. Nethercot, 1931)
62	Quartremaine (Quartermain), William (1618)	20 Mar 1661		Physician in Ordinary to Charles II, MP, etc. (Henning; Foster)
63	Vaughan, John, Lord (3rd Earl of Carbery 1686) (1639)	"		Courtier, Govn. of Jamaica, etc. (DNB s.v. R. Vaughan, 2nd Earl, ?1600–1686; Henning)
64	Vermuyden, Cornelius (?*c.*1626)	Prop. 1 Apr 1661		?Son of the drainage engineer Sir C. V. (DNB s.v. Sir C. V., ?1595–?1683)
65	Finch, Sir John (1626)	(?)		MD & diplomat (DNB; A. Malloch, *Finch & Baines*, 1917)
66	Baines (Baynes), Thomas (knighted 1672) (1622)	(?)		MD & Gresham Prof. of Music (DNB; A. Malloch, *Finch & Baines*, 1917)
67	Spencer, Robert, 2nd Earl of Sunderland (1640)	Adm. 15 May 1661		Statesman (DNB; J. P. Kenyon, 1958)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1662	Frequent corresp. and slightly active	Regular till early 1670s only (half exempt)	1, 3, 4, 1699*		1703
Council 1670	Fairly active 1661–4; barely thereafter	Fairly regular			1674
	Slightly active	Regular	1, 3		1677
	Inactive	Never in accounts		Not O.F.	1682
	Inactive	Never in accounts		Not O.F.	1667
	Slightly active	Regular			1667
President 1686–9; Council 1685, 1689	Frequent attendance 1685–8	Regular 1685–93 only	*	Not O.F. (see no. 420a)	1713
	Slightly active in 1661–3 only	Payments in 1661–3 only (off accounts after 1666)		Last in 1672 list	(?)
Council 1671	Barely active	Payments in 1661–3 & 1673 only	2, 3		1682
	Barely active	Payments in 1661–3 only			1681
	Inactive	Never in accounts		Not O.F.	1702

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
68	Charleton, Walter (1620)	Adm. 15 May 1661		Physician & author (DNB; DSB; S. Fleitmann, 1986)
69	Alleyn, John (1621)	"		Lawyer & MP (Henning)
70	Hammond, William (?1614)	Prop. 23 Jan 1661		Kentish gent. & ?lawyer (see p. 73)
71	Talbot, Sir Gilbert (*c.*1606)	Adm. 22 May 1661		Master of Jewel Office to Charles II, diplomat, etc. (Henning)
72	Pope, Walter (*c.*1627)	"		Gresham Professor of Astronomy, etc. (DNB)
73	Palmer, Dudley (*c.*1617)	Adm. 28 May 1661		Lawyer & virtuoso (Foster)
74	Villiers, George, 2nd Duke of Buckingham (1628)	Adm. 5 Jun 1661		Statesman & courtier (DNB; J. H. Wilson, 1954)
75	White, Richard (?)	26 Jun 1661		Mathematician & gent. (Aubrey, *Brief Lives*, 1898, I: 369; Evelyn, *Diary*, III: 33 n)
76	Pettus, Sir John (1613)	"		Deputy Govn. of Royal Mines, etc. (DNB; Henning)
77	Ellis (Ellise), Andrew (?)	14 Aug 1661		Deputy Postmaster (1667) (CSP Dom, 1667, etc.)
78	Stanley, Thomas (1625)	"		Poet & classical scholar (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Very active in early 1660s; inactive after 1668	Payments in 1661–3 only; thereafter exempt		Last in 1667 list	1707
	Inactive	Regular			1663
	Barely active (1661)	Payments in 1661–6 only		Last in 1681 list	?1685
Council 1663, 1668	Attends on Council & slightly active in 1660s; inactive thereafter	Fairly regular till *c.*1670 only	2, 3	Exp. 1685	1695
Council 1666, 1668	Active in 1660s; barely thereafter	Exempt	2, 3, 4	Last in 1698 list	1714
Council 1662–6	Very active, esp. as Council member	Regular			1666
	Inactive (except at admission)	Payments in 1661–3 only		Exp. 1685	1687
	Inactive	Never in accounts		Not O.F.	(?)
	Inactive	Never in accounts		Not O.F. & never in lists (though cf. no. 149b)	1685
	Slightly active 1661–4, mainly as legal adviser	Payments in 1661–3 only			1672
	Inactive	Small payment in 1661–3 only			1678

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
79	Erskine (Aerskine), William (?)	14 Aug 1661		Cupbearer to Charles II, Master of Charterhouse, etc. (DNB)
80	Nott, Sir Thomas (1606)	"		Courtier (DNB)
81	Harley, Sir Robert (1626)	"	Slingsby (F 14)	Courtier & Keeper of Seals in Barbados (Henning; HMC *Portland*, III)
82	Needham, Jasper (Caspar) (*c.*1623)	Adm. 28 Aug 1661		London physician; Censor RCP (Venn)
83	Wyche, Sir Cyril (? 1632)	"		Politician, office-holder, etc. (DNB; Henning)
84	Jones, Richard (3rd Viscount Ranelagh 1670, 1st Earl of Ranelagh 1674) (1641)	Adm. 11 Sep 1661		Irish politician & office-holder (DNB; Henning)
85	Murray, Mungo (*c.*1595)	11 Sep 1661	Moray (F 4)	Former Gresham Prof. of Astronomy & Norfolk parson (Ward, *Lives*, 88–90)
86	Pockley, Thomas (?)	"	Wilkins (F 6)	Physician, etc. (Venn; Raven, *Ray*, 45)
87	Clotworthy, Sir John, 1st Viscount Massereene (?)	Adm. 11 Sep 1661		Irish landowner & politician (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1662–8, 1670–72, 1676, 1678, 1681	Very regular Council member in 1660s; slightly active thereafter	Regular	1, 3*		1685
	Inactive	Payments in 1661–3 only		Exp. 1675	1681
	Inactive (but cf. 11 : 167)	Payments in 1661–3 only; thereafter exempt			1673
	Barely active (1661)	Regular	1, 3	Res. 1674	1679
President 1683–4; Council 1675, 1680, 1682–90, 1695, 1697, 1699	Regular attendance in 1680s; slightly active otherwise	Regular till *c.*1692 & from 1698	1, 3, 5*		1707
	Inactive	Payments in 1661–3 only		Exp. 1682	1712
	Inactive	Never in accounts		Not O.F.	1670
	Inactive	Never in accounts			1661
	Occasional corresp.	Only part of adm. paid			1665

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
88	Clayton, John (knighted 1664) (*c.*1620)	Adm. 30 Oct 1661		Lawyer, landed gent., & virtuoso (E. & D. S. Berkeley, *John Clayton*, 1963, 9–13)
89	Packer, Philip (*c.*1620)	Adm. 13 Nov 1661		Barrister & Kentish gent. (Foster; Evelyn, *Diary*, II: 548 n)
90	Willis, Thomas (1621)	"		MD, Sedleian Prof. of Natural Philosophy at Oxford, etc. (DNB; DSB; H. Isler, 1968)
91	Le Fevre (Le Febure), Nicasius (*c.*1610)	Adm. 4 Dec 1661	Moray (F 4)	Chemist to Charles II (DNB; DSB)
92	Hoskins (Hoskyns), John (knighted 1676) (1634)	"	Wilkins (F 6)	Barrister & Herefordshire gent.; Master of Chancery (1676) (DNB; Henning)
93	Haak, Theodore (1605)	"	Brouncker (F 1)	German scholar & translator (DNB; DSB; P. R. Barnet, 1962)
94	Long, James (2nd bart. 1673) (1616)	"	Ball, W. (F 9)	Wilts. gent. & MP (DNB; Henning)
95	Willoughby, Francis (1635)	"	Wilkins (F 6)	Naturalist & Warwicks gent. (DNB; DSB; Raven, *Ray*)
96	Gauden, John (*c.*1605)	(?)		Bishop of Exeter; trans. to Worcester, 1662 (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Fairly active 1661–3 only (but cf. III: 330)	Irregular but persistent in 1660s		Last in 1668 list	*c.*1710
Council 1679, 1681–2, 1686	Fairly active, esp. 1660s, late 1670s, 1680s	Regular	1, 3*		1686
	Barely active	Nothing paid	2, 3	Not O.F. (see no. 153a)	1675
	Slightly active	Payments in 1661–3 only; thereafter exempt			1669
President 1682–3; Secretary 1685–7; Council 1663, 1666–7, 1669, 1672–4, 1676–99	Very active	Regular till 1673 & in 1684; arrears paid in 1682, 1698	1, 3, 4*		1705
Council 1678	Active, esp. concerning foreign corresp., till 1685 only	Regular till 1685 only	1, 3, 5*		1690
	Very active in 1663; occasionally thereafter	Regular in early 1660s; thereafter payments in 1675–6, 1682 only	2	(see no. 130a)	1692
	Slightly active; frequent corresp.	Regular			1672
	Inactive	One payment in 1661–2			1662

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
97	Paston, Robert (2nd bart. 1663; 1st Viscount Yarmouth 1673; 1st Earl of Yarmouth 1679) (1631)	Adm. 18 Dec 1661	Henshaw, N. (F 51)	Norfolk landowner, courtier, etc. (DNB; Henning)
98	Winthrop, John (1606)	Adm. 1 Jan 1662	Brereton (F 32)	Govn. of Connecticut (DNB; R. C. Black, 1966)
99	Brooke (Brookes), John (baronet 1676) (1635)	Adm. 8 Jan 1662	Petty, W. (F 8) Ball, W. (F 9)	Yorkshire gent., MP, etc. (Henning; A. Hill, *Familiar Letters*, 1767, 87–125)
100	Proby, Henry (?)	Adm. 5 Feb 1662	Wilkins (F 6)	Barrister (*Mid. Temp. Adm. Reg.*, 1: 142; Venn)
101	Williamson, Joseph (knighted 1672) (1633)	"	Povey (F 47)	Statesman & courtier (DNB; Henning)
102	Lane, Sir George (*c.*1621)	Adm. 19 Feb 1662	Petty, W. (F 8)	Later 2nd bart. & Viscount Lanesborough, Irish politician & office-holder (GEC)
103	Stanhope, Alexander (1638)	26 Feb 1662	Brouncker (F 1)	Courtier & diplomat (Evelyn, *Diary*, III: 551–2 n; B. Williams, *Stanhope*, 1932, 1–7)
104	Power, Henry (1623)	"		Halifax physician & natural philosopher (DNB; DSB)
105	Graunt, John (1620)	Adm. 5 Mar 1662		Citizen of London & statistician (DNB; DSB; N&RRS XIX (1964): 63–100)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active (1663)	Regular till *c.*1666 only		Exp. 1682	1683
	Active 1662–3; occasional corresp. thereafter	Exempt			1676
	Slightly active (1661, 1672)	Payments in 1662–3; arrears paid 1667, 1673, but not thereafter	1, 3, 5*	Exp. 1685	1691
	Barely active (1662)	Regular			Last in 1664 list
President 1677–80; Council 1666, 1674–90, 1693, 1696	Slightly active; attendance esp. in late 1670s–1680s	Regular in 1660s; 16 yrs' arrears in 1684, when 4 yrs'paid; nothing paid thereafter	1, 3, 5*		1701
	Inactive	Never in accounts		Not O.F.	1683
	Barely active (1663)	Payments in 1662–3 only till arrears paid in 1670		Res. 1670	1707
	Frequent corresp. 1661–5	Exempt		Not O.F. (see no. 141a)	1668
Council 1664	Active in early 1660s; inactive after 1666 except II : 200	Regular in 1660s; 4 yrs' arrears in 1673			1674

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
106	Wyche, Sir Peter (1628)	Adm. 2 Apr 1662	Colwall, D. (F 48)	Diplomat & translator (DNB s.v. Sir P. Wyche, *d.* 1643)
107	Southwell, Robert (knighted 1665) (1635)	Adm. 7 May 1662	Boyle (F 2)	PC, Secretary of State, & diplomat (DNB; Henning; Marquis of Lansdowne, ed., 1928)
108	De Vic, Sir Henry (*c.*1599)	"	Moray (F 4)	Resident at Brussels & Chancellor of Order of the Garter (GEC Bar., III: 11)
109	Shaen, James (baronet, 1663) (?)	17 Sep 1662	Moray (F 4)	Irish politician & office-holder (GEC Bar., III: 323)
110	Schroter, William (?)	"	Boyle (F 2)	Virtuoso & traveller (Oldenburg, IX: 168)
111	Hayes, James (knighted 1670) (?)	"	Wilkins (F 6)	Secretary to Prince Rupert; active in Hudson's Bay Co. (E. E. Rich, ed., *Hudson's Bay Co. Minutes, 1679–84* (1945–6), II: 322 f.)
112	Pett, Peter (1610)	"	Boyle (F 2)	Navy Commissioner (DNB; Henning)
113	Winde (Wynde), William (?)	"	Wilkins (F 6)	Army officer & architect (H. M. Colvin, *Biog. Dict. British Architects*, 1978, 902–5)
114	More, Henry (1614)	"	Wilkins (F 6)	Cambridge Platonist (DNB; DSB; S. Hutton, ed., 1987; A. R. Hall, 1990)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1663, 1670	Regular attendance 1663–4; slightly active thereafter esp. as corresp.	Regular till *c.*1668; subsequent payments in 1677, 1683 only	5*	Last in 1693 list	?1699
President 1690–95; Council 1669, 1673–5, 1677, 1679, 1681, 1689–99	Active, esp. in 1670s & early 1680s; very active in 1690s	Fairly regular	1, 3, 5, 1699*		1702
	Inactive	Never in accounts		Not O.F.	1671
Council 1674	Barely active except council attendance	Regular till *c.*1666; payments in 1670, 1675, but not thereafter	2, 3, 5*	Exp. 1685	1695
	Slightly active	Only adm. paid; exempt from 1666		Last in 1684 list	(?)
Council 1667, 1670	Slightly active in 1660s; inactive after 1671	Fairly regular in 1660s only	3, 5*	Exp. 1685	1693
	Inactive (but cf. 11: 153, 157)	Only adm. paid		(last in 1671 list)	*c.*1672
	Barely active (1662, 1664)	Regular till 1665 only	*	Exp. 1685	1722
	Inactive	Exempt		Not O.F. (see no. 164a)	1687

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
115	Barrow, Isaac (1630)	17 Sep 1662		Master of Trinity Coll., Cambridge, mathematician, etc. (DNB; DSB; P. H. Osmond, 1944; M. Feingold, ed., 1990)
116	Cudworth, Ralph (1617)	"	Wilkins (F 6)	Cambridge Platonist (DNB; DSB)
117	Fane, Sir Francis (?)	1 Oct 1662	Croone (F 20)	Dramatist, etc. (DNB)
118	Terne, Christopher (1620)	8 Oct 1662	Croone (F 20)	London physician, lecturer & author (DNB)
119	Hoare, William (?)	15 Oct 1662	Petty, W. (F 8)	Physician, Candidate RCP (Venn; Munk)
120	Smith (Smyth), George (1630)	19 Nov 1662		Physician, Candidate RCP (Foster)
121	Dryden, John (1631)	"		Poet & dramatist (DNB; C. E. Ward, 1961)
122	Bysshe, Sir Edward (*c.*1615)	"	Wilkins (F 6)	Clarenceux King-of-Arms & Surrey MP (DNB; Henning)
123	Howard, Charles (1630)	24 Dec 1662	Tuke (F 58)	Landed aristocrat & virtuoso (DNB sup.)
124	King, Sir Andrew (?)	"	Graunt (F 105)	Merchant living at Gresham Coll. (Davies; Ward, *Lives*, 329)
125	Annesley, James, Lord Annesley (*c.*1645)	7 Jan 1663	Shaen (F 109)	Heir to Earl of Anglesey, MP, etc. (Henning; GEC)
126	Neile, William (1637)	"	Moray (F 4)	Mathematician, PC, etc. (DNB)
127	Aubrey, John (1626)	"	Charleton (F 68)	Gent. & virtuoso (DNB; A. Powell, 2nd edn, 1963; M. Hunter, 1975)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Nothing ever paid (half exempt)	2, 3		1677
	Inactive	Never in accounts		Not O.F.	1688
	Inactive	Only adm. paid		Exp 1682	?1689
	Barely active (1666)	Fairly regular			1673
	Slightly active 1666	Only adm. paid			1666
Council 1669, 1674	Slightly active up to mid 1670s; inactive thereafter	Good paymaster till *c.*1673 only	1, 4*	Exp. 1685	1702
	Inactive	Only adm. paid		Exp. 1666	1700
	Inactive	Regular till *c.*1666 only		(see no. 140a)	1679
Council 1663–4, 1667, 1669, 1672, 1677	Active till *c.*1673; fairly active 1676–8; barely thereafter	Generally regular till 1695	1, 3, 5*		1713
	Slightly active, mainly as corresp.	Regular		Res. 1667	1679
	Inactive	Arrears paid in 1666 but not thereafter		Exp. 1682	1690
Council 1666	Active almost entirely in late 1660s	Regular			1670
	Active	Payments in 1661–7 only; exempt 1680			1697

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
128	Beale, John (1608)	7 Jan 1663		Somerset divine & natural philosopher (DNB; *Ann. Sci.*, XXXIX (1982): 463–89, XLVI (1989): 323–63)
129	Crisp, Sir Nicholas (*c.*1598)	18 Mar 1663	Colwall, D. (F 48)	Merchant, customs farmer, etc. (DNB; Henning)
130	Potter, Francis (1594)	"		Somerset parson & natural philosopher (DNB)
130a	Long, James	1 Apr 1663	Tuke (F 58)	Re-election: see no. 94
131	Cotton, Edward (*c.*1616)	Adm. 15 Apr 1663	Ball, W. (F 9)	Exeter divine (Foster)
132	Sprat, Thomas (1635)	15 Apr 1663	Wilkins (F 6)	Divine & author; Bishop of Rochester (1684) (DNB; DSB)
133	Lowther, Anthony (1641)	22 Apr 1663	Wilkins (F 6)	Gent. of Yorks. & Essex & MP (Henning; N&RRS, XXXI (1976): 139–40)
134	Bruce, David (?)	20 May 1663	Kincardine (F 3) Moray (F 4)	Scottish physician with court connections (DNB)
135	Ball (Balle), Peter (*c.*1638)	"	Ball, W. (F 9)	MD & FRCP (DNB)
136	Hooke, Robert (1635)	3 Jun 1663		Natural philosopher, Cutlerian lecturer, etc. (DNB; DSB; M. 'Espinasse, 1956; M. Hunter & S. Schaffer, eds., 1989)
136a	Bate, George	"		Re-election: see no. 30

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Frequent corresp.	Exempt	2, 3	Not O.F. (see no. 149a)	1683
	Inactive	Never in accounts		Not O.F.	1666
	Inactive except for occasional corresp. through Aubrey	Fairly regular till *c.*1672 only		Not O.F. (see no. 152a). Last in 1674 list	1678
	Corresp. & occasionally at meetings	Regular	1, 3		1675
	Inactive except for writing *History*	Nothing paid; exempt from 1670s	2, 3		1713
	Inactive	Regular till 1666 only		Exp. 1682	1693
	Inactive	Nothing paid		Exp. 1675	(?)
Council 1664, 1666, 1669	Active in 1660s; inactive after 1670	Regular in 1660s only	*		1675
Curator of Expts. 1662–88; Secretary 1677–82; Council 1677–81, 1684, 1686, 1689–90, 1692–5, 1697–9	Very active indeed	Exempt	1, 3, 4, 1699		1703

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
137	Lindsay, John, 17th Earl of Crawford & 1st Earl of Lindsay (1596)	22 Jun 1663		Lord High Treasurer (DNB)
138	Berkenhead (Birkenhead), Sir John (1617)	"		Royalist journalist & courtier (DNB; Henning; P. W. Thomas, 1969)
139	Huygens, Christiaan (1629)	"		Dutch natural philosopher (DSB)
140	Sorbière, Samuel (1615)	"		French divine & writer (*Nouv. Biog. Gen.*)
140a	Bysshe, Sir Edward	"		Re-election: see no. 122
141	Isham, Sir Justinian (1611)	1 Jul 1663	Long (F 94)	Northants. gent. & MP (DNB; Henning; Sir G. Isham, ed., *Correspondence*, 1955)
141a	Power, Henry	"	Wilkins (F 6)	Re-election: see no. 104
142	Fraizer (Frazer), Alexander (?1610)	8 Jul 1663	Moray (F 4)	Physician to Charles II; FRCP (DNB)
143	Beaufort Vabres de Fresars, Victor (?)	16 Jul 1663	Moray (F 4)	Noble French abbé (Birch, 1: 279, 406)
144	Harley, Sir Edward (1624)	22 Jul 1663	Harley, R. (F 81)	MP, KB, etc. (DNB; Henning)
145	Ford, Henry (knighted 1672) (1617)	"	Long (F 94)	Secretary to Lord Lieutenant of Ireland, etc. (DNB; Henning)
146	Talbot, Sir John (1630)	29 Jul 1663	Brouncker (F 1)	Army colonel, courtier, & MP (Henning)
147	Waterhouse, Edward (1619)	Adm. 29 Jul 1663	Wilkins (F 6)	Misc. writer (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Slightly active in 1663	Payments in 1663, 1665 only			1678
	Inactive	Nothing paid (not in accounts till 1678)			1679
	Frequent corresp. till *c.*1675; attend. in 1689	Foreign member			1695
	Barely active (1663)	Foreign member			1670
	Inactive (never adm.)	Never in accounts		In 1674 list only (see no. 300a)	1675
	Inactive (never adm.)	Never in accounts		Never in lists	1681
	Inactive	Foreign member		Last in 1674 list	(?)
	Barely active (1664)	Only adm. paid		Exp. 1685	1700
	Inactive	Only adm. paid		Exp. 1682	1684
	Barely active (1666)	Regular till *c.*1668 only	2, 3	Exp. 1685	1714
	Slightly active 1663–4	Regular till *c.*1666			1670

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
148	Cooper, Anthony Ashley, Lord Ashley (1st Earl of Shaftesbury 1672) (1621)	5 Aug 1663	Brouncker (F 1)	Politician (DNB; Henning; K. H. D. Haley, 1968)
149	Bathurst, Ralph (1620)	19 Aug 1663		Physician, divine, Pres. of Trinity Coll., Oxford (DNB)
149a	Beale, John	"		Re-election: see no. 128
149b	Pettus, Sir John	"		Re-election: see no. 76
150	Campbell, Archibald, 9th Earl of Argyle (1629)	28 Oct 1663	Moray (F 4)	Scottish Privy Councillor, etc. (DNB; J. Willcock, 1907)
151	Coxe, Thomas (?)	4 Nov 1663	Boyle (F 2)	Physician; son of T. Coxe senior (F 23) (Venn)
152	Gomeldon, William (?)	11 Nov 1663		Merchant; Sheriff for Kent (Hasted, *History of Kent*, 1778–99, I: xiv, III: 449)
152a	Potter, Francis	"		Re-election: see no. 130
153	Mordaunt, Henry, 2nd Earl of Peterborough (?1624)	18 Nov 1663	Brouncker (F 1)	Politician & courtier (DNB)
153a	Willis, Thomas	"		Re-election: see no. 90
154	Leighton, Sir Elisha (?)	9 Dec 1663	Moray (F 4)	Courtier, Secretary of Prize Office, etc. (DNB)
155	Creed, John (?)	16 Dec 1663	Brouncker (F 1)	Deputy Treasurer of Fleet, etc. (DNB s.v. Elizabeth Creed, ?1644–1728)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1664, 1667, 1673	Barely active	Regular in 1660s; subsequent payments in 1673, 1676 only	3		1683
	Barely active	Arrears paid in 1667, 1675, 1682 only (half exempt)	2, 3		1704
	Inactive	Fairly regular in 1660s only		Exp. 1682	1685
	Active in 1665–7 only	Regular in 1660s; arrears paid in 1674 but not thereafter		Exp. 1685	(?)
	Barely active (1663)	In 1664 accounts only; only adm. paid		Never in lists	1703
	Inactive	Nothing paid		Exp. 1682	1697
	Barely active (1664)	Regular till *c.*1668 only	*	Last in 1677 list	1685
Council 1666–7, 1669, 1671, 1673, 1676, 1678, 1680, 1682, 1684, 1686, 1689, 1691, 1693, 1696	Frequent attendance	Regular till mid 1670s only; payments in 1698–1700	1, 3, 5*		Last in 1699 list

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
156	Boyle, Charles, Viscount Dungarvan (Lord Clifford 1665) (1639)	6 Jan 1664	Boyle (F 2)	Landed aristocrat & MP (Henning; GEC s.v. Cork & Burlington)
157	Lowther, Sir John (1643)	27 Jan 1664	Whistler (F 49)	Cumberland landowner, entrepreneur, MP & office holder (DNB sup.; Henning; J. V. Beckett, *Coal & Tobacco*, 1981)
158	Smith (Smyth), Edward (?)	"	Merrett (F 17)	? Gloucs. gent. (see p. 73)
159	Hay, John, 2nd Earl of Tweedale (1626)	3 Feb 1664	Moray (F 4)	Scottish statesman (DNB)
160	Williams, Roger (?)	"	Neile, P. (F 5)	? (see p. 73)
161	Burnet, Gilbert (1643)	23 Mar 1664	Moray (F 4)	Divine; Bishop of Salisbury (1689) (DNB; T. E. S. Clarke & H. C. Foxcroft, 1907)
162	Carkesse, James (?)	"	Wilkins (F 6)	Clerk in Ticket Office; later in Bedlam (DNB; E. G. O'Donoghue, *Bethlehem Hospital* (1914), 219–22)
163	Hevelius, Johann (1611)	30 Mar 1664	Moray (F 4)	Astronomer of Danzig (DSB)
164	Vossius, Isaac (1618)	20 Apr 1664	Charleton (F 68)	Dutch scholar who settled in England in 1670 (DNB)
164a	More, Henry	25 May 1664	Wilkins (F 6)	Re-election: see no. 114
165	Neale (Neile), Thomas (1641)	1 Jun 1664	Hoskins (F 92)	Hants. gent., courtier, & projector (DNB; Henning)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Only adm. paid		Exp. 1685	1694
Council 1664, 1667, 1670, 1672–4, 1676–7, 1680–82, 1686, 1691	Regular attendance; contribs. to discussion 1677–9, 1685; inactive after 1685	Regular till 1695 only	1, 3, 5*		1706
	Inactive	Regular (to 1670)		Last in 1668 list	?1670
	Inactive	Payments in 1664, 1666 only		Exp. 1685	1697
	Inactive (but cf. 1: 388)	Regular payments 1664–5		Never in lists	?1665
	Inactive	Regular in 1660s; nothing paid thereafter	*		1715
	Inactive	Regular till 1670 only		Exp. 1675	(?)
	Frequent corresp.	Foreign member			1687
	Slightly active in 1670s only (but cf. IV: 499; 7: 138)	Payment in 1678 only; previously exempt (Foreign member)	*		1689
Council 1667	Barely active	Regular in 1660s; arrears paid in 1674, but not thereafter	2, 5*	Exp. 1685	1699

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
166	Godolphin, William (knighted 1668) (1635)	2 Nov 1664	Charleton (F 68)	Undersecretary of state & diplomat (DNB; Henning)
167	Hoare, James (?)	"	Slingsby (F 14)	Controller of Mint (CSP Dom, passim)
168	Newburgh, John (?)	"	Wilkins (F 6)	Dorset gent. (Oldenburg, VI: 226)
169	Woodford, Samuel (1636)	"	Wilkins (F 6)	Hants. gent., cleric (1669), and poet (DNB)
170	Atkyns, Sir Robert (1647)	9 Nov 1664	Wilkins (F 6)	Gloucs. gent., MP, & antiquary (Henning; *Trans. Bristol & Gloucs. Arch. Soc.*, XXXV (1912): 69–92, L (1928): 243–5)
171	Cutler, Sir John (? 1608)	"		London financier (DNB; Henning)
172	Bagenall (Bagnal), Nicholas (1629)	23 Nov 1664	Ball, W. (F 9)	Anglesey gent. & MP (Henning)
173	Thynne, Thomas (2nd bart. 1681, 1st Viscount Weymouth, 1682) (1640)	"	Neile, P. (F 5)	Politician, diplomat, etc. (DNB; Henning)
174	Hervey (Harvey), John (1616)	7 Dec 1664	Brouncker (F 1)	Treasurer to Catherine of Braganza (DNB; Henning)
175	Glanvill, Joseph (1636)	14 Dec 1664	Brereton (F 32)	Divine & propagandist of the new philosophy (DNB; DSB; J. I. Cope, 1956)
176	Rolt, Thomas (*c.*1641)	"	Coxe, T. (F 23)	Beds. gent. (Venn)
177	Slanning, Sir Nicholas (1643)	21 Dec 1664	Evelyn (F 38)	Devonshire gent., courtier, & MP (Henning)
178	Churchill, Sir Winston (1620)	28 Dec 1664	Petty, W. (F 8)	Politician & courtier (DNB; Henning; A. L. Rowse, *The Early Churchills*, 1956)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active (1668)	Payments in 1666, 1668 only			1696
	Inactive	Payments in 1666–8, 1677–8, 1682 only		Exp. 1682	1696
	Occasional corresp.	Regular till *c.*1672 only	2, 3, 5	Exp. 1685	(?)
	Inactive	Payments in 1666, 1668 only		Exp. 1682	1700
	Inactive	Regular till *c.*1669 only		Exp. 1685	1711
Council 1673	Attends once on Council only	Hon. Fellow	2, 3, 5		1693
	Barely active (1665–6)	Irregular but persistent till 1685 only		Last in 1699 list	1712
	Barely active	Payments in 1666, 1676–80 only	*		1714
	Inactive (never adm.)	Never in accounts		Never in lists	1680
	Occasional corresp.	Only adm. paid	2, 3*		1680
	Inactive	Payments in 1666–7 only			1672
	Inactive	Only adm. paid		Exp. 1682	1691
	Inactive	Only adm. paid		Exp. 1685	1688

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
179	Portman, Sir William (1643)	28 Dec 1664	Graunt (F 105)	Influential West Country landowner (DNB; Henning)
180	Charles II (1630)	9 Jan 1665		
181	James, Duke of York (James II, 1685) (1633)	"		
182	Monck, George, 1st Duke of Albemarle (1608)	"	Brouncker (F 1)	Statesman (DNB; Henning; M. Ashley, 1977)
183	Howard, William, 1st Viscount Stafford (1614)	18 Jan 1665	Neile, P. (F 5)	Landed Catholic aristocrat (DNB; S. N. D. (i. e., R. Meeres), 1929)
184	Ferdinand Albrecht I, Duke of Brunswick-Lüneberg (1636)	25 Jan 1665		German Duke & virtuoso (*Allg. Deutsch. Biog.*)
185	Hyde, Edward, 1st Earl of Clarendon (1609)	8 Feb 1665		Lord Chancellor (DNB; R. W. Harris, 1983)
186	Blount, Thomas (*c.*1604)	"	Wilkins (F 6)	Former MP & Parliamentarian colonel & inventor (DNB)
187	Pepys, Samuel (1633)	15 Feb 1665	Povey (F 47)	Naval administrator, etc. (DNB; Henning; A. Bryant, 1933–8)
188	Carteret, Philip (knighted 1667) (1642)	22 Feb 1665	Clarke (F 18)	Naval Lieutenant, etc. (GEC Bar., IV: 47; G. R. Balleine, *Biog. Dict. of Jersey*, 1948, 74–6)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Only adm. paid	5	Exp. 1685	1690
	Inactive	Patron			1685
	Inactive	Hon. Fellow		Last in 1688 list	1701
	Inactive	Hon. Fellow			1670
Council 1666, 1671–2	Slightly active till mid 1670s	Fairly regular; 6 yrs' arrears in 1680	1, 3, 5*		1680
	Occasional corresp.	Hon. Foreign member			1687
	Inactive	Hon. Fellow			1674
	Active in 1665–7	Regular 1665–7		Res. 1668	(?)
President 1684–6; Council 1672, 1674, 1676, 1681, 1684–9, 1691, 1693, 1695–6, 1699	Fairly frequent attendance esp. in 1680s; less thereafter	Regular till *c.*1689; one payment in 1698	1, 3, 5, 1699		1703
Council 1667	Slightly active while on Council	Only adm. paid			1672

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
189	Coxe, Daniel (1640)	22 Mar 1665	Wilkins (F 6)	Physician, author, & colonial adventurer (DNB sup.)
190	Sheldon, Gilbert (1598)	"		Archbishop of Canterbury (DNB; V. Staley, 1913)
191	Rupert, Prince (1619)	"		Privy Councillor, Admiral, virtuoso, etc. (DNB; E. Scott, 1899)
192	Sterne (Stearne), Richard (?1596)	29 Mar 1665		Archbishop of York (DNB)
193	Henchman, Humphrey (1592)	"		Bishop of London (DNB)
194	Dolben, John (1625)	"		Dean of Westminster, Bishop of Rochester (1666), Archbishop of York (1683) (DNB)
195	Corbett, Sir Richard (1640)	3 May 1665	Hoskins (F 92)	Shropshire gent. & MP (Henning)
196	Sackville, Richard, 5th Earl of Dorset (1622)	"	Northampton (F 26)	Courtier & politician (DNB s.v. Sir E. Sackville, 4th Earl, 1591–1652)
197	de Vaux, Sir Theodore (*c.*1628)	10 May 1665	Wilkins (F 6)	Physician to Charles II & Queen Catherine, etc. (Foster; Munk)
198	Montagu, Edward, 2nd Earl of Manchester (1602)	"	Moray (F 4)	Commissioner of the Great Seal, Lord Chamberlain, etc. (DNB)
199	Hawarde (Hayward), Sir William (*c.*1617)	17 May 1665	Northampton (F 26)	Surrey landowner, Gent. of the Privy Chamber, etc. (Henning)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1674	Very active in mid 1660s, fairly in 1670s; thereafter in 1687, 1700 only	Payments in 1666, 1699–1700 only	2, 3, 4, 1699*		1730
	Inactive (but cf. 11 : 462)	Hon. Fellow			1677
	Inactive though in contact with Royal Society	Hon. Fellow			1682
	Inactive	Hon. Fellow			1683
	Inactive	Hon. Fellow			1675
	Inactive	Hon. Fellow			1686
	Inactive	Payments in 1667, 1669 only			1683
Council 1672	Attends once on Council only	Arrears paid in 1667, 1675 only			1677
Council 1668, 1671, 1678, 1680	Active esp. in 1660s; inactive in mid 1670s; slightly active from 1679	Regular till mid 1670s only	1*		1694
	Inactive	Hon. Fellow			1671
	Inactive (never adm.)	Never in accounts		Never in lists	1704

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
200	Thrustone, Malachy (1629)	24 May 1665	Wilkins (F 6)	Fellow of Caius Coll., Cambridge, & physician practicing in Exeter (Venn)
201	Howard, Charles, 1st Earl of Carlisle (1629)	14 Jun 1665	Neile, P. (F 5)	Privy Councillor, Govn. of Jamaica, etc. (DNB)
202	Dumas, Vital (?)	28 Jun 1665		Agent of the French merchants (Oldenburg, II : 433)
203	Lionne, Hugues Louis de (?)	"		Son of French Secretary of State (Oldenburg, II : 433)
204	Cock, George (?)	21 Mar 1666	Brouncker (F 1)	Merchant & govt. official (DNB)
205	Harrington, William (?)	"	Wilkins (F 6)	Merchant active in E. India Co. (*E. India Co. Court Mins., 1664–7*, 218; Woodhead)
206	Coplestone, John (1623)	9 May 1666	Graunt (F 105)	Exeter divine (Venn)
207	Hay, John, Lord Yester (1645)	23 May 1666	Moray (F 4)	Son of Earl of Tweedale, Scottish PC, etc. (GEC, s.v. Tweedale)
208	Auzout, Adrian (1622)	"	Oldenburg (F 33)	Astronomer & Member of Académie des Sciences (DSB)
209	Crisp, Thomas (knighted 1703) (?)	"	Colwall, D. (F 48)	Merchant & Oxford gent. (Shaw, II : 273; Davies; *E. India Court Mins., 1677–9*)
210	Parker, Samuel (1640)	13 Jun 1666	Wilkins (F 6)	Divine & controversialist (DNB)
211	Nelthorpe, Edward (?)	27 Jun 1666	Wilkins (F 6)	?Merchant (Woodhead; GEC Bar., IV : 29)
212	King, Edmund (knighted 1686) (1629)	18 Jul 1666	Wilkins (F 6)	Physician to Charles II, etc. (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Regular till *c.*1672 only	2, 3	Last in 1677 list	1701
	Barely active (1667)	Only adm. paid	3	Exp. 1682	1685
	Inactive	Foreign member		Last in 1675 list	(?)
	Inactive	Foreign member		Last in 1681 list	(?)
	Slightly active in 1666 only	Regular in 1660s only		Last in 1672 list	1679
	Slightly active in 1666 only	Regular			1671
	Inactive (never adm.)	Never in accounts		Never in lists	1689
	Inactive	Payments in 1666–7 only		Exp. 1685	1713
	Frequent corresp; attends in 1682	Foreign member			1691
	Slightly active	Irregular but persistent; regular from 1698	5		Last in 1713 list
	Inactive	Only adm. paid		Last in 1684 list	1688
	Inactive	Regular till *c.*1670 only		Last in 1677 list	(?)
Council 1669, 1677, 1679, 1680, 1682, 1686, 1696	Very active in 1660s; fairly thereafter till 1696 only	Regular, except for 1673–7	1, 3, 4, 1699*		1709

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
213	Murray, David, 4th Viscount Stormont (?)	29 Aug 1666	Moray (F 4)	Scottish statesman (GEC)
214	Laney, Benjamin (1591)	14 Nov 1666	Ward, S. (F 29)	Bishop of Lincoln; trans. to Ely 1667 (DNB)
215	Mercator, Nicolas (i.e. Kauffman, Nicolaus) (?1620)	"	Moray (F 4)	Mathematician of Danish origin (DNB sup.; DSB)
216	Robartes, John, 2nd Baron Robartes (1st Earl of Radnor 1679) (1606)	"	Ward, S. (F 29)	Lord Privy Seal, Lord Pres. of Council, etc. (DNB)
217	Bertie, Robert, 3rd Earl of Lindsey (1630)	21 Nov 1666		Lord Great Chamberlain, etc. (Henning; GEC)
218	Howard, Henry (Baron of Castle Rising 1669; 6th Duke of Norfolk 1677) (1628)	28 Nov 1666		Traveller, diplomat, etc.; Earl Marshall & Earl of Norwich, 1672 (DNB; GEC)
219	Morley, George (1597)	"		Bishop of Winchester (DNB)
220	Rycaut, Paul (knighted 1685) (1629)	12 Dec 1666	Howard, H. (F 218)	Diplomat & writer (DNB; S. P. Anderson, 1989)
221	Lake, Thomas (knighted 1670) (?)	14 Feb 1667	Hayes (F 111)	?Middlesex gent. (DNB s.v. Sir T. Lake, 1567–1630; *Lincoln's Inn Adm. Reg.*, I (1896): 275)
222	Pearson, John (1613)	14 Mar 1667	Wren, M. (F 21)	Master of Trinity Coll., Cambridge; Bishop of Chester (1673) (DNB)
223	Clifton, Sir Clifford (1626)	28 Mar 1667	Ent, sen. (F 31)	Notts. gent. & MP (Henning; *Trans. Thoroton Soc.*, XXXVII: 40)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Only adm. paid			1668
	Inactive (never adm.)	Never in accounts			1675
	Barely active (1670)	Exempt (foreign member from 1682)	4		1687
	Inactive	Hon. Fellow			1685
	Inactive	Hon. Fellow			1701
Council 1666–76	Frequent attendance & occasional contributions till *c.*1674; inactive thereafter	Regular till *c.*1677 only	1, 3, 5*		1684
	Inactive	Hon. Fellow			1684
	Slightly active in early 1680s only; previously occasional corresp	Only adm. paid till 1682; regular 1682–6 only	2		1700
	Inactive	Only adm. paid			Last in 1674 list
Council 1675	Barely active (1676, 1678)	Regular in 1660s & 1670s only	1, 5*		1686
	Inactive	Only adm. paid			1670

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
224	Boulliau (Bullialdus), Ismael (1605)	4 Apr 1667	Oldenburg (F 33)	Catholic priest & astronomer (DSB)
225	Petitt, Pierre (1594 or 8)	"	Oldenburg (F 33)	French engineer, astronomer, etc. (DSB)
226	Smethwick, Francis (?)	"	Wilkins (F 6)	Library Keeper at Westminster & virtuoso (see p. 73)
227	Skippon, Philip (knighted 1675) (1641)	16 May 1667	Wilkins (F 6)	E. Anglian gent. & virtuoso (Henning; Raven, *Ray*, 52–3)
228	Harley, Thomas (?)	30 May 1667	Brouncker (F 1)	Herefordshire gent., etc. (HMC Portland, III)
229	Cascoigne (Guasconi), Sir Bernard (1614)	20 Jun 1667	Howard, H. (F 218)	Military adventurer & diplomat (DNB)
230	Needham, Walter (? 1631)	" (adm. 6 Apr 1671)	Wilkins (F 6)	London physician & anatomical writer (DNB)
231	Curtius, Sir William (?)	3 Oct 1667	Brereton (F 32)	English resident in Germany & Sweden (Evelyn, *Diary*, III: 36 n)
232	Berkeley, Sir Maurice (3rd Viscount Fitzhardinge, 1668) (1628)	17 Oct 1667 (adm. 5 Nov. 1668)	Neile, P. (F 5)	Privy Councillor, MP, etc. (Henning; GEC)
233	Reymes, Bullen (1613)	17 Oct 1667	Evelyn (F 38)	Dorset MP, Commissioner for Sick & Wounded Prisoners, etc. (Henning; H. A. Kaufman, 1962)
234	Lower, Richard (1631)	"	Ward, S. (F 29)	Physiologist & physician (DNB; DSB)
235	Collins, John (1625)	"	Ward, S. (F 29)	Govt. clerk & mathematician (DNB; DSB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Occasional corresp.	Foreign member		Last in 1691 list	1694
	Inactive	Foreign member			1677
	Slightly active	Exempt	2, 3, 4	Exp. 1682	(?)
	Slightly active in 1660s; occasional corresp. thereafter	Regular until *c.*1672; irregular in later 1670s; nothing paid after 1678	2, 3*		1691
	Inactive (never adm.)	Exempt		Last in 1674 list	*c.*1684
	Inactive (but cf. 11: 180)	Exempt		Exp. 1685	1687
Council 1671, 1673, 1675, 1677	Active in 1670s; inactive thereafter	Regular	1, 3, 4*		1691
	Occasional corresp.	Exempt			1678
	Inactive	Only adm. paid	5	Exp. 1682	1690
	Inactive	Regular in 1660s			1672
	Active in 1667–8 only	Exempt		Exp. 1675	1691
	Active esp. in late 1660s	Exempt	2, 3, 4		1683

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
236	Beringhen, Theodore de (1644)	24 Oct 1667	Erskine (F 79)	'Conseilleur of the Parlement of Paris', etc. (printed lists; Oldenburg, V: 95)
237	Clerke, Henry (1622)	"	Graunt (F 105)	Physician & Pres. of Magdalen Coll., Oxford (DNB)
238	Steward (Stewart), Sir Nicholas (1618)	"	Ward, S. (F 29)	Chamberlain of Exchequer, MP, etc. (Henning)
239	Ray (Wray), John (1627)	7 Nov 1667	Wilkins (F 6)	Naturalist (DNB; DSB; Raven, *Ray*)
240	Aglionby, William (*c.*1642)	"	Morgan (F 16)	MD, diplomat & writer (N&Q, 12 ser 9 (1921), 141–3)
241	Leijonberg (Leyonbergh), Johan (1625)	21 Nov 1667	de Vaux (F 197)	Swedish envoy (Birch, II: 214; A. Losman, *C. G. Wrangel och Europa*, 1980, 213–29)
242	Soame, William (baronet 1685) (1644)	"	Morgan (F 16)	Suffolk gent. & diplomat (Venn; GEC Bar., IV: 136)
243	Ubaldini, Carlo, Count of Montefeltri (?)	"	Oldenburg (F 33)	Tuscan nobleman & Protestant proselyte (Oldenburg, II: 457)
244	Berkeley, Sir Charles (Lord Dursley 1679) (1649)	"	Wilkins (F 6)	Gloucs. gent., MP, & courtier; son & heir of George, Lord Berkeley (F 34) (Henning; GEC s.v. Berkeley)
245	Oudart, Nicholas (?)	"	de Vaux (F 197)	Latin Secretary to Charles II, etc. (DNB)
246	du Moulin (Milne), James (?)	5 Dec 1667	Berkeley, G. (F 34)	Scottish acquaintance of Skippon, Ray, etc. (N&RRS, XLV (1991): 1–10)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active (1668)	Foreign member		Last in 1681 list	(?)
	Inactive	Payments in 1667–9 only	2		1687
	Inactive	Fairly regular till 1675; 11 yrs' arrears in 1682, of which 5 paid	2, 3, 5	Discharged 1682	1710
	Slightly active; corresp. when absent	Exempt	2, 3, 4		1705
Council 1683, 1686, 1690, 1694, 1696, 1698–9	Barely active till 1682; active thereafter	Exempt (1668), but pays subs. in early 1680s	*		1705
	Slightly active till 1681	Foreign member, but adm. paid	*		1691
	Inactive	Only adm. paid			1686
	Barely active (1669)	Foreign member		In 1668 list only	(?)
	Inactive	Payments in 1668–9 only	2	Exp. 1685	1710
	Inactive except 11 : 246	Only adm. paid	5		1681
	Inactive (except for French trans. of Sprat)	Regular till 1670 only	4	Exp. 1682	(?)

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
247	Downes (Downs), John (1627)	5 Dec 1667	Croone (F 20)	Physician to Christ's Hospital, etc. (Munk)
248	Browne, Edward (1644)	2 Jan 1668	Croone (F 20)	London physician & traveller (DNB)
249	Conway, Edward, 3rd Viscount Conway (*c.*1623)	"	Morgan (F 16)	Irish politician & office-holder (GEC; M. H. Nicolson, ed., *Conway Letters*, 2nd edn, 1993)
250	Eustace, Sir Maurice (?)	9 Jan 1668	Morgan (F 16)	Lawyer of Lincoln's Inn, etc. (*Records of Lincoln's Inn*, I (1896): 279; *English Hist. Rev.*, XXXV (1920): 251–9)
251	Hotham, Charles (1615)	"	Slingsby (F 14)	Divine, Minister in Bermudas, etc. (DNB)
252	Wentworth, William, 2nd Earl of Strafford (1626)	6 Feb 1668	Devonshire (F 28)	KG, PC (1674), etc. (GEC)
253	Allen, Thomas (?)	"	Oldenburg (F 33)	Physician to Bedlam; Censor RCP (Munk)
254	Le Hunt, William (?)	Adm. 13 Feb 1668	Wilkins (F 6)	? Lawyer of Gray's Inn (J. Foster, ed., *Gray's Inn Adm. Reg.*, 1889, 200)
255	Flower, (?)	20 Feb 1668	Oudart (F 245)	? Mathematical-instrument maker (see p. 73)
256	Ward, Esay (Isaiah) (*c.*1629)	"	Wilkins (F 6)	Physician (Foster; Venn)
257	Alvares da Cunha, Antonio (1626)	9 Apr 1668	Southwell, R. (F 107)	Secretary of Academia dos Generosos, Lisbon, etc. (Oldenburg, IV: 315)
258	Annesley, Arthur, 1st Earl of Anglesey (1614)	23 Apr 1668	(see Appendix 2 n. 4)	PC, Lord Privy Seal (1673), etc. (DNB; Henning)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive except 11 : 293	Payments in 1660s only		Exp. 1675	1694
Council 1670, 1678, 1683	Corresp. 1668–70; fairly active 1671–84; barely thereafter	Irregular but persistent till 1683; regular 1698–1700	1, 3, 4*		1708
	Inactive (never adm.)	Never in accounts		Never in lists	1683
	Inactive (never adm.)	Never in accounts		Never in lists	1703
	Inactive	Nothing paid			1672
	Inactive	Nothing paid		Exp. 1685	1695
Council 1678–9	Active in late 1660s, late 1670s & occasionally in 1680s	Payments in 1668–9 only			1684
	Barely active	Regular till *c.*1674 only	1, 3, 5	Exp. 1682	(?)
	Inactive (never adm.)	Never in accounts		Never in lists	(?)
	Inactive	Payments in 1668 & 1672 only	1, 5		1674
	Inactive	Foreign member		Last in 1684 list	1690
Council 1671	Inactive	Nothing paid (not in accounts till 1673)	1, 5	Exp. 1685	1686

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
259	Harby, Sir Erasmus (1628)	23 Apr 1668	Wyche, P. (F 106)	Barrister at Inner Temple (GEC Bar., III : 88)
260	Flatman, Thomas (1635)	30 Apr 1668	Aubrey (F 127)	Poet & miniature painter (DNB)
261	Woodroffe, Benjamin (1638)	"	Boyle (F 2)	Oxford tutor, divine & author (DNB)
262	Colwall, John (?)	14 May 1668	Wilkins (F 6)	? Son of D. Colwall (F 48) & London gent. (Venn)
263	Colepeper (Collepepyr), Thomas (1637)	28 May 1668	Howard, H. (F 218)	Kentish gent. (DNB)
264	Gregory, James (1638)	11 Jun 1668	Collins (F 235)	Prof. of Mathematics at St Andrews (DNB ; DSB)
265	Arderne, James (1636)	"	Downes (F 247)	London divine ; Dean of Chester (1682) (DNB)
266	Courthope, Peter (1639)	6 Aug 1668	Wilkins (F 6)	Sussex gent. (Raven, *Ray*, 52)
267	Howard, Edward (?)	"	Howard, H. (F 218)	Brother of 6th Duke of Norfolk (Evelyn *Diary*, III : 329)
268	Lucy, Sir Kingsmill (*c.*1650)	26 Nov 1668	Wilkins (F 6)	Hampshire gent., MP, etc. (Henning ; Foster)
269	Locke, John (1632)	"	Neile, P. (F 5)	Philosopher (DNB ; DSB ; M. Cranston, 1957)
270	Finch, Daniel (1647)	"	Wilkins (F 6)	Heir to Earl of Nottingham & later 2nd Earl (DNB ; Henning ; H. Horwitz, 1968)
271	Chamberlayne, Edward (1616)	3 Dec 1668	Evelyn (F 38)	Misc. writer, etc. (DNB)
272	Banks, Sir John (1627)	10 Dec 1668	Goddard (F 7)	Merchant & Kentish gent. (DNB sup. ; Henning ; D. C. Coleman, 1963)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Nothing paid			1674
	Inactive (never adm.)	Never in accounts		Never in lists	1688
	Active in 1700 only	Payments in 1668, 1699 only		In lists till 1681 & 1698–1702 only	1711
	Inactive	Regular	3, 5		Last in 1679 list
	Inactive	Only adm. paid		Exp. 1675	1708
	Occasional corresp.	Exempt	3		1675
Council 1672	Barely active (1679)	Regular till *c.*1672 only	1, 3		1691
	Inactive	Payments in 1669–70 only		Exp. 1685	1724
	Inactive	Payments in 1669, 1674, 1688 only	1, 3*		Last in 1706 list
	Inactive	Regular till *c.*1674 only	*		1678
Council 1669, 1672	Slightly active in early 1670s & late 1690s	Regular till *c.*1672 only	1, 5	Last in 1698 list	1704
	Inactive (never adm.)	Never in accounts		Never in lists	1730
	Barely active (1669, 1673)	Regular till *c.*1673 only	1, 5	Exp. 1685	1703
Council 1670, 1674	Attends when on Council, esp. 1674	Regular	1, 3, 5	Last in 1681 list	1699

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
273	Titus, Silius (?1623)	14 Jan 1669	Wilkins (F 6)	Politician & courtier (DNB; Henning)
274	Hoare, James (?)	21 Jan 1669 (adm. 18 Feb 1675)	Brouncker (F 1)	Son of James Hoare senior (F 167) (*Mid. Temp. Adm. Reg.*, I: 168)
275	Horneck, Anthony (1641)	28 Jan 1669	Ward, S. (F 29)	Divine, preacher at the Savoy, etc. (DNB)
276	Castle, George (?1635)	4 Feb 1669	Wren, C. (F 12)	London physician & author (DNB)
277	Malpighi, Marcello (1628)	4 Mar 1669	Oldenburg (F 33)	Italian natural philosopher (DSB)
278	Jeffreys, Edward (?)	28 Oct 1669	Wilkins (F 6)	? (MA & LLD) (see p. 73)
279	Barrington, Thomas (*c.*1648)	18 Nov 1669	Oldenburg (F 33)	Essex gent. & ? army colonel (Venn; M. Noble, *House of Cromwell*, 1787, II: 45)
280	Hjarne (Hiarne), Urban (1641)	"	Leijonberg (F 241)	Swedish physician & chemist (DSB)
281	Souza, Gaspar de Mere de (?)	"	Oldenburg (F 33)	Prof. of Mathematics at Coimbra, etc. (Oldenburg, V: 569–71)
282	Stiernhielm, Georg (1598)	9 Dec 1669		Swedish statesman & scholar (*Nouv. Biog. Gén.*)
283	Helmfeld, Gustav (1651)	21 Apr 1670	Leijonberg (F 241)	Swedish scholar (C. G. Jöcher, *Gelehrten-Lexicon*, II (1750): 1470)
284	Monceaux, André (?)	15 Dec 1670		French virtuoso & traveller (Birch, II: 461)
285	Williams, Sir John (1642)	23 Mar 1671	Wilkins (F 6)	Kentish gent. (GEC Bar., II: 168)
286	Matthews, Sir Philip (*c.*1642)	"	Allen (F 253)	Essex gent. (Venn; GEC Bar., III: 249)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive (never adm.)	Never in accounts		Never in lists	1704
	Inactive (not in lists till 1675)	Regular from 1675, when first in accounts	*		1679
	Barely active (1672 & cf. III : 372)	Only adm. & half a year's subs. in 1672 paid	3	Withdraws 1682	1697
	Barely active (1669)	Only adm. paid			1673
	Frequent corresp.	Foreign member			1694
	Barely active (1670)	Regular			Last in 1671 list
Council 1673, 1677, 1679	Slightly active	Regular	1, 5		1681
	Inactive	Foreign member			1724
	Inactive	Foreign member		Last in 1684 list	(?)
	Inactive	Foreign member			1672
	Inactive	Foreign member			1674
	Inactive	Foreign member		Never in lists	(?)
	Inactive	Regular till *c.*1677 only	1, 3		1680
	Inactive (never adm.)	Never in accounts		Never in lists	1685

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
287	Reading (Redding), Robert (baronet 1675) (*c.*1640)	2 Nov 1671	Brouncker (F 1)	Irish politician, etc. (GEC Bar., IV: 208)
288	Lister, Martin (1639)	"	Oldenburg (F 33)	Physician & natural philosopher (DNB; DSB)
289	Grew, Nehemiah (1641)	"	Hooke (F 136)	Physician & botanist (DNB; DSB; W. LeFanu, 1990)
290	Newton, Isaac (knighted 1705) (1642)	11 Jan 1672 (adm. 18 Feb 1675)	Ward, S. (F 29)	Lucasian Prof. at Cambridge, etc. (DNB; DSB; Henning; F. E. Manuel, 1968; R. S. Westfall, 1980; A. R. Hall, 1992)
291	Holles, Sir Frescheville (1642)	18 Jan 1672	Brouncker (F 1)	Naval officer, gent. of privy chamber, etc. (DNB; Henning)
292	Tillotson, John (1630)	25 Jan 1672	Ward, S. (F 29)	Dean & Archbishop (1691) of Canterbury (DNB)
293	Cassini, Giovanni Domenico (1625)	22 May 1672	Oldenburg (F 33)	Astronomer & Member of Académie des Sciences (DSB)
294	Vernon, Francis (?1637)	"	Oldenburg (F 33)	Diplomat & traveller (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1683	Slightly active, mainly in early 1680s	Irregular but persistent till 1681; some exemption for absence in Ireland	*		1689
Council 1683–5, 1693–4, 1697, 1699	Frequent corresp. in 1670s; very active 1683–6; active in late 1690s	Regular 1672–5; nothing paid thereafter (see p. 90)	1, 3, 4, 1699		1712
Plant anatomy curator 1672–3; Secretary 1677–9; Council 1675, 1677–83, 1690, 1692	Very active till 1679; fairly thereafter	Exempt; regular from 1699	2, 3, 4, 1699*		1712
Council 1697, 1699	Corresp. & slightly active	Payments in 1672–3 only; thereafter ? exempt (see p. 90)	2, 3, 4, 1699		1727
	Inactive (not adm.)	Never in accounts		Never in lists	1672
	Inactive (but cf. IV: 66, 127)	Payments 1672–3 only; exempt in return for books & £10, 1684	1, 3, 5		1694
	Frequent corresp., mainly in 1670s	Foreign member			1712
	Barely active (frequent corresp., mainly before election)	Nothing paid	3		1677

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
295	Howard, Henry, Lord Howard (Earl of Arundel 1678; 7th Duke of Norfolk 1684) (1655)	30 Oct 1672	Wilkins (F 6)	Landed aristocrat & statesman (DNB)
296	Howard, Thomas (styled Lord Thomas from 1677) (?)	6 Nov 1672	Wilkins (F 6)	2nd son of Earl Marshall; courtier (Evelyn *Diary*, III : 329 n)
297	Bernard, Edward (1638)	9 Apr 1673	Oldenburg (F 33)	Savilian Prof. of Astronomy at Oxford, etc. (DNB)
298	Leibniz, Gottfried Wilhelm (1646)	"	Moray (F 4)	German philosopher & mathematician (DSB)
299	Somerset, Charles, Lord Herbert (4th Marquis of Worcester 1682) (1660)	4 Jun 1673	Hoskins (F 92)	Young aristocrat, MP, etc. (Henning; GEC s.v. Beaufort)
300	Howard, John Stafford (?)	6 Nov 1673	Stafford (F 183)	Son of Lord Stafford (F 183) (GEC s.v. Stafford)
300a	Isham, Sir Justinian	"	Needham, W. (F 230)	Re-election : see no. 141
301	Lawrence, Sir John (?)	27 Nov 1673	Ward, S. (F 29)	Merchant, former Lord Mayor of London, etc. (Woodhead)
302	Ford, Sir Richard (1613)	"	Ward, S. (F 29)	London merchant, alderman & MP (Henning; Woodhead)
303	Player, Sir Thomas (?)	"	Ward, S. (F 29)	Merchant, Chamberlain of London, etc. (DNB; Henning)
304	Winn (Wynne), Rowland (?)	"	Ward, S. (F 29)	London merchant, alderman, etc. (Beaven, II : 85)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1684, 1687, 1688	Inactive	Regular till *c.*1677 only; exempt 1698	1, 3, 5*		1701
	Inactive	Payments in early 1670s	1, 3, 5*		1689
	Barely active (1693, 1697)	Only adm. paid; exempt	3, 4*		1696
	Frequent corresp.	Foreign member			1716
	Inactive	Payments in 1676 only	3, 5		1698
	Inactive	Nothing paid (first in 1676 accounts)	5*	Last in 1693 list	1714
Council 1674, 1678, 1680	Slightly active	Exempt		Exp. 1685	1692
	Inactive	Never in accounts			1678
	Inactive	Exempt		Exp. 1685	1686
	Inactive	Never in accounts			1676

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
305	Birch, Andrew (1652)	27 Nov 1673	de Vaux (F 197)	Physician practising in Manchester (Venn; Innes Smith, 22)
306	Robartes, Francis (1650)	11 Dec 1673	Ward, S. (F 29)	Politician with musical interests (DNB; Henning)
307	Strangways, Giles (1615)	"	Ward, S. (F 29)	Dorset MP; PC (1675); etc. (DNB sup.; Henning; Foster)
308	Le Gassick, John (?)	"	Petty, W. (F 8)	? ('MD') (see p. 73)
309	Sluse, René François de (1622)	16 Apr 1674	Oldenburg (F 33)	Flemish divine & mathematician (DSB)
310	Castell, Edmond (1606)	"	Ward, S. (F 29)	Prof. of Arabic at Cambridge, etc. (DNB)
311	Pacichelli, Giambattista (?1640)	"	Boyle (F 2)	Roman abbot, diplomat, & author (*Nouv. Biog. Gén.*)
312	Jenkes, Henry (?)	30 Nov 1674	Hill, A. (F 11)	Gresham Prof. of Rhetoric, 1670–76, & Fellow of Caius Coll., Cambridge (DNB)
313	Moore, Sir Jonas (1617)	3 Dec 1674	Brouncker (F 1)	Mathematician, Surveyor General of Ordnance, etc. (DNB; F. Willmoth, 1993)
314	Whichcote, Sir Paul (1643)	14 Jan 1675	Browne, E. (F 248)	Cambridgeshire gent. (Venn; GEC Bar., III: 22)
315	Milles, Daniel (?)	"	Brouncker (F 1)	London divine (Venn)
316	Percivale, Sir Philip (1656)	18 Feb 1675	Southwell, R. (F 107)	Wealthy young baronet & traveller (HMC Egmont, II)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Nothing paid	*		Last in 1690 list
Council 1693, 1695	Slightly active 1692–6 only	Regular till *c.*1676; 7 yrs' arrears paid in 1682 and regular till 1685 only	*		1718
	Inactive (never adm.)	Never in accounts			1675
	Inactive	Never in accounts		Never in lists	1674
	Frequent corresp.	Foreign member		Last in 1677 list	1685
	Inactive	Regular		Last in 1681 list	1685
	Inactive	Foreign member		Never in lists	1702
	Inactive	Exempt		Exp. 1682	1697
Council 1675–8	Active in late 1670s	Only one quarter's subs. paid	*		1679
	Inactive	Regular till 1680 when pays £10 and exempted	*		1721
Council 1675–6	Slightly active while on Council	Regular till 1678; subsequent payment in 1683 only	*	Exp. 1685	1689
	Inactive	Small contrib. in 1676 only	*		1680

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
317	Savile, Sir George, 1st Viscount Halifax (1st Earl of Halifax 1679; 1st Marquis 1682) (1633)	30 Nov 1675	Ward, S. (F 29)	Courtier & politician (DNB; Henning; H. C. Foxcroft, 1898)
318	Mapletoft, John (1631)	10 Feb 1676	Hooke (F 136)	London physician & divine; Gresham Prof. of Physic (DNB)
319	Sheeres, Henry (?)	"	Williamson (F 101)	Military engineer at Tangier (DNB)
320	Hall, Henry (?)	"	Le Hunt (F 254)	Gloucs. gent.; sheriff 1688 (*Trans. Bristol & Gloucs. Arch. Soc.*, LXI: 291)
321	Travagino, Francisco (*c.*1633)	"	Oldenburg (F 33)	Venetian natural philosopher (Oldenburg, III: 300–303)
322	Edgcumbe, Sir Richard (1640)	30 Nov 1676	Reading (F 287)	Cornish gent. & MP (Henning)
323	Clutterbuck, Sir Thomas (?)	"	Oldenburg (F 33)	London merchant (Shaw, II: 243)
324	King, John (1649)	"	Hill, A. (F 11)	Gresham Prof. of Rhetoric, etc. (Venn; Ward, *Lives*, 329)
325	Croke, Sir George (?)	8 Feb 1677		High Sheriff of Oxfordshire (1664), etc. (Foster)
326	Baldwin, Christian Adolph (1632)	"		Electoral official in Saxony, virtuoso, etc. (C. G. Jöcher, ed. Adelung, *Gelehrten-Lexicon*, I (1784): 1368–9)
327	Flamsteed, John (1646)	"		Astronomer Royal (DNB; DSB; F. Baily, 1835)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active (cf. III : 366)	Payments at first only			1695
Council 1676, 1678, 1689, 1691	Fairly active 1676–9, 1689–90; barely otherwise	Exempt			1721
	Inactive (never adm.)	Never in accounts		Never in lists	1710
Council 1677, 1681	Slightly active till 1682 only	Irregular but persistent till 1686 only			Last in 1692 list
	Occasional corresp. before election	Foreign member			1688
	Inactive	Only adm. paid		Exp. 1685	1688
	Inactive	Only adm. paid		Exp. 1682	(?)
	Inactive (never adm.)	Never in accounts		Never in lists	(?)
	Inactive	Only adm. paid			1680
	Occasional corresp.	Foreign member			1682
Council 1681, 1683, 1685, 1692, 1694, 1699	Corresp. & active till 1686; slightly thereafter	Exempt	1699*	Last in 1708 list	1719

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
328	Ent, George (?)	Adm. 30 Nov 1677	Hooke (F 136)	Lawyer & author (Wood, *Athenae Oxonienses*, ed. Bliss, 1813–20, III: 85)
329	Hill, Oliver (?)	"	Boyle (F 2)	Religious pamphleteer, etc. (Venn; Hill's works)
330	Wyndham, Edmund (*c.*1659)	6 Dec 1677	Hoskins (F 92)	Oxford undergraduate (see pp. 73–4)
331	Gale, Thomas (?1635)	Adm. 6 Dec 1677		High Master of St Paul's School; Dean of York (1697); scholar (DNB)
332	Plot, Robert (1640)	"		Keeper of Ashmolean & natural philosopher (DNB; DSB)
333	Smith, Thomas (1638)	"	Hoskins (F 92)	Oxford divine & scholar (DNB)
334	Colleton, Sir Peter (1635)	13 Dec 1677	Wyche, P. (F 106)	Colonialist & MP (Henning)
335	Herbert, John (?)	"	Whistler (F 49)	? (see p. 74)
336	Wheler (Wheeler), George (knighted 1682) (1650)	"	Howard, C. (F 123)	Virtuoso & traveller; ordained *c.*1683 (DNB)
337	Langham, Sir James (*c.*1621)	17 Jan 1678	Horneck (F 275)	Northants. gent. & MP (Henning; GEC Bar., III: 31)
338	Kerckring, Theodor (1640)	"	Williamson (F 101)	Physician & physiologist of Amsterdam (Hirsch, III: 505–6)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Slightly active	Regular payments in 1678			1679
	Active in 1677–8 only	Only adm. paid		Never in lists	(?)
	Inactive (never adm.)	Never in accounts		Never in lists	(?)
Secretary 1679–81, 1685–93; Council 1678–81, 1683, 1685–95, 1697	Very active in 1670s, 1680s; fairly in 1690s	Only adm. paid; exempt 1683			1702
Secretary 1682–4; Council 1680, 1682–3, 1687–8, 1692, 1694	Active & frequent letters from Oxford	Exempt	*		1696
	Barely active	Only adm. paid			1710
	Barely active (never adm.)	Never in accounts		Never in lists	1694
Council 1685, 1687–8, 1690–92, 1694–6	Active, esp. after 1685	Regular till 1698 only			Last in 1706 list
	Slightly active (1678)	Only adm. paid		Exp. 1685	1723
	Inactive (never adm.)	Never in accounts		Never in lists	1699
	Inactive	Foreign member			1693

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
339	Chetwynd, Walter (1633)	31 Jan 1678	Williamson (F 101)	Staffs. gent. & antiquary (DNB; Henning)
340	Dickinson (Dickenson), Edmund (1624)	"	King, E. (F 212)	Royal physician, alchemist, & author (DNB)
341	Lane, Joseph (?)	"	Hooke (F 136)	Lawyer & Comptroller of Chamber of London (Venn; Birch, III: 410)
342	Aston, Francis (*c.*1645)	30 Nov 1678	Browne, E. (F 248)	Fellow of Trinity Coll., Cambridge, courtier, etc. (Venn; *Ang. Notit.*; N&RRS, III (1940): 88–92)
343	Mayow, John (1641)	"	Hooke (F 136)	Oxford physician & natural philosopher (DNB; DSB)
344	Bemde (Van den Bembde), John (*c.*1655)	"	Haak (F 93)	Merchant (see p. 74)
345	Perry, William (*c.*1650)	"	Mapletoft (F 318)	Fellow of Trinity Coll., Cambridge, Gresham Prof. of Music (1681), etc. (Venn; Ward, *Lives*, 232–3)
346	Clüver, Detlev (?)	"	Haak (F 93)	German scholar living in London (*Allg. Deutsch. Biog.*)
347	Halley, Edmond (1656)	"	Moore, sen. (F 313)	Astronomer, Savilian Prof. of Geometry at Oxford (1703), etc. (DNB; DSB; A. Armitage, 1966)
348	Moxon, Joseph (1627)	"	Ent, jun. (F 328)	Seller of mathematical instruments; writer (DNB)
349	Hannisius, David (?)	"	Haak (F 93)	Library Keeper to the Duke of Hanover (Birch, III: 424)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active	Adm. & one year's subs. in 1686 paid only			1693
	Inactive (cf. IV: 488) (never adm.)	Never in accounts		Never in lists	1707
	Slightly active as legal adviser (1681)	Exempt		Last in 1699 list	1728
Secretary 1681–5; Council 1680–85, 1694, 1699	Very active while Secretary & in late 1690s; barely in between	Regular till exempted in 1683	1699		1715
	Inactive (never adm.)	Never in accounts		Never in lists	1679
Council 1690, 1692, 1694, 1696, 1698–9	Active, esp. from 1689	Regular to 1687 & from 1698 only		Res. 1711	1726
Council 1679–80, 1682, 1685, 1687–8, 1690, 1694; Librarian 1679	Frequent attendance on Council	Exempt			1696
	Active till 1687 only (cf. 8: 94)	Regular till 1685 only			1708
Council 1683–4; Clerk 1686–99	Very active, esp. from 1683	Exempt			1742
	Barely active (1679, 1680)	Only adm. paid		Exp. 1682	1700
	Inactive	Foreign member		Last in 1681 list	(?)

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
350	Spanheim, Ezechiel, Freiherr von (1629)	6 Feb 1679	Haak (F 93)	Swiss-German diplomat & scholar (*Allg. Deutsch. Biog.*; V. Loewe, 1924)
351	Sheridan, Thomas (1646)	"		Collector of Customs at Cork & friend of James II (DNB; *Irish Hist. Stud.*, XX (1976): 105–28)
352	Waller, Sir William (*c.*1639)	20 Feb 1679	Ailesbury (F 56) Williamson (F 101)	Middlesex justice, MP, etc. (DNB; Henning)
353	Tyson, Edward (1650)	1 Dec 1679	Hooke (F 136)	London physician & anatomist (DNB; DSB; M. F. Ashley Montagu, 1943)
354	Paman, Henry (1626)	"	Croone (F 20)	Gresham Prof. of Physic, Master of Faculties at Cambridge, etc. (DNB)
355	Napper (Napier) William (?)	"		? (see pp. 74–5)
356	Sarotti, Giovanni Ambrosio (?)	"	Boyle (F 2)	Son of Venetian resident in London (Birch, III: 510)
357	Bridgeman, William (*c.*1646)	18 Dec 1679	Henshaw, T. (F 15)	Govt official, etc. (Henning; Evelyn, *Diary*, IV: 197n)
358	Pigott, Thomas (1657)	" (adm. 13 Jul 1681)	Hoskins (F 92)	Fellow of Wadham Coll., Oxford, etc. (Foster)
359	Heusch, Johann Christian (?)	29 Jan 1680	Hooke (F 136)	Physician to Elector Palatine (Birch, IV: 5)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Foreign member, but adm. paid			1710
	Inactive	Payments in 1679, 1681 only		Exp. 1685	1712
	Inactive (never adm.)	Never in accounts		Never in lists	1699
Council 1681, 1683, 1685, 1687–8, 1690, 1692, 1694, 1696, 1698; Anatomy curator 1683	Very active, esp. in 1680s	Exempt	1699*		1708
	Barely active (1680)	Exempt			1695
	Inactive	Payments in 1680, 1682		Exp. 1685	(?)
	Barely active (1686)	Foreign member, but adm. paid			Last in 1714 list
Council 1698	Active in 1697–9 only	Exempt, but pays in 1698	1699		1699
	Slightly active (1684, 1686)	Payments in 1681, 1683 only			1686
	Inactive	Foreign member, but adm. paid		Last in 1684 list	(?)

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
360	Firmin, Thomas (1632)	29 Jan 1680	Hooke (F 136)	London businessman & philanthropist (DNB)
361	Houghton, John (1645)	"	Hooke (F 136)	Tea dealer & writer (DNB)
362	Leeuwenhoek, Antoni van (1632)	"	Croone (F 20)	Dutch natural philosopher (DSB; C. C. Dobell, 1932)
363	Perkins, Peter (?)	5 Feb 1680		Mathematical master at Christ's Hospital (Taylor, 274)
364	Moore, Jonas (knighted Aug. 1680) (?)	11 Mar 1680	Hooke (F 136)	Son of Sir Jonas Moore (F 313) & his successor as Surveyor General of Ordinance (F. Willmoth, *Sir Jonas Moore*, 1993, 156–7)
365	Nelson, Robert (1665)	1 Apr 1680 (adm. 30 Nov 1695)	Lane, J. (F 341)	Wealthy young man on Grand Tour; later, religious writer, etc. (DNB)
366	Clench, Andrew (?)	1 April 1680	Hooke (F 136)	London physician, FRCP (DNB)
367	Wood, John (?)	"	Moxon (F 348)	Naval captain & marine surveyor (Taylor, 261–2)
368	Pighi, Giacomo (1647)	29 Apr 1680	Browne, E. (F 248)	Prof. of Anatomy at Padua (Bulloch)
369	Papin, Denis (1647)	(?)		French natural philosopher & inventor (DNB; DSB; C.-A. Klein, 1987)
370	Slare (Slear), Frederic (1648)	Adm. 16 Dec 1680		London physician & natural philosopher (DNB; N&RRS, XLVI (1992): 23–41)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Regular till 1688 only		Last in 1688 list	1697
	Very active, esp. in 1690s	Regular till 1694 only; exempt 1698	1699*		1705
	Frequent corresp.	Foreign member			1723
	Active in 1680	Never in accounts			1680
	Inactive	Payments in 1680, 1682 only			1682
	Barely active (not in lists till 1696)	Regular from 1696			1715
	Barely active	Fairly regular till 1686 only		Last in 1684 list	1692
	Barely active	Never in accounts			1681
	Inactive	Foreign member		Never in lists	1683
Scribe & Curator of Experiments 1679–80, 1684–7	Very active, 1679–80, 1684–7; occasional corresp. thereafter	Never in accounts			1712
Council 1682, 1684, 1687–8, 1690, 1693, 1699; Chemistry curator 1683	Very active, esp. in 1680s	Only adm. paid; exempt 1698	1699		1727

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
371	Wood, Robert (?1622)	13 Apr 1681	Wren, C. (F 12)	Accountant General of Ireland, mathematics master at Christ's Hospital, etc. (DNB)
372	Deane, Sir Anthony (1633)	"		Shipbuilder, Commissioner of Navy, etc. (DNB; Henning)
373	Chamberlen (Chamberlayne), Hugh (1664)	"	Houghton (F 361)	Court physician, etc. (DNB)
374	Percivale, Sir John (1660)	"	Southwell, R. (F 107)	Irish office-holder (Foster)
375	Meredith, Roger (1637)	"	Hooke (F 136)	Gresham Prof. of Civil Law, Master of Chancery, etc. (Venn)
376	Rogers, John (1647)	"	Holder (F 39)	Chaplain to Earl of Berkeley (Foster)
377	Salusbury (Salisbury), Oliver (?)	"	Houghton (F 361)	Attorney of Middle Temple (*Mid. Temp. Adm. Reg.*, I: 188; Birch, IV: 63, 187)
378	Novell, Thomas (?)	"		Physician & FRCP (Munk)
379	Ward, Sir Patience (1629)	"		Merchant & alderman; Lord Mayor of London (DNB; Henning)
380	Waller, Richard (?1660)	27 Apr 1681	Croone (F 20)	Wealthy virtuoso (N&RRS, XXXVIII (1984): 215–33)
381	Sambrooke, Jeremy (knighted 1682) (?)	"	Houghton (F 361)	Merchant; Deputy Govn. of E. India Co.; etc. (Woodhead)
382	Braddon, Lawrence (?)	"	Houghton (F 361)	Barrister (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1681	Active	Regular			1685
Council 1682, 1684, 1686, 1692	Active till 1686 only	Regular till 1685 & from 1699; one payment in between	1699		1721
	Barely active (1684)	Regular till 1686 only		Last in 1699 list	1728
	Inactive	Only adm. paid			1686
Council 1682, 1683, 1685	Regular attend-ance on Council	Exempt, but pays in 1699			1701
	Inactive (never adm.)	Never in accounts		Never in lists	1715
	Barely active (1683 & cf. IV: 454)	Payments in 1681–3 only	*		Last in 1687 list
	Inactive (never adm.)	Never in accounts		Never in lists	1686
Council 1691	Inactive	Exempt			1696
Secretary 1687–1700; Council 1684, 1686–99	Very active till 1694; fairly thereafter	Regular till *c.*1689; arrears paid 1692–3; exempt 1698	1699*		1715
	Inactive (but cf. IV: 90, 557)	Regular 1682–4; not in accounts thereafter		Last in 1698 list	1705
	Inactive (never adm.)	Never in accounts		Never in lists	1724

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
383	Goodwyn, (?)	27 Apr 1681	Houghton (F 361)	Merchant (Birch, IV: 63)
384	Jordis, Johan Philip (?)	"	Slare (F 370)	'MD of Francfort' (Birch, IV: 65)
385	Eve, Henry (?)	9 Nov 1681	Tyson (F 353)	'Captain' (see p. 75)
386	Payne, William (1650)	"	Tyson (F 353)	London divine & controversialist (DNB)
387	Penn, William (1644)	"	Houghton (F 361)	Quaker & founder of Pennsylvania (DNB; C. O. Peare, 1957)
388	Gwynne (Wynne), Sir Rowland (*c.*1658)	23 Nov 1681	Hill, A. (F 11)	Radnorshire landowner & politician (DNB sup.; Henning)
389	Krull (Crull), Jodocus (?)	"	Holder (F 39)	MD & misc. author (DNB)
390	Robinson, Richard (?)	"	Tyson (F 353)	Physician & FRCP (Venn; Munk)
391	Lodwick, Francis (1619)	30 Nov 1681	Houghton (F 361)	London merchant & language planner (DNB sup.; V. Salmon, 1972)
392	Leti, Gregorio (1630)	"	de Vaux (F 197)	Itinerant Protestant, Italian scholar (*Enciclopedia Italiana*, XX (1933): 976)
393	Dorislaus, Isaac (?)	"	Allen (F 253)	Manager of Post Office, etc. (DNB)
394	Justel, Henri (1620)	7 Dec 1681	Wren, C. (F 12)	Hugenot librarian (DNB)
395	Blackburne, Samuel (?)	14 Dec 1681	Pepys (F 187)	?Govt. official (see p. 75)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive (never adm.)	Never in accounts			(?)
	Acknowledges election only (not in lists till 1688)	Foreign member			Last in 1715 list
	Inactive	Only adm. paid		Exp. 1685	(?)
	Slightly active (1683–4)	Regular till 1687 only	*		1696
	Inactive (never adm.)	Never in accounts		Never in lists	1718
	Barely active (1683)	Payments in 1682–3 & 1699 only		Last in 1719 list	1726
	Inactive (not in lists till 1684)	Only adm. paid		Exp. 1685	*c.*1713
	Inactive	Only adm. paid till one payment in 1698–9		(Not in list 1706–30, but returns 1731–3)	1733
Council 1686, 1689, 1691, 1693	Active, esp. from 1686	Regular till 1691 only	*		1694
	Inactive	Foreign member		Last in 1683 list	1701
	Inactive (never adm.)	Never in accounts		Never in lists	1688
	Active & frequent corresp., esp. in 1680s	Never in accounts			1693
	Inactive (never adm.)	Never in accounts		Never in lists	(?)

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
396	Haddu, Muhammad ibn (Ahmed Hadu) (?)	26 Apr 1682		Moroccan ambassador (Evelyn, *Diary*, IV: 265 n; Birch, IV: 244)
397	Mills, Walter (1654)	12 Jul 1682	Slare (F 370)	Physician & FRCP (Venn)
398	Turnor, John (1660)	8 Nov 1682	Colwall, D. (F 48)	Lincs. gent & virtuoso (Venn)
399	Paget (Pagitt), Edward (?1652)	"	Colwall, D. (F 48)	Fellow of Trinity Coll., Cambridge, & mathematics master at Christ's Hospital (Taylor, 278)
400	Borghese, Marcantonio, Prince (1660)	29 Nov 1682		Italian nobleman (*Dizionario Biografico degli Italiani*)
401	Faria, José de (?)	30 Nov 1682	Wren, C. (F 12)	Portuguese diplomat (Birch, IV: 167)
402	Chardin, Sir John (1643)	"	Wren, C. (F 12)	Jeweller & traveller (DNB)
403	Beuningen, Koenraad van (1622)	13 Dec 1682		Dutch diplomat (*Nieuw Nederlandsch Biografisch Woordenbock*)
404	Pitt, Robert (1653)	20 Dec 1682 (adm. 8 Apr 1685)	Wren, C. (F 12) Plot (F 332)	Physician & Prof. of Anatomy at Oxford (DNB)
405	Gould, William (*c.*1652)	2 May 1683	Plot (F 332)	Physician & Fellow of Wadham Coll., Oxford (Foster)
406	Haynes (Haines), Edward (?)	"	Flamsteed (F 327) Halley (F 347)	? Herts. gent. & virtuoso (see p. 75)
407	Wetenhall, Edward (1636)	4 Jul 1683		Bishop of Cork; transl. to Kilmore, 1699 (DNB)
408	Mullen (Moulin, Molines), Allen (?1653)	18 Jul 1683	Boyle (F 2)	Physician & member of Dublin Philos. Soc. (Hoppen, 37–8)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Foreign member		Never in lists	(?)
	Barely active	Regular	*		1726
	Inactive	Only adm. paid	*	Last in 1688 list	1719
Council 1693	Active till 1686; barely thereafter (1695)	Exempt (after paying adm.)	1699*		1703
	Inactive	Foreign member		Never in lists	1729
	Inactive	Foreign member	*		Last in 1691 list
	Inactive	Never in accounts	*	Exp. 1685	1713
	Inactive	Foreign member	*	Last in 1684 list	1693
Council 1687–8, 1692, 1695	Active 1685–mid 1690s; corresp. before & after	Regular 1685–6 only		Withdraws 1707	1713
	Inactive	Never in accounts		Last in 1684 list	1714
Council 1685, 1687–8, 1690	Fairly active till 1691 only	Fairly regular till 1689 & in 1698–1700 only			Last in 1708 list
	Barely active	Only adm. paid	*		1713
	Inactive till 1688; very active 1688–90	Only adm. paid	*		1690

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
409	Willoughby, Charles (*c.*1630)	25 Jul 1683	Wetenhall (F 407)	Dublin physician, etc. (Venn; Hoppen, 31)
410	Vincent, Nathaniel (?)	30 Nov 1683	Hoskins (F 92)	Divine & Fellow of Clare Coll., Cambridge (Venn)
411	Bailey, Arthur (?)	"	Hoskins (F 92)	London merchant (ESO, IV: 156; Davies)
412	Musgrave, William (? 1655)	19 Mar 1684	Aston (F 342)	Secretary of Oxford Philos. Soc. & later physician practising in Exeter (DNB)
413	Munchausen, Benjamin von (?)	30 Apr 1684	Browne, E. (F 248)	'Doctor of Law and a native of Dantzick' (Birch, III: 351)
414	Fremont d'Ablancourt, Nicolas (? 1625)	12 Nov 1684	Boyle (F 2)	French diplomat & writer (*Nouv. Biog. Gén.*)
415	Monson, James (? 1660)	"	Tyson (F 353)	Gent. of Lincs. or Herts. (see p. 77)
416	Beaumont, Richard (1654)	19 Nov 1684	Lister (F 288)	Yorks. gent. (Venn)
417	Baker, Thomas (? 1625)	"	Paget (F 399)	Devonshire cleric & mathematician (DNB)
418	Pitfield, Alexander (1659)	"	Waller, R. (F 380)	Wealthy Middx gent. & virtuoso (*Ann. Sci.*, XXX (1973): 87)
419	Robinson, Tancred (*c.*1657)	"	Lister (F 288)	Physician & naturalist (DNB)
420	Hyde, Henry, 2nd Earl of Clarendon (1638)	1 Dec 1684		Politician & courtier (DNB; Henning)
420a	Vaughan, John, Lord (?)	21 Jan 1685		Re-election: see no. 63

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Only adm. paid	*		1694
	Fairly active till 1686 & 1692–5	Regular till 1687 only		Withdraws 1687; readm. 1694 but not in lists	1722
	Slightly active	Fairly regular till 1694; regular from 1698			1712
Secretary 1684–5; Council 1684	Frequent corresp. & slightly active	Only adm. paid	*		1721
	Inactive	Regular 1684–5 (reduced rate)	*	Never in lists	(?)
	Barely active	Foreign member			1693
	Inactive	Payments in 1685, 1688 only	*		?1688
	Inactive	Nothing paid	*		Last in 1698 list
	Inactive (never adm.)	Never in accounts		Never in lists	1690
Council 1686, 1689–97, 1699; Treasurer 1699–1700	Frequent attendance	Irregular but persistent	1699*		1728
Secretary 1685; Council 1685	Active in mid 1680s; barely thereafter	Regular till 1687 only; exempt 1699	1699		1748
Council 1684	Inactive (but cf. IV: 361)	Never in accounts	*		1709

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
421	Sloane, Hans (baronet 1716) (1660)	21 Jan 1685	Lister (F 288)	Physician, naturalist, etc. (DNB; DSB; G. R. de Beer, 1953; E. St J. Brooks, 1954)
422	Herbert, Thomas, 8th Earl of Pembroke & Montgomery (1656)	13 May 1685 (adm. 26 Jan 1687)		Lord Lieutenant of Wilts., PC, etc. (DNB; Henning)
423	Villermont, Esprit Cabart de (*c.*1617)	13 May 1685	Justel (F 394)	French virtuoso with renowned library (C. G. Jöcher, *Gelehrten-Lexicon*, IV (1751): 1624)
424	Beaumont, John (?)	"		Somerset surgeon & naturalist (DNB)
425	Leigh, Charles (1662)	"	Musgrave (F 412)	Lancs. physician & naturalist (DNB)
426	Bulkeley, Sir Richard (*c.*1661)	25 Nov 1685		Irish gent., MP & virtuoso (DNB)
427	Gordon, Sir Robert (1647)	3 Feb 1686	Wren, C. (F 12)	Scottish courtier & virtuoso (DNB)
428	Molyneux, William (1656)	"		Irish gent., MP & intellectual (DNB; DSB; J. G. Simms, 1982)
429	Ashe, St George (? 1658)	"		Irish academic & divine (DNB)
430	Molyneux, Thomas (baronet 1730) (1661)	3 Nov 1686		Irish physician (DNB)
431	Harwood, John (1661)	"	Vincent (F 410)	Advocate in Doctors' Commons (Venn)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Secretary 1693–1700; Council 1690–99	Very active	Regular 1685–6 only; exempt 1698	1699		1753
President 1689–90; Council 1687–89	Fairly active 1686–7; inactive thereafter (cf. 7: 272)	Only adm. paid			1733
	Frequent corresp. till 1687	Foreign member		Last in 1697 list	1707
	Occasional corresp.	Only adm. paid		Never in lists	1731
	Occasional corresp.	Never in accounts		Never in lists	? 1701
Council 1685	Corresp. before election; active in 1686; barely thereafter	Nothing paid	1699*		1710
	Active 1686–7 only	Only adm. paid	*		1704
	Corresp. esp. in 1680s & 1697	Nothing paid			1698
	Occasional corresp. (but cf. 8: 278)	Never in accounts			1718
	Corresp. in late 1690s	Nothing paid	*		1733
Council 1692, 1694, 1696–7, 1699	Active	Regular			1731

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
432	Havers, Clopton (*c.*1655)	17 Nov 1686		London physician & anatomist (DNB; DSB)
433	Meres (Meers), Thomas (?)	8 Dec 1686		Son of Sir Thomas Meres (DNB s.v. Francis Meres, 1565–1647; F. A. Inderwick, ed., *Inner Temple Records*, III (1901): 134)
434	Sylvius, Jacobus (*c.*1648)	9 Mar 1687	Hoskins (F 92)	Dutch physician resident in Dublin (Hoppen, 44)
435	Valvasour, Johann Weikhard, Freiherr von (1641)	14 Dec 1687		German official, virtuoso & writer (J. C. Poggendorff, *Biographisch-Literarisches Handwörterbuch*, II (1863): 1171 a)
436	Wotton, William (1666)	"		Scholar & divine (DNB)
437	Hautefeuille, Jean de (1647)	"		French ecclesiastic, horologist, etc. (*Nouv. Biog. Gén.*)
438	Middleton, Benjamin (?)	"		? London gent. (Venn)
439	Fatio (Faccio) de Duillier, Nicolas (1664)	2 May 1688	Hoskins (F 92)	Swiss virtuoso & protegé of Newton (DNB)
440	Pechlin, Jean-Nicolas (*c.*1646)	30 Nov 1688	Tyson (F 353)	Dutch physician, author, etc. (*Allg. Deutsch. Biog.*)
441	Vieussens, Raymond (*c.*1635)	"	Tyson (F 353)	French physician, anatomist & writer (DSB)
442	Stampfer, Johann Adam (?)	"	Browne, E. (F 248)	'Of Styria' (JBC, 7: 147)
443	Adair, John (?)	"		Scottish surveyor & mapmaker (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1689, 1691, 1696	Active (except 1693–5)	Only adm. paid till 1 payment in 1698, when exempt	1699*		1702
	Inactive (never adm.)	Never in accounts		Never in lists	(?)
	Inactive (never adm.)	Never in accounts		Never in lists	1689
	Corresp., esp. before election	Foreign member			1693
	Barely active	Never in accounts			1727
	Letters in 1697, 1699 only	Foreign member		Never in lists	1724
Council 1691	Active	Regular (2 years' arrears in 1691 dropped)			Last in 1712 list
	Fairly active	Never in accounts	1699	(off lists 1714–28)	1753
	Inactive	Foreign member			1706
	Corresp. 1698–1700 only	Foreign member			1715
	Inactive	Foreign member			1743
	Slightly active before election & corresp. in 1699	Never in accounts		Never in lists (not adm.)	*c.*1722

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
444	Clayton, John (1657)	30 Nov 1688		Divine, traveller, etc. (E. & D. S. Berkeley, 1965)
445	Stillingfleet, Edward (1660)	"		Gresham Prof. of Physic, etc. (Ward, *Lives*, 281–3; DNB s.v. Benjamin S., 1702–71)
446	Gresham, Charles (1660)	"		Gresham Prof. of Rhetoric (Foster; Ward, *Lives*, 329–32)
447	Witsen, Nicolaus (1648)	30 Nov 1689		Burgomaster of Amsterdam & nautical writer (*Nieuw Nederlandsch Biografisch Woordenbock*)
448	Stanley, William (1647)	"	Slare (F 370)	Divine, archdeacon of London (1692), Dean of St Asaph (1706), etc. (DNB)
449	Raphson, Joseph (?)	"	Halley (F 347)	Mathematical writer (Taylor, 418; P. J. Wallis, *Index of British Mathematicians, 1701–60*, 1976, 93)
450	Moult, George (?)	"	Slare (F 370)	Apothecary (see p. 75)
451	Grandi, Giacomo (1646)	1 Dec 1690	Burnet (F 161)	Italian physician & author (*Nouv. Biog. Gén.*)
452	Copley, Sir Godfrey (? 1653)	30 Nov 1691	Hoskins (F 92)	Yorks. MP & office-holder (DNB; Henning)
453	Day, Thomas (?)	"		? Bristol gent. (see p. 75)
454	Torriano, Alessandro (1667)	"		Gresham Prof. of Astronomy, etc. (Ward, *Lives*, 117–9)
455	Marsill (Marsigli), Luigi Ferdinando, Conte (1658)	Appr. 25 Nov 1691		Italian naturalist & traveller (DSB)
456	Paule (Paul), Louis (?)	"		MD (see pp. 75–6)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Occasional corresp.	Never in accounts		Never in lists (not adm.)	1725
	Inactive (never adm.)	Exempt		Never in lists	1708
	Inactive	Exempt		Withdraws 1699	1718
	Corresp. 1690–93 only	Foreign member			1717
Council 1690, 1691, 1693, 1695	Some Council attendance 1690–96	Only adm. paid till 1698, when regular			1731
	Inactive (but cf. 8: 30, 38)	Fairly regular till 1693 only	*	Last in 1712 list	1716
	Barely active (1690, 1700)	Payments 1698–1701 only	1699		1727
	Inactive	Foreign member			1691
Council 1692–3, 1695–9	Active	Fairly regular	*		1709
	Inactive	Nothing paid		Last in 1696 list	(?)
	Slightly active	Exempt			1716
	Inactive	Foreign member			1730
	Inactive	Nothing paid			Last in 1708 list

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
457	Dolaeus, Johann (1651)	Appr. 21 Jan 1692	Slare (F 370)	German physician & author (Hirsch, II: 289)
458	Mackenzie, George, 1st Viscount Tarbat (1st Earl of Cromarty 1703) (1630)	(?)		Scottish statesman (DNB)
459	Trumbull, Sir William (1639)	30 Nov 1692	Southwell, R. (F 107)	Lawyer, diplomat & office-holder (DNB; Henning)
460	Isaac (Issac), Charles (knighted 1697) (?)	"	Southwell, R. (F 107)	Officer of Court of Green Cloth (*Ang. Notit.*; Shaw, II: 270)
461	Heinson, Johann Theodor (1666)	"	Southwell, R. (F 107)	German divine & royal tutor (C. G. Jöcher, ed. Adelung, *Gelehrten-Lexicon*, II (1787): 1458)
462	Lany, Edward (*c.*1667)	"	Stanley, W. (F 448)	Gresham Prof. of Divinity, etc. (Venn; Ward, *Lives*, 72–3)
463	Southwell, Edward (1671)	"		Office-holder and politician (DNB s.v. Sir Robert S., 1635–1702)
464	Gregory (Gregorie), David (1661)	"	Southwell, R. (F 107)	Prof. of Astronomy at Oxford (DNB; DSB)
465	Blackwell, Jonas or Jonathan (?)	"		? Merchant (see p. 76)
466	Lane, Ralph (?)	"		Turkey merchant (D. & S. Lysons, *Magna Britannia*, II pt 2 (1808): 200)
467	Douglas, Lord George (?)	"	Southwell, R. (F 107)	3rd son of Duke of Queensbury (DNB s.v. William D., 1st Duke of Queensbury, 1637–95)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Foreign member			1707
	Barely active (1696)	Never in accounts			1714
	Inactive (never adm.)	Never in accounts		Never in lists	1716
	Inactive	Only adm. paid			Last in 1711 list
	Inactive	Foreign member			1726
	Barely active (1695)	Exempt			1728
Council 1693–5, 1697–8	Active	Regular			1730
	Fairly active, mainly as corresp.	Never in accounts	1699		1708
	Inactive	Regular from 1701 only			Last in 1753 list
	Inactive	Payments in 1693, 1696 only		Last in 1695 list	1732
	Inactive	Only adm. paid			1693

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
468	Woodward, John (1665)	30 Nov 1693	Hooke (F 136)	Physician, geologist, & author (DNB; DSB; J. M. Levine, 1977)
469	Briggs, Robert (*c.*1661)	"		Gresham Prof. of Law (Venn; Ward, *Lives*, 258)
470	Kirke, Thomas (1650)	"	Hoskins (F 92)	Yorks. gent. & virtuoso (DNB)
471	Henley, John (?)	"		? Bristol gent. (see p. 76)
472	Robartes, Charles Bodvile, 2nd Earl of Radnor (1660)	"		Aristocrat & office-holder (Henning)
473	Willoughby, Sir Thomas (1st Baron Middleton 1712) (*c.*1670)	"		Notts. aristocrat & politician (GEC)
474	Franck von Frankenau, Georg (1643)	"	Slare (F 370)	German physician & writer (Hirsch, II: 595)
475	Wren, Christopher (1675)	" (adm. 30 Nov 1698)		Son of Sir Christopher Wren (DNB s.v. Sir C. W., 1632–1723)
476	Brydges, James (9th Baron Chandos & 3rd Earl of Carnarvon 1714, 1st Duke of Chandos 1719) (1674)	30 Nov 1694		Landowner, courtier & careerist (DNB; C. H. C. & M. I. Baker, 1949)
477	Jackson, John (? 1673)	"		Nephew & heir of Samuel Pepys (H. T. Heath, ed., *Letters of Pepys*, 1955, xxx–xxxi)
478	Gordon, Patrick (?)	"	Southwell, R. (F 107)	Scottish naval chaplain & geographer (Bulloch)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
Council 1696, 1698	Very active	Exempt	1699		1728
	Inactive	Exempt			1718
	Active 1694–5, 1699–1700 only	Payments in 1693–5 only			1706
	Inactive	Regular		Last in 1706 list	(?)
	Inactive (never adm.)	Never in accounts		Never in lists	1723
	Barely active (1698)	Payments in 1695, 1698 only			1729
	Acknowledges election only	Foreign member		Never in lists	1704
	Barely active (1700)	Regular from 1699			1747
Council 1695, 1697	Slightly active	Fairly regular			1744
	Inactive	Payments in 1698 only			1724
	Slightly active	Payments in 1694, 1698–9 only			1702

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
479	Bottone, Domenico (1641)	Appr. 13 Nov 1695		Italian physician & author (*Dizionario Biografico degli Italiani*)
480	Doody, Samuel (1656)	Adm. 27 Nov. 1695		London apothecary & botanist (DNB)
481	Petiver, James (1663)	"		London apothecary & collector (DNB; *Proc. Amer. Antiq. Soc.*, n.s. LXII (1952), 243–65)
482	Connor (O'Connor), Bernard (1666)	"		Physician & writer (DNB)
483	Bene, Tommaso del (?)	Adm. 30 Nov 1695		'The present Florentine Envoy' (CM, II : 122)
484	Montagu, Charles (1st Baron Halifax 1700, 1st Earl of Halifax 1714) (1661)	30 Nov 1695	Southwell, R. (F 107)	Chancellor of Exchequer, etc. (DNB; Henning)
485	Bentley, Richard (1662)	"		Scholar (DNB; J. H. Monk, 1833; R. J. White, 1965)
486	Pujolas, Moïse (?)	Adm. 18 Dec 1695		Huguenot doctor & intellectual (see p. 76)
487	Smyth (Smith), Edward (1665)	Adm. 29 Apr 1696		Irish divine, Bishop of Down & Connor (1699), etc. (DNB)
488	Scarlati, Pompeio, Baro de (?)	29 Apr 1696		Envoy from Elector of Bavaria (CM, II : 124)
489	Viviani, Vincenzo (1622)	"		Italian mathematician (DSB)
490	Fornasari, Ippolito (?)	"		Malpighi's successor as prof. at Bologna (JBC, 8 : 328)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Occasional corresp.	Foreign member			Last in 1741 list
	Active	Only adm. paid (exempt 1698)	1699*		1706
	Very active	Nothing paid (exempt 1698)	1699*		1718
	Active	Regular	*		1698
	Inactive	Foreign member			Last in 1739 list
President 1695–8; Council 1695–8	Barely active	Only adm. paid	*		1715
Council 1697	Barely active	Regular	1699		1742
	Inactive (but cf. 9 : 86)	Never in accounts			? 1729
	Fairly active	Never in account	1699		1720
	Inactive	Foreign member		Never in lists	(?)
	Corresp. before election only	Foreign member			1703
	Inactive	Foreign member		In 1697 list only	(?)

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
491	Bridgeman, Orlando (?)	29 Apr 1696		Son of W. Bridgeman (F 357) (J. Foster, *Pedigrees of Lancashire Families*, 1873)
492	Byrd, William (1674)	"		Virginian landowner & politician (P. Marambaud, 1971)
493	Harris, John (?1666)	"		Divine & scientific writer (DNB; DSB)
494	Bonfigliuoli, Silvestro (1637)	"		Friend & colleague to Malpighi (H. B. Adelmann, *Malpighi*, 1966, 1: 120 & passim)
495	Bidloo, Govard (1649)	"		Dutch physician & anatomist; physician to William III, etc. (*Nouv. Biog. Gén.*; W. Vasbinder, 1948)
496	Foley, Thomas (1st Baron Foley 1712) (?)	15 Jul 1696	Southwell, R. (F 107)	Landowner & politician (DNB s.v. T. F., 1617–77)
497	Lowndes, Ralph (1662)	"	Southwell, R. (F 107)	Non-juring divine (Venn)
498	Chadwick, (?)	"		? Son-in-law of Archbishop Tillotson (F 292) (see p. 76)
499	Ryley, Philip (?)	"		Courtier (DNB s.v. William Ryley, d. 1667)
500	Spoleti, Francesco (?)	"	Southwell, R. (F 107)	Prof. of Medicine at Padua & author (J. H. Zedler, *Universal-Lexicon*, XXXIX (1744): 315–6)
501	Petty, Henry (3rd Baron Shelburne 1699, 1st Earl of Shelburne 1719) (*c.*1675)	30 Nov 1696	Southwell, R. (F 107)	Irish landowner & officeholder (GEC)
502	Bernard, Charles (1652)	"	Sloane (F 421)	London surgeon (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
? Council 1699	? Attends when on council	Regular to 1699 only		Last in 1706 list	1731
Council 1697, 1698	Active	Fairly regular	1699		1744
	Active, esp. 1698	Regular to 1698 only	*		1719
	Inactive apart from sending Malpighi MSS	Foreign member		Never in lists	1696
	Corresp. in 1700	Foreign member, but adm. paid in 1702		In lists from 1702 only	1713
Council 1698	Fairly active	Regular			1733
	Inactive (never adm.)	Never in accounts		Never in lists	1727
	Inactive (never adm.)	Never in accounts		Never in lists	? 1697
	Inactive (never adm.)	Never in accounts		Never in lists	1733
	Acknowledges election only	Foreign member			1712
	Inactive	Payments in 1696, 1698 only	*		1719
Council 1697	Fairly active	Regular 1696–7 only; exempt 1698	1699*		1711

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
503	Newey, John (1664)	30 Nov 1696		Gresham Prof. of Music, etc. (Ward, *Lives*, 233–4)
504	Cockburn, William (1669)	"		London physician (DNB)
505	Howard, Hugh (1675)	"		Artist, connoisseur, etc. (DNB)
506	Basnage de Beauval, Henri (1657)	30 Nov 1697		Huguenot journalist resident in Holland (*Dictionnaire de Biographie Française*)
507	Hutton, John (?)	"	Hoskins (F 92)	Royal physician (DNB)
508	Moivre, Abraham de (1667)	"	Hoskins (F 92)	Huguenot mathematician resident in London (DNB; DSB)
509	Stepney, George (1663)	"		Diplomat & Commissioner of Trade (DNB)
510	Thoresby, Ralph (1658)	"		Yorkshire merchant, collector & antiquary (DNB; D. H. Atkinson, 1885–7)
511	Bridgeman, Orlando (1671)	23 Mar 1698		Warwicks. lawyer & MP (Foster)
512	Cassini, Jacques (1667)	"		French astronomer (DSB)
513	Prior, Matthew (1664)	"	Montagu (F 484)	Diplomat & poet (DNB; L. G. W. Legg, 1921; C. K. Eves, 1939)
514	Lucy, Sir Berkeley (*c.*1672)	"		Hants. landowner (GEC Bar., I: 114; V.C.H. Hants., IV: 190, 290, 316, 318)
515	Guglielmini, Domenico (1655)	"		Italian physician & mathematician (*Nouv. Biog. Gén.*)
516	Emmett (Emmot), Maurice (*c.*1676)	"		Oxford-educated son of London builder (H. M. Colvin, *Biog. Dict. British Architects*, 1978, 294)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Barely active	Exempt (1700)			1735
	Fairly active	Regular	1699		1739
	Inactive	Nothing paid			1737
	Occasional corresp.	Foreign member			1710
Council 1698	Active	Payments in 1698–9 only	1699		1712
	Fairly active	Never in accounts			1754
	Occasional corresp.	Only adm. paid			1707
	Regular corresp.	Only adm. paid			1725
? Council 1699	? Attends when on Council	Regular	*		1721
	Occasional corresp.	Foreign member			1756
	Barely active (1698; never adm.)	Never in accounts		Last in 1706 list	1721
	Inactive	Regular 1698–9			1759
	Inactive	Foreign member			1710
	Slightly active	Regular (half rate)	*		Last in 1720 list

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
517	Fryer, John (?)	23 Mar 1698	Hooke (F 136)	MD & traveller (DNB)
518	Molesworth, Robert (1656)	"	Sloane (F 421)	Irish politician & writer (DNB)
519	Bekker, Balthasar (? 1634)	6 Jul 1698	Sloane (F 421)	? Dutch divine & writer (see p. 76)
520	Baglivi, Giorgio (1668)	"	Sloane (F 421)	Italian physician, academic & author (DSB)
521	Geoffroy, Étienne François (1672)	"	Sloane (F 421)	French physician, chemist, etc. (DSB)
522	Mackay, George, 3rd Lord Reay (1678)	9 Nov 1698	Pepys (F 187) Lister (F 288) Prior (F 513)	Scottish peer (GEC)
523	Ogilvy, James, 1st Viscount Seafield (1st Earl of Seafield 1701, 4th Earl of Findlater 1711) (1664)	"	Hutton (F 507)	Secretary of State for Scotland, etc. (DNB)
524	Norris, Edward (1663)	"	Hoskins (F 92)	Cheshire physician & traveller (DNB)
525	Stanley, John (baronet 1699) (1663)	"	Hutton (F 507)	Irish office-holder (GEC Bar., IV: 179)
526	Isted, Thomas (?)	"	Pepys (F 187) Sloane (F 421)	Lawyer, virtuoso, etc. (*Mid. Temp. Adm. Reg.*, 1: 237; E. St J. Brooks, *Sir Hans Sloane*, 1954, 159)
527	Haistwell, Edward (*c.*1658)	"	Molesworth (F 518)	Quaker merchant (N&RRS, XXV (1970): 179–87)
528	Somers (Sommers), John, 1st Baron Somers of Evesham (1651)	30 Nov 1698		Lord Chancellor (DNB; Henning; W. L. Sachse, 1975)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Inactive	Only adm. paid		Last in 1706 list	1733
Council 1698	Attends Council only	Payments in 1698 only	*	Last in 1715 list	1725
	Inactive	Foreign member, but adm. paid			Last in 1703 list
	Occasional corresp.	Foreign member			1707
	Attends in 1698 & frequent corresp.	Foreign member			1731
	Inactive	Only adm. paid			1748
	Inactive	Only adm. paid			1730
	Attends at time of election only	Never in accounts			1726
	Inactive	Never in accounts			1744
	Barely active	Regular (half rate)	*		1731
	Barely active (1700)	Regular (half rate)			1709
President 1698–1700; Council 1698–9	Barely active	Never in accounts	*		1716

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
529	Spencer, Charles, Lord (3rd Earl of Sunderland 1702) (1674)	30 Nov 1698		Politician & bibliophile (DNB)
530	Hammond, Anthony (1668)	" (adm. 30 Oct 1700)		Politician & office-holder (DNB)
531	Sackville, Charles, 6th Earl of Dorset (1643)	11 Jan 1699		Poet & courtier (DNB; Henning; C. J. Phillips, *Hist. Sackville Family*, 1930, 1: 436–93; B. Harris, 1940)
532	Shirley, R. (?)	"	Bemde (F 344)	? Brother of Earl Ferrers (see pp. 76–7)
533	Worth, Edward (*c.*1672)	"	Southwell, E. (F 463)	Physician (Innes Smith, 253)
534	Agricola, Georg Andreas (1672)	"		German physician & writer (*Allg. Deutsch. Biog.*)
535	Krieg, David (?)	"	Sloane (F 421)	Riga physician & naturalist (*Proc. Amer. Antiquarian Soc.*, n.s. LXII (1953): 308–9)
536	Williams (?)	"	Hooke (F 136)	Arithmetician (JBC, 9: 118)
537	Cowper (Cooper), William (1666)	"	Tyson (F 353)	London surgeon & anatomical writer (DNB)
538	Browne, Thomas (1673)	? 30 Nov 1699	Grew (F 289)	Physician (DNB)
539	Bowes, Martin (*c.*1671)	Adm. 6 Dec 1699	Woodward (F 468)	London gent. (Venn; DNB s.v. Paul Bowes, *d.* 1702)
540	Buissière, Paul (?)	Appr. 22 Mar 1699	Sloane (F 421)	Huguenot surgeon (DNB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	(Not yet adm.)	Not in accounts	*		1722
	Inactive	Only adm. paid		Last in 1717 list	1738
	Inactive (never adm.)	Never in accounts		Never in lists	1706
	Inactive	Only adm. paid		Never in lists	(?1738)
	Inactive	Only adm. paid		Last in 1717 list	1733
	Active in 1698 only	Foreign member		Never in lists	1738
	Active in 1699; corresp. thereafter	Foreign member, but adm. paid			Last in 1712 list
	Inactive (never adm.)	Never in accounts		Never in lists	(?)
	Active	Only adm. paid	1699		1709
	Inactive	Regular	*		1710
	Inactive	Adm. paid		Last in 1713 list	1726
	Fairly active	Adm. ?paid (see p. 249 n. 5)			1739

No.	*Name & title(s) & (date of birth)*	*Date elected*	*Proposer & (no.)*	*Brief biographical note & principal source(s)*
541	Silvestre (Sylvestre), Pierre (?1662)	Appr. 22 Mar 1699	Sloane (F 421)	Refugee Huguenot MD; Licentiate RCP (Munk)
542	Mencke (Menkenius), Johann Burchard (1674)	Appr. 19 July 1699	Hooke (F 136)	German scholar & editor of *Acta Eruditorum* (*Allg. Deutsch. Biog.*)
543	Cunningham, James (?)	Appr. 15 Nov 1699	Sloane (F 421)	Surgeon to East India Co. (DNB)
544	Pound, James (1669)	"	Wallis (F 57) Woodward (F 468)	Divine, chaplain in colonies 1699–1706, etc. (DNB)
545	Leyoncrona, Christopher (?)	Adm. 30 Nov 1699	Slare (F 370)	'Resident of the King of Sweden' (CM, II: 163)
546	Lowther, Sir John, 1st Viscount Lonsdale (1655)	Adm. 20 Dec 1699		Lord Privy Seal, etc. (DNB; Henning)
547	Sperling, Otto (1634)	30 Nov 1700	Woodward (F 468) Sloane (F 421)	German lawyer &. author resident in Copenhagen (*Nouv. Biog. Gén.*)
548	Cyprianus. Abraham (*c.*1655)	"	Sloane (F 421)	Dutch physician practising in London (*Nouv. Biog. Gén.*; Munk)
549	Sydenham, Sir Philip (*c.*1676)	"	Woodward (F 468)	Somerset landowner & MP (GEC Bar., II: 113)
550	Dubois (du Bois), Charles (?)	" (adm. 1714)		Treasurer to East India Co. (DNB)
551	Keill, John (1671)	30 Nov 1700 (adm. 1702)		Academic & writer (DNB; DSB)

Offices held in Roy. Soc.	*Activity as seen in minutes*	*Payment of subscriptions*	*MS lists*	*Expulsion/ resignation*	*Death*
	Fairly active	Not in accounts			1718
	Inactive	Foreign member			1732
	Active before election	Not in accounts		(Last in 1711 list)	? 1709
	Inactive	Not in accounts	*		1724
	Inactive	Adm. paid			1710
	Barely active (1700)	Adm. paid			1700
	Corresp.	Foreign member			1715
	Attends meeting when adm.	Not in accounts			1718
	(Adm. 1701)	Payments from 1701		Last in 1706 list	1739
	(Not yet adm.)	Payments from 1714		First in 1714 list	1740
	(Not yet adm.)	Adm., 1702			1721

Notes

Introduction

1 Thomson also gave dates of birth and death and of Fellows' admission to the Society, a precedent not followed by *The record of the Royal Society.*

2 T. Birch, *The history of the Royal Society of London*, 4 vols. (New York: Johnson Reprint, 1968), I: xxxiii–xlv.

3 It is perhaps worth noting here that 'Fellows' has been interpreted literally, and this book almost entirely ignores those of the Society's employees who never aspired to the status of Fellow; these appear below in only one connection, as witnesses to the bonds signed by Fellows guaranteeing their subscriptions (see Appendix 9). The men in question were (1) the Society's 'operators', Richard Shortgrave from 1663 till his death in 1676, and Henry Hunt from 1677 to 1713; and (2) its clerk, Michael Wicks (or Weekes), from 1662 onwards. On these men, see H. W. Robinson, 'The administrative staff of the Royal Society, 1663–1861', N&RRS, IV (1946): 193–205, at 194–5, 197. The exact point at which Wicks' employment by the Society ended is unclear: Robinson dates this to December 1684, but the accounts (see below, Appendix 6) show that he was paid £25 in 1687 and £63 15*s.* 0*d.* in 1696. Clerical tasks were also carried out by B. G. Cramer in the 1680s and early 1690s. On the clerkship of Edmond Halley (F 347) from 1686 onwards, and its relationship to his status as Fellow, see Stephen Pumfrey, 'Ideas above his station: a social study of Hooke's curatorship of experiments', *Hist. Sci.*, XXIX (1991): 1–44, at pp. 15–16 and n. 56. It is indeed true that Halley's name disappears from the membership lists during the period of his clerkship, though Pumfrey has misunderstood the reference that he there cites from this book, which is to a list of Fellows asked to provide an experimental demonstration, not a complete list of Fellows. On the status of Denis Papin (F 369), paid as a 'scribe' but employed as a curator (and described in previous editions of this book as an 'operator'), see ibid., n. 30: I have changed the description of his post in the Catalogue accordingly.

4 E.g., there is nothing comparable in D. Roche, *Le siècle des lumières en province* (Paris, 1978). See also the works referred to in the next two notes.

5 See A. Stroup, 'Royal funding of the Parisian Académie des Sciences during the 1690s', *Trans. Amer. Philos. Soc.*, LXXVII (1987), part 4, and ead., *A company of scientists: botany, patronage and community at the seventeenth-century Parisian Royal Academy of Sciences* (Berkeley and Los Angeles, 1990):

even her one table that deals with attendance ('Royal funding', Table 4) does not do so systematically. See also J. E. McClellan III, 'The Académie Royale des Sciences, 1699–1793: a statistical portrait', *Isis*, LXXII (1981): 541–67, and D. S. Lux, *Patronage and royal science in seventeenth-century France: the Académie de Physique de Caen* (Ithaca, 1989).

6 E.g., R. Emerson, 'The Philosophical Society of Edinburgh, 1737–47' and 'The Philosophical Society of Edinburgh, 1748–68', BJHS, XII (1979): 154–91, XIV (1981): 133–76; J. Morrell and A. Thackray, *Gentlemen of science: early years of the British Association for the Advancement of Science* (Oxford, 1981); I. Inkster and J. Morrell (eds.), *Metropolis and province: science in British culture, 1780–1850* (London, 1983); M. Crosland, *Science under control: the French Academy of Sciences, 1795–1914* (Cambridge, 1992), esp. pp. 173 f.

7 M. B. Hall, 'Oldenburg and the art of scientific communication', BJHS, II (1965): 277–90; ead., 'The Royal Society's role in the diffusion of information in the seventeenth century', N&RRS, XXIX (1974): 173–92; ead., *Promoting experimental learning* (Cambridge, 1991), chs. 4, 6; S. Gomes, A. Milian, C. Moreno, and M. J. Pascual, 'Las relaciones internacionales de la Royal Society of London (1660–1700)', *Sylva Clius*, I (1987): 21–107. See also M. Hunter, *Science and society in Restoration England* (Cambridge, 1981), ch. 2, and the studies cited on p. 205.

8 H. Lyons, *The Royal Society, 1660–1940* (Cambridge, 1944), pp. ix, 341–2, and passim.

9 Rhoda Rappaport. 'Hooke on earthquakes: lectures, strategy and audience', BJHS, XIX (1986): 129–46; Jan Golinski, 'A noble spectacle: phosphorus and the public cultures of science in the early Royal Society', *Isis*, LXXX (1989): 11–39; Pumfrey, op. cit. (3); see also his 'Mechanizing magnetism in Restoration England: the decline of magnetical philosophy', *Ann. Sci.*, XLIV (1987): 1–22.

10 R. G. Frank, jr, 'Institutional structure and scientific activity in the early Royal Society', in *Proceedings of the 14th Congress of the History of Science (1974)* (Tokyo, 1975), IV: 82–101. For a study of the Newtonian period, see J. L. Heilbron, *Physics at the Royal Society during Newton's presidency* (Los Angeles, 1983).

11 Hall, op. cit. (7), p. 74.

12 M. Hunter and P. B. Wood, 'Towards Solomon's House: rival strategies for reforming the early Royal Society', *Hist. Sci.*, XXIV (1986): 49–108, reprinted in M. Hunter, *Establishing the new science: the experience of the Royal Society* (Woodbridge, 1989), pp. 185–244 (page references to this paper will be given in the form '49/185').

13 Perhaps particularly M. Purver, *The Royal Society: concept and creation* (London, 1967); but even Hall's study is not entirely devoid of this tendency.

14 Hall, *Promoting experimental learning*, op. cit. (7), p. 71; Hunter and Wood,

op. cit. (12), p. 59/198. See also, for instance, Hunter, *Science and society*, op. cit. (7), p. 131.

15 Lyons, op. cit. (8), pp. 91–4. See also Conclusion, n. 14.

16 L. Mulligan and G. Mulligan, 'Reconstructing Restoration science: styles of leadership and social composition of the early Royal Society', *Soc. Stud. Sci.*, XI (1981): 327–64.

17 M. Hunter, 'Reconstructing Restoration science: problems and pitfalls in institutional history', *Soc. Stud. Sci.*, XII (1982): 451–66, reprinted in *Establishing*, op. cit. (12), pp. 339–55. For the lack of change in the Society's proceedings, cf. Hall, *Promoting experimental learning*, op. cit. (7), pp. 3–4. See also Pumfrey, op. cit. (3), for an interpretation of Hooke's career in its interrelationship with the Society's hierarchy with which I have some sympathy, though in my view he overemphasises the influence of status relationships on Hooke's role in the Society; he also generalises further from the atypical case of magnetism than is warranted (note, for instance, that this was the only topic which had a special, separate section within the Society's accounts (see below, Appendix 6)): for a different view of Hooke's curatorship from Pumfrey's, see Hunter, *Establishing*, op. cit. (12), p. 23.

18 Birch, IV: 157-9, 161.

19 Evelyn to Fell, 12 March 1669: Christ Church, Oxford, Evelyn Collection, MS 39, no. 314.

20 Hunter and Wood, op. cit. (12), p. 83/228.

21 Hunter, *Establishing*, op. cit. (12), p. 59.

22 Cl.P. XXIV: 71.

Chapter 1

1 Vernon to Oldenburg, 1 May 1669: Oldenburg, V: 507. For a reconstruction of the membership of the group who met at Oxford in the 1650s see C. Webster, *The Great Instauration* (London, 1975), pp. 166–9.

2 Birch, I: 239–40; T. Sprat, *The history of the Royal Society* (1667), ed. J. I. Cope and H. W. Jones (London, 1959), pp. 431–3. This must have been the size of the membership when Sprat's book went to press, and it differs from that given in the printed membership lists for 1666 and 1667: see Table 2.

3 D. Stimson, 'Puritanism and the new philosophy in seventeenth century England', *Bull. Inst. Hist. Med.*, III (1935): 321-34, esp. pp. 329f; R. K. Merton, *Science, technology, and society in seventeenth-century England* (New York, 1970), esp. p. 114; this paper was originally published in *Osiris*, IV (1938): 360–632. For a useful survey of the background see L. Pyenson, '"Who the guys were": prosopography in the history of science', *Hist. Sci.*, XV (1977): 155–88.

4 L. S. Feuer, *The scientific intellectual* (New York, 1963), pp. 75, 420–24.

5 L. Mulligan, 'Civil war politics, religion and the Royal Society', *Past and*

Present, 1973, no. 59: 92–116; reprinted in C. Webster (ed.), *The intellectual revolution of the seventeenth century* (London, 1974), pp. 317–46.

6 Ibid., p. 97.

7 Sprat, op. cit. (2), pp. 62–7, 129.

8 For a discussion of the Society's relations with Thomas Hobbes, the one possible exception to this rule, see Hunter, *Science and society*, op. cit. (Intro., 7), pp. 178–9; Q. Skinner, 'Thomas Hobbes and the nature of the early Royal Society', *Hist. J.*, XII (1969): 217–39; Steven Shapin and Simon Schaffer, *Leviathan and the air-pump* (Princeton, 1985), pp. 131–9.

9 See Hunter, *Science and society*, op. cit. (Intro., 7), pp. 36–7.

10 For some possible examples, see Skinner, op. cit. (8), p. 236: it is interesting that most of these were based out of London.

11 Cf. C. Webster, 'Richard Towneley (1629–1707), the Towneley group and seventeenth-century science', *Trans. Hist. Soc. Lancs. and Cheshire*, CXVIII (1966): 51–76.

12 See Raven, *Ray*; and M. Hunter, *John Aubrey and the realm of learning* (London, 1975).

13 See ibid., pp. 43, 64.

14 Oldenburg to Huygens, 6 Sept. 1669: Oldenburg, VI: 223.

15 Jessop to Lister, 3 Feb. 1674, ibid., X: 468.

16 See Appendix II.

17 [Alban Thomas], *A list of the Royal Society . . . with the places of abode of most of its members* (London, 1718), pp. 12–22. The identification of the author is based on a note on the title page of the British Library copy (740.c.24(3)).

18 M. 'Espinasse, 'The decline and fall of Restoration science', *Past and Present*, 1958, no. 14: 71–89, at 86; reprinted in Webster, op. cit. (5), pp. 347–68, at 367.

19 Cf. Taylor, pp. 225–6, 207–8, 229, 220–21. On Bond, cf. Birch, I: 104; on Thompson, Webster, op. cit. (1), p. 91.

20 Cf. W. H. G. Armytage, 'The Royal Society and the apothecaries, 1660–1722', N&RRS, XI (1954): 22–37, at 24; M. Hunter, 'The Royal Society and the origins of British archaeology', *Antiquity*, LXV (1971): 113–21, 187–92, at 115; Birch, III: 51, 54; I. Kaye, 'Unrecorded early meetings of the Royal Society', N&RRS, VIII (1951): 149–66, at 150.

21 For such an assessment see Hunter, *Science and society*, op. cit. (Intro., 7), pp. 73–7.

22 See Birch, I: 266–7, 270, 272, 280–81, 293, 310, 346, 447–8, 456, 460, 483; II: 115, 262; see also Cl.P. II: 2, and X(i): 4; and Taylor to Oldenburg, 14 July 1663: Oldenburg, II: 81. On the projected college, see M. Hunter, 'A "college" for the Royal Society: the abortive plan of 1667-8', N&RRS, XXXVIII (1984): 159–86, reprinted in *Establishing* (Intro., 12), pp. 156–84 (at 170).

23 Cl.P. III(i): 59. This list also includes Sir Edward Walpole, on whom see

Henning. On Hale, see E. Heward, *Matthew Hale* (London, 1972), esp. pp. 124–6.

24 Cf. *Phil. Trans.*, VI (1672), no. 79: 3056–8; and various letters of 1672–3 in Oldenburg, VIII: 417, 429, 445, 468, 506–7, 530, 539, 573, 592; IX: 37, 54, 431. On Morland, see H. W. Dickinson, *Sir Samuel Morland* (Cambridge, 1970).

25 Birch, IV: 328. Cf. Evelyn, *Diary*, IV: 531–2. Courten's papers are in the Sloane collection in the British Library; see esp. Sloane 3987.

26 T. B. Macaulay, *The history of England*, Vol. I (London, 1849), p. 406.

27 R. North, *The lives of the Norths*, 3 vols., ed. A. Jessopp (London, 1890), I: 374.

28 Birch, II: 261; IV: 328. Other London physicians who never joined the Society are discussed by Skinner, op. cit. (8), pp. 236–7, though he is wrong in claiming that Millington and Napier were Fellows and that Dickinson (F 340) was not.

29 D. E. Allen, *The naturalist in Britain* (London, 1976), p. 10; E. Carpenter, *The Protestant bishop* (London, 1956), pp. 366–7.

30 Birch, I: 322. Cf. ibid., I: 5, 115.

31 Cf. Winthrop to Oldenburg, Sept. 1671?: Oldenburg, VIII: 265.

32 Palmer to Oldenburg, 12 Dec. 1667: ibid., IV: 34.

33 Stiernhielm to Oldenburg, 17 May 1670: ibid., VII: 16.

34 Musgrave to Aston, 27 March 1684: LBO IX: 150.

35 This is taken from an incomplete letter dated Salisbury, 2 Sept. 1665, probably from Lord Cornbury to Evelyn, to be found loose in a box marked 'Evelyn Period Letters A–G' in the Evelyn Collection at Christ Church, Oxford.

36 'Proposals for the Advancement of the Royal Society', DM V: 12. For the likelihood that these are by Robert Hooke, see Hunter and Wood, op. cit. (Intro., 12), p. 96/244.

37 [Richard Graham, Viscount Preston] *Angliae speculum morale* (London, 1670), p. 45.

38 Skinner, op. cit. (8), p. 238.

39 D. C. Coleman, *Sir John Banks* (Oxford, 1963), pp. 136–9.

40 Cf. Blackwell to Sloane, Northaw, no date: British Library Sloane 4034, fols. 234–5; GEC s.v. 5th Earl of Macclesfield.

41 See *HMC Egmont*, II, passim.

42 Birch, I: 5–7. For comparable moves by the Oxford group of the 1650s see H. Hartley (ed.), *The Royal Society: its origins and founders* (London, 1960), pp. 25–6.

43 Birch, I: 88–96, 221–30.

44 DM V: 34.

45 Cf. Birch, I: 377, 379.

46 See ibid., I: 168–9; DM V: 36; and Southwell to Oldenburg, 26 April 1663: Oldenburg, II: 48–50 and n.; and 15 May 1663: ibid., II: 52–5.

47 Details of this affair will be found in Birch, passim.
48 Birch, II: 386. The only substantial endowment that the Society received before 1682 was Wilkins's bequest of £400, received in 1674; cf. H. Lyons, 'The Society's first bequest', N&RRS, II (1939): 43–6.
49 See S. L. C. Clapp, 'The beginnings of subscription publication in the seventeenth century', *Modern Philology*, XXIX (1931): 199–224; F. J. G. Robinson and P. J. Wallis, *Book subscription lists: a revised guide* (Newcastle upon Tyne, 1975).
50 Oldenburg to Boyle, 10 Dec. 1664: Oldenburg, II: 332.
51 See Hunter, 'A "colleğe"', op. cit. (22).
52 For instance in the early 1680s: see Chapter 3. For the text of one of these proposals, see R. K. Bluhm, 'Remarks on the Royal Society's finances, 1660–1768', N&RRS, XIII (1958): 82–103, at 93–4 (though it is perhaps there made insufficiently clear that this provision was hypothetical rather than actual). See also M. Hunter and P. B. Wood, op. cit. (Intro. 12), p. 56/193–4.
53 Birch, III: 127.
54 Webster, op. cit. (5), p. 21.
55 Loc. cit.
56 Webster, op. cit. (1), pp. 89 f.
57 Birch, I: 415.
58 See M. Hunter, 'Early problems in professionalizing scientific research: Nehemiah Grew (1641–1712) and the Royal Society, with an unpublished letter to Henry Oldenburg', N&RRS, XXXVI (1982): 189–209, reprinted in *Establishing*, op. cit. (Intro., 12), pp. 261–78.
59 Sprat, op. cit. (2), pp. 433–4.
60 DM V: 12. On its authorship, see above, note 36.
61 Hoppen, pp. 86–7.
62 Cf. Hunter, *Establishing*, op. cit. (Intro., 12), ch. 9.
63 On the sources of Oldenburg's income, see the Halls' notes in Oldenburg, II: xxiv–xxvi, IV: xxiv–xxv, V: xxv–xxvi, and VI: xxviii.
64 Cf. the Society's accounts, passim, and Introduction, n. 3.
65 William Petty's memorandum on the Royal Society, 1674, transcribed in L. G. Sharp, 'Sir William Petty and some aspects of seventeenth century natural philosophy', (D.Phil. thesis, University of Oxford, 1977), p. 399.
66 DM V: 1.
67 Cf., e.g., William Ball to Oldenburg, 14 April 1666: Oldenburg, III: 91–3.
68 Birch, I: 227.
69 See Appendix 8.
70 The sources for these figures are as follows. Up to 1685 they are derived from Birch; note that in 1679 and 1682 it is merely recorded that 'a sufficient number' were present (III: 510, IV: 168), while in 1685, though 37 are recorded as present 'the number was afterwards much increased' (IV: 443). For a hint concerning attendance in 1676, which was not recorded in the minutes, see

R. Hooke, *Diary, 1672–80*, ed. H. W. Robinson and W. Adams (London, 1935), p. 260. Figures for attendance in 1688 and 1689 are from Hooke's 'Diary, 1688-93', in ESO, x (1935): 77, 168 (on the former, cf. JBC, VII: 151-2). From 1690 onwards attendance is never recorded, but a clue is provided in various years beginning in 1692 by the record included in the minutes of the number of votes cast for each candidate in the election, since the highest of these gives a minimum for the number present. Figures are from JBC except for 1697, when they come from notes in Sloane 4026, fol. 351 (cf. Copley to Kirke, 14 Dec. 1697: British Library, MS Stowe 747, fol. 82) and 1699, when they come from CM II: 58–9. How these voting figures relate to attendance is uncertain. In 1698, when the highest vote was 33, we know from the journal of James Brydges that 'near forty' Fellows dined before the anniversary meeting (C. H. C. Baker and M. I. Baker, *James Brydges, first Duke of Chandos* (Oxford, 1949), p. 12). In 1710, admittedly a rather fraught meeting (see R. S. Westfall, *Never at rest: a biography of Isaac Newton* (Cambridge, 1980), p. 679), the highest vote was 80 (JBC X: 249) out of a total attendance of 84 (DM V: 22). On two occasions in the 1680s when the number of votes for the president (not necessarily the highest) is recorded, it was 30 when 43 were present and 29 when 39 were (Birch, IV: 232, 338).

71 Birch, I: 6, 115; and DM V: 59.

72 See Birch, II: 74, 124; III: 359, 361-2; IV: 104; JBC IX: 86. For evidence for ordinary meetings better attended than any of these, see Birch, IV: 454 and n. 76.

73 Cf., e.g., ibid., II: 110, or Oldenburg to Lister, 27 May 1671: Oldenburg, VIII: 63–4, or Oldenburg to Leibniz, 10 April 1673: ibid., IX: 582–3 (when there were, however, mitigating circumstances).

74 E.g. Birch, I: 293; II: 386, 431, 436; III: 120; and see Table 3 (though see Appendix 4 concerning meetings cancelled due to the absence of the president and vice-president).

75 See above.

76 Hooke, *Diary, 1672–80*, op. cit. (70), pp. 35 (19 present), 74 (14), 130 ('neer 40'), 151 (23), 257 (6), 267 ('11 only'), 272 (15), 411 (16); 'Diary, 1688–93', op. cit. (70), pp. 95 ('About 16'), 118 (12).

77 Hooke, *Diary, 1672–80*, op. cit. (70), pp. 74, 267, and references passim to some of those present; 'Diary, 1688–93', op. cit. (70), passim. For lists on lectures, see Cl.P. XX: 62 (25 June 1684), 78 (3 July 1689), 79 (4 Dec. 1689), 80 (18 Dec. 1689), 86 (3 June 1696), 85 (8 July 1696), 89 (14 July 1697: ? for 13, cf. JBC IX: 59-61), 91 (1 Dec. 1697), 92 (15 Dec. 1697), 93 (24 May 1699), 94 (31 May 1699), and City of London Guildhall MS 1757, item 10 (11 Dec. 1689). See also Hunter, *Establishing*, op. cit. (Intro., 12), p. 326, note 153. As is pointed out there, these were in fact Cutlerian lectures, but, since they were coupled with Royal Society meetings, it seems likely that attendance at both was comparable.

78 For further discussion, see Appendices 5 and 6.
79 Sprat, op. cit. (2), pp. 71–3.
80 Wallis to Oldenburg, 15 Oct. 1674: Oldenburg, XI: 109.
81 Oldenburg to Petty, 10 Nov. 1675: Oldenburg, XII: 47.
82 For evidence to this effect see Appendix 5; Hunter, *Science and society*, op. cit. (Intro., 7), p. 56; A. R. Hall, op. cit. (Intro., 2), pp. xx–xxi.
83 Cf. Frank, op. cit. (Intro., 10).
84 See Oldenburg, III: xxvii.
85 See Lyons, op. cit. (Intro., 8), pp. 49, 64–5.
86 Birch, III: 466, 505, 508; IV: 56, 75, 79, 85.
87 Ibid., III: 410 (F 341).
88 On these lists see Appendix 8.
89 H. Stubbe, *Legends no histories* (London, 1670), 'Preface to the Judicious Reader', sig. *3.
90 See Appendix 10.

Chapter 2

1 B. Shapiro, 'Debate: science, politics and religion', *Past and Present*, 1975, no. 66: 133–5.
2 See L. Stone, 'Prosopography', *Daedalus*, C (1971): 6–79. Cf. I. Inkster, 'Variations on a theme by Thackray', *BSHS Newsletter*, VIII (1982): 15–18.
3 On this class of so-called 'pseudo-gentry', see Hunter, *Science and society*, op. cit. (Intro., 7), p. 73. Though the numbers involved are small, such men do appear to become more numerous in the course of the period.
4 On this distinction, see G. E. Aylmer, *The King's servants* (London, 1961), pp. 31–2, 281–2.
5 On these Fellows, see Appendix 3.
6 Cf. D. Ogg, *England in the reigns of James II and William III* (Oxford, 1955), pp. 132 f.
7 Birch, II: 128.
8 See *The diary of Samuel Pepys*, ed. R. Latham and W. Matthews, Vol. VIII (London, 1974), p. 242.
9 Cf. Oldenburg to Leibniz, 10 April 1673: Oldenburg, IX: 582-3.
10 Sprat, op. cit. (Ch. 1, 2), esp. pp. 129–30. For modern writers who have cited Sprat's hopeful talk as if it was a statement of fact, e.g., 'Espinasse, op. cit. (Ch. 1, 18), pp. 86–7. It is revealing how both Sprat and Hooke (*Micrographia* (London, 1665), sig. g1^{v}) hopefully made much of Cutler's generosity but were rather vague about the contribution of other 'men of Trafick'; moreover, the extent of Cutler's contribution to the Society, other than his endowment of Hooke, may be assessed from the Catalogue (F 171).
11 D. C. Coleman, op. cit. (Ch. 1, 39), esp. chapters 5 and 7.

12 FF 301–304 and Birch, III: 110. Another 'official' candidate might be Sir Patience Ward (F 379), elected while Lord Mayor of London.
13 On his election, see Birch, III: 442; on his earlier association, ibid., I: 403. It is probably no coincidence that he was elected in the year after his *Mechanical exercises* was published.
14 See p. 58. To avoid confusion, it should be noted that in cases of double election I have counted only the second election.
15 I have applied some elementary tests of statistical significance with the assistance of Roderick Floud, but my caution has mainly been induced by historical considerations.
16 See Appendix 2.
17 See the articles referred to in Intro. nn. 16–17.
18 For Bridgeman's liaising role, see Chapter 3.
19 See, e.g., Copley to Kirke, 17 Aug. 1699: British Library, MS Stowe 747, fol. 116.
20 Draft by Newton for a petition to the Queen, DM V: 45. For the date of this document, see I. Adamson, 'The Royal Society and Gresham College, 1660–1711', N&RRS, XXXIII (1978): 1–21, at 19 n. 58.
21 *An account of the late proceedings in the council of the Royal Society* (London, 1710), p. 13.

CHAPTER 3

1 Birch, I: 402–3, 406–7.
2 These figures have been calculated from Table 9.
3 Oldenburg to Boyle, 22 Sept. and 24 Nov. 1664: Oldenburg, II: 235, 320.
4 Birch, I: 237, 253, 472, 479, 498; II: 7, 18, 57.
5 Ibid., II: 129–30, 323, 404.
6 Ibid., II: 64–5, 87, 118; and see Appendices 7 and 10.
7 Ibid., II: 385–6.
8 Oldenburg to Boyle, 24 Feb. and 8 June 1666: Oldenburg, III: 45, 155.
9 Oldenburg to Boyle, 17 Sept. 1667: ibid., III: 476.
10 See Hunter, 'A "college"', op. cit. (Ch. 1, 22).
11 Birch, II: 265, 344, 355.
12 Hunter, 'A "college"', op. cit. (Ch. 1, 22).
13 Justel to Oldenburg, early Sept. 1668: Oldenburg, V: 39.
14 See Chapter 2.
15 Henshaw to Oldenburg, 12 Dec. 1672: Oldenburg, IX: 355.
16 Henshaw to Oldenburg, 9 Aug. 1673: ibid., X: 129.
17 Loc. cit. For other comparable remarks in letters of 1673–4 see L. G. Sharp, op. cit. (Ch. 1, 65), pp. 255, 264.
18 Beale to Evelyn, 1 Nov. 1671: Christ Church, Oxford, Evelyn collection, Correspondence (bound volumes), no. 123.

19 North, op. cit. (Ch. 1, 27), I: 374.
20 A tract in defence of the Society was already planned in 1663, while Sprat's *History* was partly printed in 1664 although not published till 1667 (see Sprat, op. cit. (Ch. 1, 2), pp. xii–xiv).
21 See Sharp, op. cit. (Ch. 1, 65), p. 257; Hunter, *Science and society*, op. cit. (Intro., 7), p. 44.
22 Birch, III: 134.
23 Ibid., II: 496, III: 63.
24 See Hunter, 'Early problems', op. cit. (Ch. 1, 58).
25 See especially the series in Birch, III: 135–43. See also Hunter and Wood, op. cit. (Intro., 12).
26 Birch, III: 119, 135–7, 139–40, 142–4, 158, 160, 162, 175–6, 178. See also Oldenburg to Lister, 20 June 1674: Oldenburg, XI: 36.
27 Birch, III: 94–6, 100, 108–9, 118–20, 127–9, 136–44, 155, 158, 160–61, 171–8, 190–91, 195, 227–8. See also ibid., III: 63, 70. On the expulsions see Appendix 10, and on the evaluative lists and 'bonds', Appendixes 8–9.
28 See Sharp, op. cit. (Ch. 1, 65), pp. 269–70, 401–7. The Fellows who paid (mentioned in the 1675 accounts) were Brouncker (F 1), Earl of Ailesbury (F 56), and Sir J. Lowther (F 157).
29 Hunter, *Science and society*, op. cit. (Intro., 7), pp. 44–5.
30 Evelyn, *Sylva, or a discourse of forest-trees*, 3rd edn (London, 1679), sigs. A1–4.
31 See Evelyn to Pepys, 25 June 1680: HMC *MSS of J. Eliot Hodgkin* (London, 1897), p. 177.
32 Birch, III: 365, 369, 506–7, 513–4, 516; IV: 6–8, 20, 65, 82.
33 Ibid., III: 510.
34 It is unlikely, however, to have been due to the personal influence of Hooke. See the articles cited in Intro., nn. 16–17.
35 Cf. Birch, IV: 157–8.
36 Ibid., IV: 82–3, 95, 108, 118–19, 125–7, 129–31, 133–5, 144–7, 159–61, 170.
37 These included Sir W. Petty (F 8), Croone (F 20), Whistler (F 49), Long (F 94), Williamson (F 101), Bathurst (F 149), J. Hoare, sen. (F 167), and F. Robartes (F 306).
38 See Appendix 9.
39 Birch, IV: 161, 187. Of these, two had been active in the 1670s but had since drifted away (Whistler (F 49), Milles (F 315)), two had never been particularly active though once fairly regular (T. Coxe (F 23), Arderne (F 265)) and two were active members in arrears (Croone (F 20), Allen (F 253)). Croone and Whistler paid up: see n. 37.
40 See Appendix 10.
41 See Lyons, op. cit. (Intro., 8), app. 3.
42 See Appendix 1.
43 E.g. Mulligan, op. cit. (Intro., 16), p. 332.

44 On those proposed by Houghton, see Appendix 2.

45 Birch, IV: 121, 158. For further developments towards greater selectiveness in the eighteenth century, see M. Crosland, 'Explicit qualifications as a criterion for membership of the Royal Society: a historical review', N&RRS, XXXVII (1983): 167–87.

46 See Chapter 2. In 1683–9, 25% of British Fellows were wholly inactive, as against 31% in 1678–81. But the former figure includes various men resident in Dublin, Oxford or the country, and without them it would be lower — some 15%.

47 See Birch, IV: 187–8, 245; and the 1684 accounts. Halley (F 347) and Moult (F 450) also seem to have been considered for such appointments in 1684–5 (ibid., IV: 260–1, 402), but there are no references to payments to them for such work in the accounts.

48 See the accounts, passim. These also record payments for secretarial work to Plot (F 332) and Aston (F 342).

49 See Bluhm, op. cit. (Ch. 1, 52), pp. 98–100, and the accounts for 1686–7 for details of subscriptions by individual Fellows and non-members. The accounts for 1682–4 also show payments by the Society in connection with other publishing projects in which John Collins (F 235) was involved (see Birch, IV: 155, 166–7, 284).

50 Bluhm, op. cit. (Ch. 1, 52). It is perhaps revealing that another initiative of these years, the Society's offer of financial assistance to Halley for measuring a degree of the earth, was scaled down to 'fifty pounds or fifty copies of the *History of Fishes*' (Birch, IV: 491).

51 Ashe to Southwell, 12 Feb. 1695: EL, A 42; and Gould to Aston, 6 March 1683: LBO VIII: 298. On these societies see Hoppen.

52 See Birch, IV, passim.

53 The men in question were Gould (F 405), Mullen (F 408), Willoughby (F 409), Musgrave (F 412), Bulkeley (F 426), W. Molyneux (F 428), Ashe (F 429), T. Molyneux (F 430) and Sylvius (F 434). Wetenhall (F 407) apparently joined the London society before the Dublin one (Hoppen, p. 27).

54 See Birch, IV: 449–51, 453–4, 475–6 (Molyneux to Halley, 8 April 1686).

55 J. Carr, 'The biological work of Martin Lister' (PhD thesis, University of Leeds, 1974), pp. 40–41.

56 Robinson to Sloane, 6 Dec. 1687: Sloane 4036, fol. 30.

57 Plot to Lhwyd, 29 Jan. 1691: Bodleian Library, Oxford, MS Ashmole 1817 a, fol. 135^{v}.

58 JBC VIII: 50 (see also VIII: 45, for the sending out of a circular letter).

59 Birch, IV: 455, 524.

60 Mullen attended a meeting on 19 Feb. 1690 (JBC VII: 266), contrary to the statement in Hoppen, p. 38, that he went abroad in Dec. 1689.

61 Bluhm, op. cit. (Ch. 1, 52), p. 91.

62 These comprised some Fellows going back to the 1660s — A. Hill (F 11),

Lord Berkeley (F 34), Sir C. Wyche (F 83), Haak (F 93), Sir J. Lowther (F 157), Pepys (F 187), and Bagenall (F 172) (fairly regular) — and others elected in the 1670s and 1680s — Firmin (F 360), Houghton (F 361), Chamberlen (F 373), R. Waller (F 380), Payne (F 386), Lodwick (F 391), and Haynes (F 406) — while a number of those elected in the 1680s never paid regularly at all — Pitt (F 404), T. Robinson (F 419), and Sloane (F 421).

63 These figures and (unless otherwise stated) those that follow are calculated from the Society's accounts.

64 See Appendix 6. It is interesting that in 1697 Thomas Gale (F 331) could not even tell Ralph Thoresby (F 510) exactly how much the subscription was supposed to be: Gale to Thoresby, 20 April 1697, in *Letters of eminent men, addressed to Ralph Thoresby*, 2 vols. (London, 1832), I: 282.

65 See CM II: 106–7, 111; and the accounts for 1691, 1693, 1695, and 1696.

66 Bluhm, op. cit. (Ch. 1, 52), p. 83.

67 See Appendix 1.

68 CM II: 135.

69 Ibid., 135–6. See British Library 740.c.25 (10).

70 CM II: 137–9, 145–6, 163, 157–8 (on the chronology of the council minutes at this time see Appendix 5).

71 Thoresby to Lister, 18 Feb. 1699: Bodleian Library, Oxford, MS Lister 36, fol. 190.

72 These included Creed (F 155), Pepys (F 187), D. Coxe (F 189), E. Browne (F 248), Bemde (F 344), Deane (F 372), R. Robinson (F 390), Bailey (F 411), and Havers (F 432). Moult (F 450), who had not formerly appeared in the accounts, paid too.

73 See Appendix 6.

74 CM II: 163, and see Appendix 10, esp. n. 17 for the names of the Fellows who disappear from the printed membership lists at this time.

75 CM II: 142–3.

76 *Phil. Trans.*, XXI (1699): sig. [*Rrr].

77 JBC IX: 118, 124; CM II: 141, 143, 144–5, 148–50.

78 Ibid., II: 135–6, 138–9, 141–2, 144, 151, 159–60, 162.

79 Geoffroy to Sloane, 7 March 1699: Sloane 4037, fol. 222 (partly printed in *Phil. Trans.*, XXI (1699): 144–5). See also JBC IX: 133 (reference at a meeting on 1 March 1699 to a letter from J. D. Cassini also mentioning the new statutes, but the copy of Cassini's letter in LBO, supplement 2, fol. 366, is evidently incomplete and lacks this material) and Geoffroy to Sloane, 25 April 1699: Sloane 4031, fol. 258. On these regulations and their background see R. Hahn, *The anatomy of a scientific institution* (Berkeley, 1971), ch. 1, and Stroup, op. cit. (Intro., 5).

80 CM II: 151. See also Waller to Sloane, 11 April 1699: Sloane 4037, fol. 249.

81 See Table 4*b*, and Ch. 1, n. 70, on how the highest recorded number of votes may relate to attendance.

82 Robinson to Lhwyd, 20 Jan. 1698: Bodleian Library, Oxford, MS Eng. Hist. c. 11, fol. 94.
83 See J. M. Levine, *Dr Woodward's shield* (Berkeley, 1977), pp. 85–6.
84 CM II: 155. See also Flamsteed to Sloane, 28 March 1699: Sloane 4037, fol. 234.
85 JBC IX: 192, 195, 200–201, 206–7, 210–12; CM II: 152–3; G. Bidloo, *Gulielmus Cowper, criminis literarii citatus, coram tribunali . . . Societatis Britanno–Regiae* (Leiden, 1700). See also W. Vasbinder, *Govard Bidloo en William Cowper* (Utrecht, 1948).
86 Bluhm, op. cit. (Ch. 1, 52), p. 91.
87 Southwell to Cole, 9 Nov. 1699: British Library, Add. MS 18599, fol. 89^{v}.
88 Robinson to Lister, 26 March 1700: Bodleian Library, Oxford, MS Lister 37, fol. 26.

Conclusion

1 See esp. CM II: 173 f, passim, and Westfall, op. cit. (Ch. 1, 70), chapter 13.
2 Ibid., pp. 636–8, 675–9; I. Adamson, op. cit. (Ch. 2, 20), pp. 7 f.
3 Westfall, op. cit. (Ch. 1, 70), p. 632; D. Brewster, *Memoirs of Sir Isaac Newton*, 2 vols. (Edinburgh, 1855), I: 102–4; F. E. Manuel, *A portrait of Isaac Newton* (Cambridge, Mass., 1968), pp. 280, 444–5.
4 Westfall, op. cit. (Ch. 1, 70), p. 688; Manuel, op. cit. (3), p. 314.
5 See esp. ibid., pp. 278 f.
6 For further evidence on the seventeenth-century background to Newton's ideas see Hunter and Wood, op. cit. (Intro., 12).
7 Westfall, op. cit. (Ch. 1, 70), p. 682. On candidates proposed not elected before 1700, see Appendix 1.
8 Woodward to Hearne, 30 Dec. 1710, in T. Hearne, *Remarks and collections*, ed. C. E. Doble, Vol. III (Oxford Historical Society, XIII, 1889), p. 99. See Westfall, op. cit. (Ch. 1, 70), pp. 671–5; Levine, op. cit. (Ch. 3, 83), pp. 91–2. This affair is evidently also the context of the proposals printed in Westfall, p. 681, though this connection is not there made.
9 *An account of the late proceedings in the council of the Royal Society* (London, 1710). On the author, see Levine, op. cit. (Ch. 3, 83), p. 317 n. 66.
10 Westfall, op. cit. (Ch. 1, 70), pp. 685–6, 863–4.
11 Lyons, op. cit. (Intro., 8), pp. 127, 151–3. On the bequests, see Westfall, op. cit. (Ch. 1, 70), p. 684.
12 Thomas Smith to Lister, 25 Feb. 1710: Bodleian Library, Oxford, MS Lister 37, fol. 179.
13 Mulligan, op. cit. (Intro., 16).
14 Westfall, op. cit. (Ch. 1, 70), pp. 630, 884; Lyons, op. cit. (Intro., 8), esp. pp. 73–5, 81, 91–4, 107, 110, 121–2, 130, 136–7, 155.
15 L. T. More, *Isaac Newton: a biography* (New York, 1934), ch. 13.

16 On the new context see particularly M. Berman, *Social change and scientific organization* (London, 1978). On the reform of the Royal Society see Lyons, op. cit. (Intro., 5), chapter 7; M. B. Hall, *All scientists now: the Royal Society in the nineteenth century* (Cambridge, 1984), ch. 3, and D. P. Miller, 'Between hostile camps: Sir Humphrey Davy's presidency of the Royal Society of London, 1820–27', BJHS, XVI (1983): 1–7. See also Crosland, op. cit. (Ch. 3 n. 45), 179–83.

17 See R. G. Frank, op. cit. (Intro., 10), pp. 94–8; R. P. Stearns, *Science in the British colonies of America* (Urbana, 1970), pp. 96–8.

18 See Hunter and Wood, op. cit. (Intro., 12).

19 Waller to Sloane, 11 April 1699: Sloane 4037, fol. 249. For the text of the regulations (which Waller refers to by their numbers) see L. Aucoc, *L'Institut de France: lois, statuts et règlements* (Paris, 1889), pp. lxxxiv–xcii. For comparable opinions, see Smith's letter cited in n. 12, and Hunter, *Science and society*, op. cit. (Intro., 7), p. 40.

20 C. R. Weld, *A history of the Royal Society*, 2 vols (London, 1848), II: 464–5; J. E. McClellan, *Science reorganised: scientific societies in the eighteenth century* (New York, 1985), pp. 29 f.

21 F. M. A. de Voltaire, *Lettres philosophiques* (Paris, 1734), letter 24; J. L. Heilbron, *Electricity in the seventeenth and eighteenth centuries* (Berkeley, 1979), pp. 115–33; C. C. Gillispie, *Science and polity in France at the end of the old regime* (Princeton, 1980), pp. 78–81; McClellan, op. cit. (20), esp. ch. 1.

22 See Hoppen, ch. 7.

23 Hunter, *Science and society*, op. cit. (Intro., 7), esp. pp. 83–4.

24 Ward to Sheldon, 19 Aug. 1673: Bodleian Library, Oxford, MS Tanner 42, fol. 29.

25 Westfall, op. cit. (Ch. 1, 70), p. 674. On the expulsions of the 1680s see Appendix 10.

26 Hunter, *Science and society*, op. cit. (Intro., 7), chapter 2.

27 For a case study, see Hunter, 'Early problems', op. cit. (Ch. 1, 58).

Appendix 1

1 *The record of the Royal Society*, 4th edn. (London, 1940), pp. 375 f.

2 See R. E. W. Maddison, 'The accompt of William Balle from 28 November 1660 to 11 September 1663', N&RRS, XIV (1959): 174–83.

3 Two of these are worth noting here. Papin (F 369) is given in *The record*, op. cit. (1), p. 384, as elected at some unknown date in 1682. In fact, however, it is clear from the minutes that he was already a Fellow by Dec. 1680 (Birch, IV: 60) and he has therefore been inserted here in the latter part of 1680. As for Leyoncrona (F 545), though *The record* has him as elected on 1 Dec. 1701 (p. 388), the Society's accounts show that he paid his admission money on 30 Nov. 1699, and I have presumed that he was elected at the meeting

on that day, the full minutes for which have not survived (see Appendix 5). The fact that his signature appears on p. 11 of the Society's charter-book (see note 5), together with those of other Fellows elected before 1700, supports this. He does not appear in the printed membership lists, however, until 1702, and it may be this that led the compilers of *The record* to give his election as on 1 Dec. 1701, since the minutes for that meeting do not survive either.

4 JBC IX: 86, 113.

5 See the facsimile reproduction in *The signatures in the first journal-book and the charter-book of the Royal Society*, 4th edn. (London, 1980), p. 11. The only other hint of a possible third O. B. is a record in the accounts for 1699 of the receipt of admission money from a 'Mr B...': however, I have interpreted this as referring to Buissière (F 540), the likeliest of candidates whose election is recorded at about that time. Two further complications arise concerning the Bridgemans. One is that it is not clear which O. B. was elected to, and attended, the council in 1699 (CM II: 155, 159); the second is that, although I have interpreted all references to 'Mr Bridgeman' in the minutes in 1698–9 as being to William B. (F 357), it is conceivable that some may refer to one of the Orlandos. Lastly, it should be noted that *The record* (and Bulloch) are wrong in saying that O. B. (F 491) was 'afterwards Kt.'

6 See Birch, I: 332 (Willis (F 90)), 427 (More (F 114)).

7 See *The signatures*, op. cit. (5).

8 Earl of Kincardine (F 3), Sir R. Powle (F 13), T. Wren (F 22), H. Powle (F 27), Bate (F 30), Denham (F 42), N. Henshaw (F 51), Hatton (F 52), Persall (F 53), Lucas (F 54), Vermuyden (F 64), Sir J. Finch (F 65), Baines (F 66), Alleyn (F 69), W. Hammond (F 70), Duke of Buckingham (F 74), Ellis (F 77), Stanley (F 78), Nott (F 80), Sir R. Harley (F 81), Jones (F 84), Massereene (F 87), Willughby (F 95), Winthrop (F 98), Brooke (F 99), Proby (F 100), Stanhope (F 103), Schroter (F 110), Pett (F 112), Fane (F 117), Dryden (F 121). Cf. also Cotton (F 131), Berkenhead (F 138).

9 Of others who appear in the lists although not admitted, the following were honorary members: Cutler (F 171), Dolben (F 194), Lord Robartes (F 216), Earl of Lindsay (F 217), and perhaps Laney (F 214: see Appendix 6, note 3). Others were absent: Curtius (F 231) (a diplomat), Lord Herbert (F 299) (probably abroad: see Birch, III: 115), Mullen (F 408), W. Molyneux (F 428) (both living in Dublin when elected), Cunningham (F 543), and Pound (F 544) (admitted only in 1713). No reason can, however, be found concerning Isham (F 141) (unless 'absent'), Earl of Peterborough (F 153), T. Harley (F 228), Strangways (F 307), Sir P. Percivale (F 316), Papin (F 369), and Prior (F 513). Fryer (F 517), whose name appears in the lists although he never signed the charter-book, did, however, pay his admission money.

10 Other than the five mentioned in the text, these were Fraizer (F 142), Hervey (F 174), Hawarde (F 199), Coplestone (F 206), Conway (F 249), Eustace

(F 250), Flower (F 255), Flatman (F 260), D. Finch (F 270), Titus (F 273), Matthews (F 286), Holles (F 291), Sheeres (F 319), J. King (F 324), Wyndham (F 330), Colleton (F 334), Langham (F 337), Dickinson (F 340), Mayow (F 343), Sir W. Waller (F 352), Rogers (F 376), Novell (F 378), Braddon (F 382), Goodwyn (F 383), Penn (F 387), Dorislaus (F 393), Blackburne (F 395), Baker (F 417), J. Beaumont (F 424), Leigh (F 425), Meres (F 433), Sylvius (F 434), Adair (F 443), Clayton (F 444), Stillingfleet (F 445), Trumbull (F 459), Earl of Radnor (F 472), Lowndes (F 497), Chadwick (F 498), Ryley (F 499), Earl of Dorset (F 531), Williams (F 536).

11 Cf. Birch, III: 363, 366–7, 371, and Hooke *Diary, 1672–80*, op. cit. (Ch. 1, 70), pp. 331, 335, 337–9. Two Fellows who were neither admitted nor in the lists spoke at meetings subsequently, Sir Peter Colleton (F 334) in 1686 (Birch, IV: 500) and Sir Henry Sheeres (F 319) (who was abroad when elected) in 1691 (JBC VIII: 32).

12 These are Coventry (F 46), H. Blount (F 60), Cowley (F 61), Earl of Sunderland (F 67), White (F 75), Pettus (F 76) (who was never in the printed lists although re-elected in 1663), Murray (F 85), G. Lane (F 102), De Vic (F 108), Cudworth (F 116), and N. Crisp (F 129). None of these subscribed their names; nor did Rooke (F 10), Rawlins (F 36), and Pockley (F 86), all of whom died too soon to be Original Fellows. Some of these are mentioned in some notes of Fellows 'admitted & not subscribed' in Cl.P. XXIV: 71, which also includes a few who did subsequently subscribe and two Original Fellows.

13 Cf. the Society's statutes in *The record*, op. cit. (1), p. 291.

14 Edward Worth (F 533) is wrongly given as George; Martin Bowes (F 539) is wrongly given as Paul; on Blackwell (F 465) see Appendix 3.

15 I have used the series in the British Library, shelf-mark 1881.d.1(1), supplementing it with the Bodleian Library, Oxford, copies of those for 1663 (Wood 276 a, no. 293), 1684 (Ashmole H 24, no. 149), 1693 (Wood 276 a, no. 299), and 1694 (ibid., no. 300), and the Royal Society's copy of that for 1675 (among the Southwell papers). The lists for 1685–7 and 1690–4 are misleadingly dated.

16 Birch, IV: 200.

17 These were as follows: de Vaux (F 197), proposed 13 March 1661 (Birch, I: 18); Steward (F 238), proposed 23 Jan. 1661 (ibid., I: 13); Henry and Thomas Howard (FF 295–6), proposed by Moray (F 4) on 9 May 1667 (ibid., II: 172); Munchausen (F 413), proposed by E. Browne (F 248) on 15 Nov. 1677 (ibid., III: 351), and Montagu (F 484), approved 30 May 1688 (CM II: 100). Also omitted are two Fellows who were proposed again several years after being elected, having been inactive (and not in the printed lists) in the meantime, whose nomination for a second time was presumably dropped when their previous histories were pointed out: these were Hautefeuille (F 437), proposed by Lister (F 288) on 31 May 1699 (JBC IX: 153), and Adair

(F 443), proposed by Hooke (F 136) on 25 May 1698 (JBC IX: 92). T. Browne (F 538) was proposed both in Dec. 1698 and May 1699 (JBC IX: 118, 148; CM II: 135) and it is conceivable that the latter reference is to a different Browne.

18 Kirke to Thoresby, 2 Dec. 1699, in *Letters addressed to Ralph Thoresby*, ed. W. T. Lancaster (Thoresby Society, XXI, 1912), 82.

19 See Appendix 5.

20 Boothe signed the charter-book after a number of Fellows elected in November 1703: see *The signatures*, op. cit. (5), p. 12. He is included in *The record*, op. cit. (1), p. 389, as elected at an unknown date in 1702.

21 CM II: 150, 156, 158.

22 JBC IX: 122, 148, 159, 166.

23 Ibid., X: 7. He first appears in the membership list for 1703.

24 Birch, I: 8; Foster.

25 Birch, I: 13; DNB.

26 Birch, II: 134. This is certainly not the Jean le Févre, *c.*1652–1706, in DSB.

27 Birch, II: 261; Venn.

28 Birch, II: 461; Evelyn, *Diary*, III: 400 n.

29 Birch, II: 475; Venn.

30 Birch, III: 92.

31 Ibid., III: 219; Innes Smith, p. 213.

32 Birch, III: 223.

33 Ibid., III: 374 erroneously transposes the two names so that it appears as if Ent (who had already been admitted) was proposed by the non-Fellow Foster: see JBC IV: 132.

34 See H. R. Plomer, *Dictionary of printers and booksellers . . . 1668–1725* (Oxford, 1922), p. 120; [John Bagford], 'An account of several libraries in and about London', *Monthly Miscellany*, II (1708): 167–82, at 174; Birch, III: 342; IV: 356, 393.

35 Birch, III: 426.

36 Ibid., III: 489; Foster; *Mid. Temp. Adm. Reg.*, I: 191. Hoskins was himself a barrister of the Middle Temple.

37 Birch, IV: 65; DNB.

38 Birch, IV: 104, 111.

39 Ibid., IV: 105; Henning; P. Norman (ed.), *Occasional papers published for members of the Samuel Pepys club*, Vol. II (London, 1917–23), pp. 53–77.

40 Birch, IV: 105; Shaw, II: 277; JBC VII: 259, VIII: 77, IX: 121; Hunter, *Aubrey*, op. cit. (Ch. 1, 12), p. 110 n.

41 Birch, IV: 112; *Nouv. Biog. Gén.*

42 Birch, IV: 161; C. G. Jöcher, *Allgemeines Gelehrten-Lexicon*, Vol. I (Leipzig, 1750), p. 559.

43 Birch, IV: 277; Hirsch, III: 46; L. Darmstaedter (ed.), *Handbuch zur Geschichte der Naturwissenschaften und der Technik* (Berlin, 1908; repr. Berlin, 1978), p. 144.

44 Birch, IV: 328. See Chapter 1.
45 Birch, IV: 328; DNB.
46 JBC VII: 140; LBO XII, pt. 1: 96.
47 JBC VII: 165; *Commissioned sea officers of the Royal Navy, 1660–1815*, Vol. II (Greenwich, [1954]), p. 398. This is not, I think, the Scottish James Hamilton who assisted Petiver: R. P. Stearns, 'James Petiver', *Proc. Amer. Antiq. Soc.*, n.s. LXII (1952): 270–71, 356.
48 CM II: 110. See his letters to Petiver of 1703 in Sloane 3321, fols. 113, 119, 126, 128.
49 CM II: 110. J. C. Sainty (ed.), *Treasury Officials, 1660–1870* (London, 1972), pp. 37, 134; *A catalogue of the library of the late Thomas Jett Esq.* (London, 1731) (British Library S.C. 414, 1–2). See also *Mid. Temp. Adm. Reg.*, I: 257: this refers to a father and son, both called T. J., and it is possible that the one proposed in 1691 was not the one elected in 1714.
50 CM II: 110. See Taylor, p. 276. I do not think that this was the Royal Society's printer, Samuel Smith, though, in the absence of a Christian name, certainty is impossible.
51 CM II: 112; R. E. W. Maddison, *Life of the hon. Robert Boyle* (London, 1969), pp. 203 f. See also JBC VIII: 128.
52 CM II: 123; DNB. James Garden was in contact with Aubrey (F 127) in the mid 1690s (see Hunter, *Aubrey*, op. cit. (Ch. 1, 12), p. 161), and he seems a likelier candidate than his brother, Dr George Garden. See also JBC VII: 123, 127; VIII: 315; IX: 2.
53 JBC VIII: 322.
54 Ibid., IX: 148; CM II: 150. See DNB and Kirke to Thoresby, 2 Dec. 1699, in Lancaster, op. cit. (18), p. 82.
55 JBC IX: 148; DNB. On the question of his subsequent election, see n. 20.
56 JBC IX: 148; Venn; *Musgrave's obituary*, ed. G. J. Armytage, Vol. IV (Harleian Society, XLVII, 1900), p. 98. On his election, see p. 58 above.
57 JBC IX: 150; CM II: 156; DNB; Henning.
58 JBC IX: 159; DNB.
59 JBC IX: 166.
60 Ibid., IX: 166 (and see also 152, 205); CM II: 158; DNB.
61 JBC IX: 122 and passim; CM II: 147, 157, 160. D. B. Horn (ed.), *British diplomatic representatives, 1689–1789*, Camden Third Series, Vol. XLVI (1932), p. 96; Stearns, op. cit. (47), p. 263, note 47.
62 JBC IX, 194; CM II, 153; DNB.

Appendix 2

1 Birch, I: 54.
2 This involved seven Fellows. In February 1677, proposers are not recorded for three Fellows, presumably due to administrative error.

3 R. Williams (F 160) was proposed by Moray (F 4) 'at the desire of' Sir P. Neile (F 5), Rolt (F 176) by Wilkins (F 6) 'on the recommendation of' T. Coxe, sen. (F 23), O. Hill (F 329) by Croone (F 20) 'by the recommendation of' Robert Boyle (F 2), Kerckring (F 338) by T. Henshaw (F 15) 'at the desire of' Williamson (F 101), Mullen (F 408) by Slare (F 370) 'in the name of' Boyle, and Grandi (F 451) by Hoskins (F 92), 'recommended by the Bishop of Salisbury', Burnet (F 161).

4 See App. 1, n. 17. A few other oddities may be noted here. No proposer is mentioned when Hooke (F 136) became a Fellow, but he was proposed as curator of experiments by Moray (F 4) (Birch, I: 124); Dungarvan (F 156) was 'presented by' Boyle (F 2), and I have included this as a proposal; Slare (F 370) was 'introduced by' Hooke when admitted (Birch, IV: 61), but no proposer is mentioned. Lastly, it should be noted that the proposal and election of 'Robert, Earl of Aylesbury' on 23 April 1668 referred to in Birch, II: 271, is an error for 'the Earl of Anglesey' (F 258) (see JBC III: 76: Ailesbury (F 56) was already a Fellow). In addition, the journal book has as proposer 'the Secretary', and though Birch has presumed that this was Oldenburg, it could equally well have been Oldenburg's co-secretary, Wilkins. I have therefore not included this proposal in the list of Fellows proposed by either Oldenburg or Wilkins.

5 Birch, II: 104, 120. On vice-presidents, see Appendix 4.

6 See Chapter 3. See, e.g., Birch, III: 342, IV: 229–30. A presumption that a candidate should be proposed by the vice-president is suggested by the note in Birch, III: 344, concerning the proposal of T. Smith (F 333) by Hoskins (F 92), 'Mr Henshaw [vice-president] not being then present'. This reference is also unusual in noting that Smith's candidature was seconded by Holder (F 39) and others.

7 Birch, IV: 105, 173.

8 For the names of subsequent vice-presidents, see Appendix 4.

9 See Chapter 3.

10 See Mulligan and Mulligan, op. cit. (Intro., 16).

11 See Chapter 2.

12 See Appendix 1. The three wholly inactive Fellows proposed by Houghton were Braddon (F 382), Goodwyn (F 383), and Penn (F 387).

13 See Chapter 3. It should be noted, however, that the number of candidates proposed but not elected as a whole was higher in 1681 than ever before (five: see Appendix 1), the further two involved being proposed by Hooke (F 136) and Gale (F 331).

14 E. Chamberlayne, *Angliae notitia*, 7th edn. (London, 1673), pp. 343–4.

15 Birch, II: 118, III: 63; and see below, Appendix 7.

16 Birch, II: 172, 197.

17 Ibid., II: 303, 337.

18 Ibid., III: 490, IV: 29.

19 Ibid., I: 427; II: 94, 239; III: 95.
20 JBC VIII: 5, 30; IX: 150, 157, 226; CM II: 103.

APPENDIX 3

1 I should note here three cases in which Henning wrongly identifies an MP with an FRS of the same (or a similar) name. The Hon. John Beaumont (*c.*1636–1701) is said to have been an FRS due to confusion with the Somerset figure of this name who appears as F 424, while Sir Robert Clayton (1629–1707) is given as FRS, evidently due to confusion with John Clayton (F 444). Lastly, Henning states that Orlando Bridgeman (1649–1701) was FRS: but in fact, though one of the two FRSs of this name was an MP (F 511), this cannot have been the one in Henning, who died in 1701, since the FRS remained on the lists after that date. In fact, he is to be identified with the O. B. who was MP from 1698 to 1705 (see Foster). The divergence between the Catalogue and GEC concerning the date when Dungarvan (F 156) and Sir C. Berkeley (F 244) acquired titles is based on the evidence of the printed membership lists. Similarly, DNB has been silently corrected concerning the career of H. Howard (F 218).
2 Birch, I: 463.
3 Royal Society Miscellaneous MSS 6, fol. 86. Hammond's translations were apparently never published, despite Collins's interest in them.
4 Birch, I: 112. See Appendix 12.
5 DM V: 63. See also Birch, I: 126. For possible candidates see *V.C.H. Gloucestershire*, VIII: 41, X: 191.
6 See E. Chappell, *Eight generations of the Pepys family* (London, 1936), p. 64.
7 Bodleian Library, Oxford, MS Aubrey 4, fol. 103^{v}.
8 Oldenburg, XI: 436–7. See also Taylor, pp. 256–7.
9 Ibid., p. 236.
10 See Lannoy to Oldenburg, 6 July 1668: Oldenburg, IV: 510–3, and Oldenburg to Flower, 21 Nov. 1668: ibid., V: 201–2.
11 See Birch, III: 114, and Fullwood to Oldenburg: 26 Oct. 1674, Oldenburg, XI: 117.
12 See Foster; A. Fox, *John Mill and Richard Bentley* (Oxford, 1954), pp. 9–10; CSP Dom 1674–6, p. 384; 1676–7, p. 521. There is no mention of this man in H. A. Wyndham, *A family history* (London, 1939).
13 LBO XII: 306–7.
14 Sloane 4026, fol. 256. I am indebted to Christopher Wright for help in this connection.
15 Birch, III: 424, 442.
16 E.g. Mulligan and Mulligan, op. cit. (Intro., 16), p. 360 n. 51.
17 J. E. Elias, *Vroedschap van Amsterdam*, 2 vols. (Haarlem, 1903–5), II: 667–8.
18 *Gray's Inn admission register*, ed. J. Foster, Vol. I (London, 1889), p. 130;

Venn; *V.C.H. Yorkshire, North Riding*, II: 529; GEC Bar., V: 304; GEC, s.v. Annandale. There are a number of relevant documents in the Derwent archive at the North Yorkshire County Record Office, Northallerton. I am grateful to J. Rushton and M. Y. Ashcroft for help in this connection. On Bemde's resignation see Westfall, op. cit. (Ch. 1, 70), pp. 674, 677 (and p. 671 n. 149, where Westfall complains that Bemde was 'a shadowy figure of whom little more than the name survives').

19 Bluhm, op. cit. (Ch. 1, 52), p. 93. See Hooke, *Diary, 1672–80*, op. cit. (Ch. 1, 70), pp. 64, 84 and passim; and DNB.

20 *The journal of James Yonge*, ed. F. N. L. Poynter (London, 1963), pp. 150, 155.

21 See Pepys, op. cit. (Ch. 2, 8), I: 27, note, etc.; G. E. Aylmer, *The state's servants* (London, 1973), pp. 266–7, 414.

22 British Library, MS Egerton 3252 B, fol. 34.

23 Birch, IV: 402.

24 JBC VII: 263.

25 British Library, Burney Collection. Moult's Will is in the Public Record Office, PROB 11/616, fols. 17r–18r. I am indebted to H. L. Lehmann for these references.

26 A. Sakula, 'The waters of Epsom spa', *J. Roy. Coll. Physicians*, XVI (1982): 124–8, at 126.

27 CM II: 112.

28 See A. B. Beavan, *Bristol lists* (Bristol, 1899), p. 286.

29 *Inhabitants of Bristol in 1696*, ed. E. Ralph and M. E. Williams, Bristol Records Society, Vol. XXV (1968), p. 84.

30 See also *Mid. Temp. Adm. Reg.*, I: 189, though this could refer to Sir Thomas Day.

31 CM II: 112. See Appendix 12.

32 JBC XXI: 633.

33 Thomas, op. cit. (Ch. 1, 17), p. 14.

34 *Politics and the port of Bristol in the eighteenth century*, ed. W. E. Minchinton, Bristol Records Society, Vol. XXIII (1963), p. 14.

35 J. Hutchins, *History of Dorset*, 3rd edn., 4 vols. (London, 1861–70), III: 518, 526 (see II: 164 and III: 708, however, for a reference to J. H., Esq., of Colmar, and II: 263 for a Henley family of Leigh; *V.C.H. Hampshire*, IV: 374, has a reference to a J. H. of Abbots Wootton, Dorset, in the early eighteenth century, and other J. H.s are referred to ibid., III: 328, 396; IV: 71). See also *Mid. Temp. Adm. Reg.*, I: 236, for a less likely candidate.

36 CM II: 122, and see GEC s.v. Montagu.

37 H. Bots, *Henri Basnage de Beauval en de* Histoire des ouvrages des savans, *1687–1709*, 2 vols. (Amsterdam, 1976), I: 90.

38 *Letters of denization and acts of naturalization for aliens in England and Ireland, 1603–1700*, ed. W. A. Shaw, Huguenot Society, Vol. XVIII (Lymington, 1911), p. 301 n. k; *Letters of denization, 1701–1800*, ed. W. A.

Shaw, Huguenot Society, Vol. XXVII (Manchester, 1923), p. 53. I am grateful to G. C. Gibbs for these references.

39 Sloane 4037, fols. 134, 321, 332 (see also fol. 271b); Sloane 4060, fols. 141–4.

40 J. S. Burn, *The history of the French, Walloon, Dutch and other foreign protestant refugees settled in England* (London, 1846), p. 183. See also E. A. Evans in *Proc. Hugenot Soc. London*, XXII (1970–4): 161 (showing that he was one of the original directors of the French Hospital at London in 1718), and E. Labrousse, *Inventaire critique de la correspondance de Pierre Bayle* (Paris, 1961), p. 396 (pp. 395–6 is also informative on Silvestre (F 541)).

41 See Evelyn, *Diary*, V: 80 n. 3, and *Records of Lincolns Inn*, Vol. I (London, 1896), p. 346.

42 See JBC IX: 92, 101; CM II: 132–3.

43 *Musgrave's obituary*, ed. G. J. Armitage, Vol. V (Harleian Society, 1901), XLVIII: 267.

44 Cf. papers in the Derwent archive in the North Yorkshire County Record Office, Northallerton, e.g. ZF 8/1/78, 84. I am grateful to J. Rushton for these references.

45 JBC IX: 118.

46 Taylor, p. 278. There is no suitable candidate in E. G. R. Taylor, *The mathematical practitioners of Hanoverian England* (Cambridge, 1966); the likeliest, Zachariah Williams, did not come to London till 1726: see pp. 148–9.

47 Royal Society MS 390, fol. 91.

48 *Lincolnshire pedigrees*, ed. A. R. Maddison, Vol. II (Harleian Society, LI, 1903), pp. 680–84.

49 See also R. Clutterbuck, *History . . . of the County of Hertford*, 3 vols. (London, 1815–27), II: 65. Birch mistakenly gives the FRS as 'William' throughout. A further unlikely alternative identification concerns del Bene (F 483), who has been identified from the council minutes: it seems unlikely that the FRS was the Neapolitan cleric and author referred to in C. G. Jöcher, op. cit. (Appendix 1, 43), I: 951.

50 I have been unable to confirm Bulloch's suggestion, ex. inf. E. R. D. Hoare, that he was a barrister.

51 He inquired about Lincolnshire for the Society's 'georgical' committee: Hunter, *Establishing* (Intro., 12), p. 107.

52 See Birch, II: 302, III: 129; and GEC Bar., IV: 29.

53 I have been unable to verify Bulloch's statement (for which no reference is given) that 'He was a sergeant-at-law and was appointed 18 June 1688', though references in the minutes show that he was clearly a lawyer.

54 See Sloane 3984, fols. 287–8; 4037, fols. 38, 66; 4043, fol. 292; 4044, fols. 150–51; 4046, fols. 82–3, 181, 185, 275; 4047, fols. 262, 268–9, 270–72; 4059, fol. 197; 4065, fols. 18–19, 21; 4075, fols. 336–7.

Appendix 4

1 See Chapter 1.
2 See Appendix 5.
3 It is clear from JBC IX: 115, that Hill (F 11) was treasurer in 1698–9: Pitfield was not on the council for that year.
4 Pepys, op. cit. (Ch. 2, 8), VII: 96.
5 JBC IX: 179.
6 See Birch, I: 17, 21, 85–7 (Moray), 22 (Ent), 50, 83–4 (Wilkins), 87 (Boyle), and 102 (Brouncker).
7 For a list, see Weld, op. cit. (Conclusion, 19), II: 563–5. But the complexity of responsibility for issues is made clear even by ibid., I: 325–6. Some firm evidence on this question is provided by the accounts, which between 1683 and 1692 record payments to individuals for issues of *Philosophical Transactions*, and show Aston as responsible for nos. 143–9 and Halley for nos. 179–81, 189–90, and 193–4. Other payments are recorded without naming those responsible. In addition, less certain evidence is provided by signatories to the dedicatory epistles to different volumes of the journal: Plot signed that to vol. 14 (1684), Musgrave (F 412) that to vol. 15 (1685), Halley that to vol. 16 (1686–7), Waller those to vols. 17–18 (1691–4), and Sloane to vols. 19–22 (1695–1700).
8 E.g., Birch, I: 293; IV: 528, 540.
9 See ibid., I: 92–3, 299; II: 366–9, 371; *The record*, op. cit. (App. 1, 1), pp. 231–2, 278–82.
10 Birch, IV: 63.
11 E.g., ibid., IV: 171. On the 1690s see below.
12 See, e.g., ibid., III: 366 (Henshaw), 372 (Wren).
13 Ibid., IV: 164.
14 Birch, III: 378; IV: 137, 176. Cf., e.g., ibid., IV: 145, 153, 471, 479. In 1672 provision was made for a nominated chairman in this way: ibid., III: 70.
15 Birch, I: 293, 312.
16 Ibid., II: 104, 120.
17 Ibid., II: 371; and, e.g., ibid., II: 434; III: 120, 128.
18 Ibid., III: 123, 317, 330.
19 Ibid., IV: 146–7, 171, 327, 355, 449, 454, 488, 507, 531.
20 JBC VIII: 24.
21 Ibid., VIII: 320.
22 CM II: 152.
23 Loc. cit.

Appendix 5

1 These are printed in Kaye, op. cit. (Ch. 1, 20), pp. 150–2. The original minutes for 1662–96 comprise Royal Society MSS 557–61; the original council minutes for 1666–82 (all that survive) are in MS 629.

2 The meetings in question were those for 4 and 11 March 1691 (see JBC VIII: 46) and parts of those on 19 and 26 June 1700 (see ibid., IX: 218); the minutes in question are printed in Kaye, op. cit. (Ch. 1, 20), pp. 152–9. In addition to the original minutes in the Royal Society MSS referred to in note 1, see Sloane 3341–2 and 4026, fols. 345–66. 'Rough minutes' for the period 1685–1700 survive in Royal Society MSS 575–7.

3 See CM II: 162.

4 Most of the errors seem to be due to a confusion as to whether meetings in January to March were to be assigned to the old- or new-style year. A paper by Jennifer Bray outlining the rationale for this order has been deposited at the Royal Society Library.

5 Birch, I: 406. In cases where Fellows were inactive except for proposing candidates for election or some such isolated reference, I have qualified my categories with references to Birch or JBC.

6 See, e.g., Evelyn *Diary*, III: 378 and n., 517 and n.; or Oldenburg to Boyle, 10 Nov. 1664: Oldenburg, II: 296, which records a remark by Ent at a meeting that does not appear in the minutes (Birch, I: 485). For another example, see Cl.P. III (1) 21, a paper by Thomas Blount endorsed as being read before the Society on 23 May 1667, which is not mentioned in the minutes for that date (Birch, II: 175–7).

7 See below and n. 20. For the 1691 gap, see JBC VIII: 58–72. For those of 1697–8, ibid., IX: 78–80.

8 Cf. 'georgical' committee minutes (1664–5), DM V: 63–5, printed in Hunter, *Establishing* (Intro., 12), pp. 105–14; other committee minutes will be found in ibid., pp. 102 f.

9 Cf. Oldenburg, X: 246–50, 364–7, 460–2, 484–5; XI: 12–14; EL C 1: 116.

10 Birch, II: 74. Cf. also the evidence from Hooke's *Diary* cited, along with attendance figures, in Chapter 1.

11 E.g., Birch, I: 267, 270 (Earl of Crawford and Lindsay (F 137)), 292 (Quatremain (F 62)), 445 (Sir E. Harley (F 144)); II: 76 (Terne (F 118)), 118 (Earl of Kincardine (F 3)); III: 380 (Lawrence (F 301)), 425 (Pearson (F 222)); IV: 195 (Gwynne (F 388)), 212 (Rycaut (F 220)).

12 Ibid., III: 366.

13 Ibid., IV: 132.

14 These are Terne (F 118), Sir A. King (F 124) (except for letters), and Sir J. Talbot (F 146). It is interesting that Talbot was on the second list in 1673 (see Appendix 8), which would otherwise seem entirely inexplicable.

15 See esp. Ch. 1 n. 77.

16 Among those noted in Hooke's *Diary, 1688–93*, op. cit. (Ch. 1, 70), see esp. the references to Mills (F 397), pp. 123, 125, 130–32, 137, 185, 217, 245, though in general the diary may be suspected of singling out active people from among all those present. The lists attached to the lectures appear to be more complete than those in the diary, and here we find the following inactive/barely active figures: Mills, Ashe (F 429) (3 July 1689), Raphson (F 449) (4 Dec. 1689), J. Lane (F 341) (11 Dec. 1689), Wotton (F 436), Briggs (F 469), Newey (F 503) (15 Dec. 1697) (in addition, Pitt (F 404) was present at that meeting, who is otherwise only recorded as corresponding with the Society at that stage), and Haynes (F 406) (24 May 1699). Of these Mills, Raphson, and Haynes were regular or fairly regular in their subscriptions at the time in question; all the others were not in the accounts or exempt.

17 Baker and Baker, op. cit. (ch. 1, 70), pp. 11–12.

18 On fol. 92 of the original minutes, fol. 125 of the copy, the date '30 Nov. 16...' has been placed at the top of the blank page, but no minutes have been inserted. Since minutes for meetings on 30 November 1696 and 1697 are already present in the series, this presumably refers to 1698, though it is unclear why the minutes for the meeting were never transcribed.

19 This meeting is wrongly dated 1701 in the minutes.

20 There are no minutes for this meeting in the journal book. These election results were presumably mistakenly copied here from a loose sheet.

Appendix 6

1 Figures given in the Catalogue concerning payments in 1674 are based on guesswork. I have taken the accounts for 1660–63 as a single unit since they are treated thus in the MS. On the rediscovery of the account books in 1957, see Bluhm, op. cit. (Ch. 1, 52). They are unpaginated and are therefore referred to here by year. By '1675 account', etc., I mean the accounts for 1674–5, etc.

2 Some were, however, charged admission money: see Appendix 12.

3 For the bishops, cf. FF 190, 192–4, 219 (Laney (F 214) should presumably also belong to this class, though there is no official note of this, as should Burnet (F 161) when restored to the lists in 1689 — see Appendix 10). Boyle (F 2) was also ostensibly an Honorary Member, though in fact he paid the normal dues, and so was Duke Ferdinand Albrecht (F 184). The information concerning exemptions given here is taken from a list of exemptions inserted into the accounts under the year 1668; a list of those 'exempted upon order, wholy or in part' in DM v: 40, probably compiled in connection with a decision of the council of 5 Aug. 1682 (Birch, IV: 159); details of exemptions in 1698 given in CM II: 135; and individual notes in the accounts, *passim*, in Birch, I: 241; II: 118; III: 369; IV: 226, 229; in CM II: 158, etc.

4 Pope (F 72), Jenkes (F 312), Mapletoft (F 318) (in 1698, when he was no longer

a Gresham professor, he was exempted as out of town and a former benefactor), Perry (F 345), Paman (F 354), Meredith (F 375), Gresham (F 446), Torriano (F 454), Lany (F 462), Woodward (F 468), Briggs (F 469), Newey (F 503).

5 The following are listed in the 1671 account: C. Wren (F 12), Holder (F 39), Wallis (F 57), Barrow (F 115), Bathurst (F 149) (on Wren and Wallis, cf. Birch, 1: 241). At a later date, Munchausen (F 413) paid at a reduced rate and Emmett (F 516), Isted (F 526), and Haistwell (F 527) were only expected to pay half the normal rate.

6 Curtius (F 231), Reading (F 287) in 1676 (cf. 1676 accounts), and perhaps Aglionby (F 240), excused in 1668 but a paying member in the early 1680s.

7 Persall (F 53), Power (F 104), Beale (F 128), and perhaps Ray (F 239).

8 More (F 114), J. Gregory (F 264), E. Bernard (F 297); Wallis (F 57) in 1698.

9 Officers: Oldenburg (F 33), Hooke (F 136), Grew (F 289), Gale (F 331), Plot (F 332), Aston (F 342), and, in 1698, A. Hill (F 11), Waller (F 380), and Sloane (F 421). Activists: Pell (F 19), Charleton (F 68), Lower (F 234) (cf. 1668 accounts), Collins (F 235), Flamsteed (F 327), Halley (F 347) (clerk from 1686: see also Intro. n. 3), Tyson (F 353), Houghton (F 361), Slare (F 370), Paget (F 399), T. Robinson (F 419), Havers (F 432), Doody (F 480), Petiver (F 481), C. Bernard (F 502). A note in Birch, IV: 57, exempting 'Mr Avery', evidently refers to Aubrey (F 127), who was thereafter exempted in the accounts. A few scientific enthusiasts only slightly associated with the Society were also exempted — Le Fevre (F 91), Mercator (F 215), Smethwick (F 226), Moult (F 450).

10 Sir R. Harley (F 81), Schroter (F 110), T. Harley (F 228), Gascoigne (F 229), Lawrence (F 301), Player (F 303), Bridgeman (F 357), P. Ward (F 379). Sprat (F 132), author of the *History*, was also exempt (cf. 1675 accounts and 1698 list), as were the Duke of Norfolk (F 295) (after 1684), J. Lane (F 341) (cf. p. 22), and Whichcote (F 314) (after paying £10 in 1680).

11 Earl of Clarendon (F 420), Tarbat (F 458), Somers (F 528), Spencer (F 529).

12 Ashe (F 429), E. Smyth (F 487).

13 Norris (F 524), Cunningham (F 543), Pound (F 544).

14 Gould (F 405), D. Gregory (F 464).

15 Fatio de Duillier (F 439), Pujolas (F 486), Moivre (F 508), Silvestre (F 541), Cyprianus (F 548). See also Appendix 12.

16 R. Ford (F 302), Winn (F 304), Chardin (F 402), Wotton (F 436), Clayton (F 444), Prior (F 513), J. Stanley (F 525). In addition, the Earl of Anglesey (F 258) did not appear in the accounts till 1673, nor Berkenhead (F 138) till 1678, nor Jackson (F 477) till 1697, nor Blackwell (F 465) till 1701.

17 The dates given in nn. 18 and 19 are those at which a blank column was left beside the name of the Fellow in question; the subsequent omission of names altogether is rather haphazard and irregular and has not been noted here.

18 1685 account: Povey (F 47), Sir P. Wyche (F 106), Clerke (F 237), Soame (F 242), Locke (F 269), T. Howard (F 296), Lord Herbert (F 299), Sambrooke (F 381). 1687 account: Pearson (F 222).

19 1693 account: A. Hill (F 11), Earl of Berkeley (F 34), Wallis (F 57), Godolphin (F 166), Bagenall (F 172), Pepys (F 187), D. Coxe (F 189), de Vaux (F 197), Rycaut (F 220), E. Browne (F 248), E. Howard (F 267), Reading (F 287), Lister (F 288), Birch (F 305), Marquis of Halifax (F 317), Gale (F 331), T. Smith (F 333), Chetwynd (F 339), Clüver (F 346), Firmin (F 360), Slare (F 370), Chamberlen (F 373), R. Robinson (F 390), Lodwick (F 391), Wetenhall (F 407) Willoughby (F 409), Musgrave (F 412), Monson (F 415), R. Beaumont (F 416), Sloane (F 421), Gordon (F 427), W. Molyneux (F 428), T. Molyneux (F 430), Moult (F 450), Paule (F 456). 1694 account: Williamson (F 101), Deane (F 372), Haynes (F 406), Havers (F 432). 1696 account: Sir C. Wyche (F 83), C. Howard (F 123), Bathurst (F 149), Creed (F 155), Weymouth (F 173), Aglionby (F 240), F. Robartes (F 306), Payne (F 386), Pitt (F 404), T. Robinson (F 419), Bulkeley (F 426), W. Stanley (F 448). 1698 account: Gwynne (F 388). Some of these were exempted in 1698: see nn. 8 and 9.

20 The Earl of Anglesey and Berkenhead. Cf. Birch, III: 119.

21 Pell was excused in the 1660–63 accounts and in Birch, I: 241. Both Lister and Newton were inserted in the 1678 arrears list (see Appendix 7), but were marked respectively 'to be left out' and 'no arrears to be demanded'. Newton was marked as 'no pay' in the 4th list (see Appendix 8), and he was ordered to be exempted in Birch, III: 178; he was omitted from the accounts only after 1684. Lister was exempted for one year in 1698 (CM II: 147; cf. ibid., II: 136, concerning Kirke (F 470)).

22 This fact, rather than his exemption, has therefore been registered in the Catalogue.

23 For instance, Stanhope (F 103) resigned in 1670 (Birch, IV: 130, 133) but was still in the accounts in 1681; the Earl of Crawford and Lindsay (F 137), who died in 1678 (and was 'expelled' in 1682), was still in the 1684 accounts; Viscount Stormont (F 213), who died in 1668, was still in the 1678 accounts; Clifton (F 223), who died in 1669, was still in the accounts in 1673.

24 For the formal exemption of the last five of these in 1698, see above.

25 See C. H. Josten, *Elias Ashmole*, Vol. IV (Oxford, 1966), p. 1701 (and possibly p. 1626).

Appendix 7

1 Active or slightly active: Sir W. Petty (F 8), C. Wren (F 12), Slingsby (F 14), Povey (F 47), Tuke (F 58), Brooke (F 99), W. Hoare (F 119), Aubrey (F 127), Sprat (F 132). Formerly slightly active: N. Henshaw (F 51), Sir J. Clayton (F 88). Abroad: Earl of Sandwich (F 50), Sir J. Finch (F 65), Baines (F 66).

2 Ignored: Sir P. Pett (F 45), Earl of Peterborough (F 153), Clifford (F 156).

Under two years' arrears: Potter (F 130), J. Hoare (F 167), Newburgh (F 168), Slanning (F 177), Portman (F 179), Corbett (F 195), some of them recent Fellows who had not yet paid anything.

3 Birch, III: 95. On this list, see Appendix 11. These two lists give the actual names from which are derived the figures in Birch, III: 119.

4 Dead: N. Henshaw (F 51), Ellis (F 77), P. Pett (F 112), E. Smith (F 158), Rolt (F 176), Carteret (F 188), Clifton (F 223), Castle (F 276). No longer Fellows: Clayton (F 88), Stanhope (F 103).

5 Active: Pell (F 19), Aubrey (F 127). Absent: Sir J. Finch (F 65), Baines (F 66), Williamson (F 101), Godolphin (F 166), Hotham (F 251), and perhaps the Earl of Crawford and Lindsay (F 137). Less explicable: W. Hammond (F 70), Earl of Argyle (F 150), Stormont (F 213), Lake (F 221), Oudart (F 245); also, Bruce (F 134), Carkesse (F 162), and Cock (F 204), who were expelled in 1675.

6 Creed (F 155), Clerke (F 237), Sir K. Lucy (F 268), and Locke (F 269), each owing £5 4*s*. 0*d*., and Vernon (F 294), owing £4.

7 Birch, III: 118–19.

8 Ibid., III: 119.

9 Dead: Sir R. Harley (F 81), Graunt (F 105), E. Ward (F 256), Harby (F 259). The Fellow with excusable arrears included here was Locke (F 269): for the others, see above, n. 6. T. Harley (F 228), who was also omitted, last appeared in the 1674 list.

10 Aristocrats, etc.: T. Wren (F 22), H. Powle (F 27), Pett (F 45), Buckingham (F 74), Stanley (F 78), Berkenhead (F 138), Sir E. Harley (F 144), Sir J. Talbot (F 146), Peterborough (F 153), Hoare (F 167), Thynne (F 173), Slanning (F 177), Churchill (F 178), Portman (F 179), Carlisle (F 201), Parker (F 210), Strafford (F 252), Anglesey (F 258), Woodroffe (F 261), Colepeper (F 263). Interested: C. Wren (F 12), Sir P. Wyche (F 106), E. King (F 212), E. Howard (F 267), and perhaps also Dorset (F 196), Nelthorpe (F 211), Steward (F 238), and du Moulin (F 246).

11 Brereton (F 32), Clerke (F 237), Soame (F 242), and perhaps Courthope (F 266).

12 Aristocrats, etc.: Sir R. Powle (F 13), Slingsby (F 14), Northampton (F 26), Cavendish (F 35), Waller (F 43), Dorchester (F 55), Ranelagh (F 84), Yarmouth (F 97), Winde (F 113), Bysshe (F 122), Annesley (F 125), H. Ford (F 145), Leighton (F 154), Clifford (F 156), Tweedale (F 159), Yester (F 207). Excuseable/expectation of activity or payment: Kincardine (F 3), Merrett (F 17), Croone (F 20), T. Coxe (F 23), Ent (F 31), Povey (F 47), Whistler (F 49), Sir G. Talbot (F 71), Willis (F 90), Long (F 94), Shaen (F 109), Hayes (F 111), Neale (F 165), Atkins (F 170), Bagenall (F 172), D. Coxe (F 189), Corbett (F 195), Crisp (F 209), Fitzharding (F 232), Berkeley (F 244), Downes (F 247), Allen (F 253), Locke (F 269), Horneck (F 275).

13 W. Ball (F 9), Sir J. Finch (F 65), Baines (F 66), Fane (F 117), Godolphin (F 166), Glanvill (F 175), Thrustone (F 200), Lister (F 288), Birch (F 305).

14 Active or slightly active: Whistler (F 49), Aubrey (F 127), Creed (F 155), T. Crisp (F 209), E. Browne (F 248), Allen (F 253), and perhaps also Shaen (F 109), Stafford (F 183), Chamberlayne (F 271), Horneck (F 275). Excusable: Wallis (F 57), Packer (F 89), Bagenall (F 172), Sir J. Williams (F 285), Croke (F 325).

15 Large debts ignored: Merrett (F 17), Duke of Buckingham (F 74), Stanley (F 78), Bysshe (F 122), Earl of Crawford and Lindsay (F 137), Earl of Argyle (F 150), Earl of Carlisle (F 201), Fitzhardinge (F 232), Earl of Anglesey (F 258). Surprising omissions (apart from these): Burnet (F 161), du Moulin (F 246), J. S. Howard (F 300). Omitted in 1673 but now included: W. Hammond (F 70), Williamson (F 101) (marked 'not doubted'), Stormont (F 213), Oudart (F 245).

16 CM II: 163, 157–8 (on the chronology of the minutes at this time see Appendix 5). The list of names on fol. 163 is incorrect, giving 'Tyson' for Fryer (F 517) and omitting Harris (F 493) and Lord Spencer (F 529): these are included in the versions of the list in British Library, Sloane 3342, fol. 1, and Original Council Minutes, Vol. II: fol. 116.

17 Formerly exempt: Aston (F 342) (active 1698–1700). Regular since 1696: Nelson (F 365) (active 1699); Harris (F 493) (excused till answer known as out of town). Others: D. Coxe (F 189) (pays 1699–1700; active 1700); Mapletoft (F 318) (said to be paying but then excused); R. Robinson (F 390) (one payment); Pitt (F 404) (occasional correspondent; Woodward (F 468) undertakes for him but nothing paid); Haynes (F 406) (pays in 1699); T. Robinson (F 419) (excused for sending papers); Isaac (F 460) (promises via Hutton (F 507); pays £7 3*s.* 0*d.* in 1701–2); Blackwell (F 465) (pays in 1701); Sir B. Lucy (F 514) (pays 1698–1699 and from 1708); Fryer (F 517) (resigns, though stays in lists till 1706); Spencer (F 529) (promises via Woodward (F 468) but nothing paid).

18 See Appendix 2. Though no name appears immediately beside Sir E. Harley (F 144) (whose proposer had been Sir R. Harley (F 81)), the name of Moray (F 4) has been written between the lines at this point, perhaps because he was to speak to him.

19 Birch, III: 63. See above, Appendix 2.

20 The names on the lists are as follows: DM V: 4: Kincardine (F 3), Shaen (F 109), Hayes (F 111), H. Ford (F 145), Tweedale (F 159), Churchill (F 178), Yester (F 207). DM V: 5: Merrett (F 17), Croone (F 20), T. Coxe (F 23/151), Ent (F 31), Whistler (F 49), Willis (F 90), D. Coxe (F 189), E. King (F 212), Clerke (F 237), du Moulin (F 246), Downes (F 247), Allen (F 253), E. Ward (F 256). DM V: 6: Northampton (F 26), Cavendish (F 35), Dorchester (F 55), Buckingham (F 74), Yarmouth (F 97), Peterborough (F 153), Dorset (F 196), Carlisle (F 201), Strafford (F 252), Anglesey (F 258); the name of E. Howard (F 267) has been deleted. For a related report by Howard, see Birch, III: 129 (including a list of names partially overlapping with that in DM V: 6).

21 S: Slingsby (F 14), Buckingham (F 74), Sir P. Wyche (F 106), Hayes (F 111), Berkenhead (F 138), Carlisle (F 201), Yester (F 207), Anglesey (F 258). L: R. Powle (F 13), H. Powle (F 27), Cavendish (F 35), Whistler (F 49), E. Harley (F 144), Clifford (F 156), Neale (F 165), Thynne (F 173), Slanning (F 177), Corbett (F 195), Steward (F 238).

22 The others were: T. Coxe (F 23/151), Ent (F 31), Brereton (F 32), Annesley (F 125), Fitzharding (F 232).

23 Oldenburg (apart from Dorcester): Northampton (F 26), Shaen (F 109), Tweedale (F 159), Lucy (F 268). H: Willis (F 90), C. Berkeley (F 244), Woodroffe (F 261). In addition, Croone (F 20) was to be approached by 'At'.

24 Hill: Croone (F 20), Brooke (F 99), E. King (F 212), Banks (F 272), Tillotson (F 292), Edgcumbe (F 322: Hill was to send Hunt). Wren: Northampton (F 26, 'by Lord of London), Holder (F 39; brother-in-law), Hammond (F 70, in conjunction with Colwall), Packer (F 89), Hayes (F 111), Berkenhead (F 138), Neale (F 165), Hoare (F 167; Wren's name replaces Hoskins', deleted), Portman (F 179), Sir J. Williams (F 285, in conjunction with Hooke), Croke (F 325). Hooke: Dorchester (F 55: 'RH to Mr Colegrave with a letter & addresse'), Atkyns (F 170), D. Coxe (F 189). Allen: Cavendish (F 35), Arderne (F 265). In addition, the Society's operator, Henry Hunt, was to approach the following directly: T. Coxe (F 23), T. Coxe (F 151; in one of these cases Allen (F 253) was also involved), Bagenall (F 172), F. Robartes (F 306).

25 See Hunter, *Establishing* (Intro., 12), p. 248.

26 It is puzzling that the name of Slingsby (F 14) is keyed to those of Kincardine (F 3) and Tweedale (F 159), although he had been expelled in 1675.

Appendix 8

1 Birch, III: 160.

2 Ibid., III: 94–5.

3 British Library, Add. MS 4441, fol. 86. The two names in the list in the council minutes that do not appear here are Glisson (F 59) and Le Hunt (F 254). The two names erased in the draft minutes of the meeting (Royal Society MS 629) are those of Croone (F 20) (in arrears) and J. Needham (F 82) (who resigned in 1674). Birch's list has two misprints: 'Parker' should be 'Packer' and 'Mr Smith' should be 'Dr'.

4 Birch, III: 95.

5 Tuke (F 58), Newburgh (F 168), J. Colwall (F 262), Sir K. Lucy (F 268), Vernon (F 294); while Potter (F 130), Thrustone (F 200), Skippon (F 227), Clerke (F 237) were only just falling behind.

6 C. Wren (F 12), Williamson (F 101).

7 E. Ward (F 256) (who had paid some of his arrears in 1672), Earl of Anglesey (F 258), E. Howard (F 267) (who paid his arrears in 1674).

8 Newburgh (F 168), Skippon (F 227), Clerke (F 237).

9 Sprat (F 132), Cutler (F 171), Smethwick (F 226), Collins (F 235), Grew (F 289). Pell (F 19) should perhaps also come into this category. See Appendix 6.

10 Whistler (F 49), D. Coxe (F 189).

11 Slingsby (F 14), Sir G. Ent (F 31), Sir G. Talbot (F 71).

12 W. Ball (F 9), Sir J. Finch (F 65), Pope (F 72), Long (F 94), Barrow (F 115), Beale (F 128), Bathurst (F 149), Glanvill (F 175), Thrustone (F 200), Rycaut (F 220), Ray (F 239), Newton (F 290). On varieties of absence, see Appendix 11.

13 Shaen (F 109), Sir J. Talbot (F 146) (cf. Appendix 5, n. 14), Neale (F 165), Steward (F 238) (who promised money for the Society's 'college' in 1668: cf. Hunter, 'A "college"', op. cit. (ch. 1, 22)), Dursley (F 244).

14 These were: Earl of Kincardine (F 3), T. Coxe, sen. (F 23), Graunt (F 105), Hayes (F 111), Terne (F 118), P. Ball (F 135), Earl of Shaftesbury (F 148), Earl of Argyle (F 150), T. Coxe, jun. (F 151), Burnet (F 161), Carkesse (F 162), Bagenall (F 172), Corbett (F 195), T. Crisp (F 209), Nelthorpe (F 211), Du Moulin (F 246), Downes (F 247), Allen (F 253), Courthope (F 266), Horneck (F 275), Castle (F 276).

15 In List 1 but not List 3: Croone (F 20), G. Smith (F 120), de Vaux (F 197), Pearson (F 222), E. Ward (F 256), Earl of Anglesey (F 258), Locke (F 269), Chamberlayne (F 271), Barrington (F 279). In List 2 but not List 3: Slingsby (F 14), Sir G. Ent (F 31), Lord Berkeley (F 34), Whistler (F 49), Long (F 94), Neale (F 165), Rycaut (F 220), Clerke (F 237). In List 3 but not Lists 1–2: T. Coxe, sen. (F 23), Hayes (F 111), Earl of Shaftesbury (F 148), Horneck (F 275), Vernon (F 294) (all with two to five years' arrears), J. Colwall (F 262) (regular payments), J. Gregory (F 264) (absent), E. Bernard (F 297), Lord Herbert (F 299) (both elected in 1673), Earl of Carlisle (F 201) (large arrears).

16 British Library Add. MS 4441, fol. 28. Fellows who appeared in the other lists but are omitted here include J. Needham (F 82), who resigned in 1674, and Cotton (F 131), who died in 1675. Of those who appear here and in list 3, but not in the first two lists, Bernard and Herbert were both elected in 1673, as was J. S. Howard (F 300), who appears here only. The reference to 'entertainment' shows that this dates from after the summer of 1674, when the idea of persuading Fellows to contribute discourses was mooted (Birch, III: 135, 137, etc.).

17 Lists 4 and 2: Pell (F 19), Pope (F 72), D. Coxe (F 189), Smethwick (F 226), Collins (F 235), Ray (F 239), Grew (F 289), Newton (F 290) (all but Pope, Coxe, and Ray noted here as 'no pay'). Lists 4 and 3: E. Bernard (F 297). List 4 only: Mercator (F 215), du Moulin (F 246).

18 Lists 5 and 1: Brereton (F 32), Ashmole (F 37), Wylde (F 44), D. Colwall (F 48), Earl of Ailesbury (F 56), Sir C. Wyche (F 83), Haak (F 93), Brooke (F 99), Williamson (F 101), Sir R. Southwell (F 107), C. Howard (F 123), Creed (F 155), Sir J. Lowther (F 157), Stafford (F 183), Pepys (F 187), H. Howard (F 218), Pearson (F 222), Le Hunt (F 254), E. Ward (F 256), Earl of Anglesey (F 258), Locke (F 269), Chamberlayne (F 271), Banks (F 272),

Barrington (F 279), Tillotson (F 292), H. Howard (F 295), T. Howard (F 296). Lists 5 and 2: Shaen (F 109), Neale (F 165), Newburgh (F 168), Cutler (F 171), Steward (F 238). Lists 5 and 3: Hayes (F 111), J. Colwall (F 262), Lord Herbert (F 299). List 5 only: Sir P. Wyche (F 106), T. Crisp (F 209) (both slightly active), Portman (F 179), Fitzhardinge (F 232), Oudart (F 245), J. S. Howard (F 300) (all inactive).

19 P. Neile (F 5), Earl of Devonshire (F 28), Oldenburg (F 33), Lord Berkeley (F 34), Glisson (F 59), Erskine (F 79), J. Needham (F 82), Packer (F 89), Cotton (F 131), de Vaux (F 197), Arderne (F 265), E. Howard (F 267), Sir J. Williams (F 285).

20 See British Library, Add. MS 4441, fol. 28.

21 Aubrey (F 127) appeared in none, possibly because of his peripatetic lifestyle at this time (see A. Powell, *John Aubrey and his friends*, 2nd edn. (London, 1963), ch. 5); Whistler (F 49) and de Vaux (F 197) appeared in only one.

22 Active/very active: Evelyn (F 38), Sir R. Southwell (F 107), *Hooke (F 136), *Tyson (F 353), W. Bridgeman (F 357), *Houghton (F 361), Slare (F 370), Pitfield (F 418), *Sloane (F 421), *Havers (F 432), *Woodward (F 468), *Doody (F 480), *Petiver (F 481), Byrd (F 492), Hutton (F 507), *Cowper (F 537). Fairly/slightly: Sir C. Wren (F 12), Wallis (F 57), Pepys (F 187), *Grew (F 289), Newton (F 290), Flamsteed (F 327), Waller (F 380), *Fatio de Duillier (F 439), Gregory (F 464), E. Smyth (F 487), C. Bernard (F 502), Cockburn (F 504).

23 *D. Coxe (F 189), Sir E. King (F 212), *Lister (F 288), Aston (F 342), Deane (F 372), Paget (F 399), *T. Robinson (F 419), Bulkeley (F 426).

24 *Moult (F 450), Bentley (F 485).

25 Moivre (F 508), and perhaps Gale (F 331). Aglionby (F 240) was perhaps abroad, as evidently was Halley (F 347), while Harris (F 493) was out of town (see App. 7 n. 17). The following active or fairly active Fellows were presumably thought incapable of producing papers: A. Hill (F 11), Sir C. Wyche (F 83), Hoskins (F 92), J. Herbert (F 335), Bemde (F 344), Harwood (F 431), Middleton (F 438), Copley (F 452), E. Southwell (F 463), Foley (F 496).

26 CM II: 149. These are marked with an asterisk in nn. 22–4.

27 Cf., for instance, the manuscript membership list of 1663 divided up in this way reproduced in Hunter, *Establishing* (Intro., 12), p. 72. It is perhaps worth noting that Oldenburg is referred to without 'Mr' in List 3.

28 Replacing 'Thomas', deleted.

Appendix 9

1 Birch, III: 140–41, where the text of the bond is given.

2 See Appendix 3 above concerning the information given on the bond of James Monson (fol. 91). Bonds provide confirmatory evidence in other cases: for instance, in showing that H. Howard (F 295) was styled 'Lord

Howard of Castle-Rising' after his father (F 218) became Earl of Norwich) (fol. 44). Folio numbers in this and succeeding notes refer to Royal Society MS 390.

3 This applies in the case of Doody (F 480), Petiver (481), and Connor (F 482) (fols. 102–4). All the original seals survive but that on the first bond in the series, that of Hayes (F 111), is partially broken.

4 These are as follows: Boyle (F 2) (fol. 21): Nich[?] Gibbon[?], John Warr; Kincardine (F 3) (fol. 60): Peter Johnston, Dallred Shepert; T. Coxe (F 23 or 151) (fol. 43): Robert Harris, Caleb Baxter; Devonshire (F 28) (fol. 59): Roger Jeason, John Litchfield[?]; Packer (F 89) (fol. 56): William Player, Edward Martin; Shaen (F 109) (fol. 19): S. Clayton, Thomas Dearlove; Winde (F 113) (fol. 39): Thomas Crounes[?]; C. Howard (F 123) (fol. 53*): Richard Mayes[?], Charles Howard Jun., William Nott; Leighton (F 154) (fol. 58): Peter Vanden Dryessche, E. M. Stacke; Neale (F 165) (fol. 2): William Vaughan, William Leeke; Glanvill (F 175) (fol. 11): Richard Kinsey; D. Coxe (F 189) (fol. 20): Jonathan Kestin, William Halfhide; Pearson (F 222) (fol. 9): Robert Callys, William Jennengs; E. Howard (F 267) (fol. 53): Esme Howard, Charles Howard Jun., John Meryman; Lucy (F 268) (fol. 6): Sir Robert Southwell, Sir Thomas Chicheley; Grew (F 289) (fol. 77): Tho. Monk; T. Howard (F 296) (fol. 65): Earl Marshall, Henry Howard; J. S. Howard (F 300) (fol. 57): George Hopson, Samuel[?] Adkinson[?]; F. Robartes (F 306) (fol. 61): Duntry[?]; Plot (F 332) (fol. 72): Tho. Monk.

5 The following bonds which are no longer extant are referred to in the minutes (refs. are to Birch, IV): those of Whistler (F 49) (161), W. Hoare (F 119) (130), Earl of Shaftesbury (F 148) (187), Allen (F 253) (161, 187), Arderne (F 265) (187), Horneck (F 275) (117), Castell (F 310) (144). The bond of Bailey (F 411) is referred to in the accounts for 1713.

6 Birch, III: 138–42, 154–5. The bonds in question are those of Brouncker (F 1) (fol. 13), Goddard (F 7) (fol. 37), Sir W. Petty (F 8) (fol. 15), A. Hill (F 11) (fol. 17), Oldenburg (F 33) (fol. 18), D. Colwall (F 48) (fol. 12), Hoskins (F 92) (fol. 14), Sir J. Lowther (F 157) (fol. 16).

7 Sir C. Wren (F 12) (fol. 22), Haak (F 93) (fol. 3), Williamson (F 101) (fol. 23), Shaen (F 109) (fol. 19), D. Coxe (F 189) (fol. 20), Sir E. King (F 212) (fol. 25), W. Needham (F 230) (fol. 27), Leijonberg (F 241) (fol. 26). Ward's bond is fol. 24.

8 Birch, III: 157. Bonds survive signed on this date for Sir P. Neile (F 5) (fol. 50), Henshaw (F 15) (fol. 49), Croone (F 20) (fol. 33), Lord Berkeley (F 34) (fol. 45), Ashmole (F 37) (fol. 40), Evelyn (F 38) (fol. 32), Earl of Ailesbury (F 56) (fol. 41), Wallis (F 57) (fol. 36), Erskine (F 79) (fol. 38), Sir C. Wyche (F 83) (fol. 28), Sir P. Wyche (F 106) (fol. 29), Sir R. Southwell (F 107) (fol. 48), Winde (F 113) (fol. 39), G. Smith (F 120) (fol. 46), Creed (F 155) (fol. 42), Vossius (F 164) (fol. 35), Thynne (F 173) (fol. 30), Stafford (F 183) (fol. 34), De

Vaux (F 197) (fol. 31), H. Howard (F 218) (fol. 47), H. Howard (F 295) (fol. 44). Fol. 43 is the bond of T. Coxe, but it is unclear whether this is F23 or F151.

9 Birch, III: 176. The eleven were: 3 Dec.: Sir J. Moore (F 313) (fol. 52); 8 Dec.: C. Howard (F 123) (fol. 53*), E. Howard (F 267) (fol. 53); 10 Dec.: E. Browne (F 248) (fol. 54); 16 Dec.: Earl of Devonshire (F 28) (fol. 59); 17 Dec.: Skippon (F 227) (fol. 55); 21 Dec.: Packer (F 89) (fol. 56); 22 Dec.: J. S. Howard (F 300) (fol. 57); 26 Dec.: Leighton (F 154) (fol. 58); 1 Jan.: Hayes (F 111) (fol. 1); 4 Jan.: Neale (F 165) (fol. 2).

10 See Birch, III: 177–8, 190–91, 195, 228. For the lists, see Birch, III: 160–61, 177, 228.

11 In relation to the evaluative lists, 18 of the 22 names in the first of these appeared in one or more of the lists, 13 out of 45 in the second, and 2 out of 19 in the third.

12 These were: T. Coxe (F 23), Earl of Devonshire (F 28), Brereton (F 32), Packer (F 89), Winde (F 113), Burnet (F 161), Neale (F 165), Pearson (F 222), Aglionby (F 240), Sir K. Lucy (F 268), T. Howard (F 296), J. S. Howard (F 300).

13 These are: 28 Jan.: Birch (F 305) (fol. 5); 3 Feb.: Sir K. Lucy (F 268) (fol. 6); 11 Feb.: Brereton (F 32) (fol. 7); 18 Feb.: Pearson (F 222) (fol. 9), J. Hoare, jun. (F 274) (fol. 8) (admitted then); 22 Feb.: E. Bernard (F 297) (fol. 36, endorsed on Wallis's); 4 March: Milles (F 315) (fol. 10) (new member); 16 March: Glanvill (F 175) (fol. 11); 20 April: Earl of Kincardine (F 3) (fol. 60), F. Robartes (F 306) (fol. 61); 29 April: Sir P. Percivale (F 316) (fol. 62) (new member); 6 May: Brooke (F 99) (fol. 64), Whichcote (F 314) (fol. 63) (new member); 22 June: T. Howard (F 296) (fol. 65); 29 June: Burnet (F 161) (fol. 66); 1 July: P. Ball (F 135) (fol. 67); 11 Nov.: Aglionby (F 240) (fol. 68); 18 Nov.: Reading (F 287) (fol. 69). Of the lost bonds listed in note 5, those of Shaftesbury (asked to sign in Dec. 1674: Birch, III: 160) and Castell (admitted 28 Jan. 1675) evidently also dated from this period.

14 1 Nov.: Mills (F 397) (fol. 92) (admitted then); 15 Nov.: Turnor (F 398) (fol. 98), Paget (F 399) (fol. 97); 30 Nov.: Faria (F 401), (fol. 99), Chardin (F 402) (fol. 100), Beuningen (F 403) (fol. 101).

15 3 Jan.: Grew (F 289) (fol. 77), Flamsteed (F 327) (fol. 74), Plot (F 332) (fol. 72), R. Waller (F 380) (fol. 76), Payne (F 386) (fol. 78); 10 Jan.: Holder (F 39) (fol. 79), Tyson (F 353) (fol. 75), Houghton (F 361) (fol. 71), Salusbury (F 377) (fol. 73), Lodwick (F 391) (fol. 4).

16 Birch, IV: 163.

17 11 July: Wetenhall (F 407) (fol. 82); 25 July: Mullen (F 408) (fol. 80), Willoughby (F 409) (fol. 81).

18 4 Feb.: Vaughan (F 63) (fol. 83); 30 April: Munchausen (F 413) (fol. 84); 30 Nov.: Musgrave (F 412) (fol. 85), Pitfield (F 418) (fol. 90), Earl of Clarendon (F 420) (fol. 89); 1 Dec.: R. Beaumont (F 416) (fol. 86).

19 25 Nov.: Bulkeley (F 426) (fol. 88).

20 3 Feb.: Sir R. Gordon (F 427) (fol. 87); 27 Oct.: Monson (F 415) (fol. 91); 27 Nov.: T. Molyneux (F 430) (fol. 92); 15 Dec.: Havers (F 432) (fol. 93).

21 4 Dec.: Raphson (F 449) (fol. 94).

22 30 Nov.: Copley (F 452) (fol. 95).

23 30 Nov.: Doody (F 480) (fol. 103), Petiver (F 481) (fol. 102), Connor (F 482) (fol. 104); 17 Dec.: C. Bernard (F 502) (fol. 105).

24 23 March: Emmett (F 516) (fol. 106); 9 Dec.: H. Petty (F 501) (fol. 51).

25 6 April: Molesworth (F 518) (fol. 107); 10 June: O. Bridgeman (F 511) (fol. 108); 16 Nov.: Isted (F 526) (fol. 109).

26 13 Jan. 1706: Harris (F 493) (fol. 113); 15 Jan.: A. Hill (F 11) (fol. 114: this was Hill's second bond, and it is endorsed to the effect that it superseded any existing one); 19 March 1706: F. Robartes (F 306) (fol. 125: another duplicate); 6 May 1707: T. Browne (F 538) (fol. 132); 30 Oct. 1707: Lord Halifax (F 484) (fol. 135), Somers (F 528) (fol. 136), and Spencer (F 529) (fol. 134). Pound (F 544) signed a bond on 30 July 1713 (fol. 153).

27 Exempt: Pell (F 19), Pope (F 72), Sprat (F 132), Hooke (F 136), Cutler (F 171), Mercator (F 215), Smethwick (F 226), Collins (F 235), Ray (F 239), J. Gregory (F 264), ?Newton (F 290). Absent: Sir J. Finch (F 65), ?Long (F 94), Barrow (F 115), Beale (F 128), Cotton (F 131), ?Bathurst (F 149), Newburgh (F 168), Thrustone (F 200), Rycaut (F 220), Clerke (F 237), Lister (F 288) Vernon (F 294). Resignations: Ent (F 31), J. Needham (F 82). Residue: Slingsby (F 14), Wylde (F 44), Glisson (F 59), Sir G. Talbot (F 71), Willis (F 90), Sir J. Talbot (F 146), Earl of Shaftesbury (F 148), Portman (F 179), Pepys (F 187), Earl of Carlisle (F 201), Crisp (F 209), Fitzhardinge (F 232), Steward (F 238), Sir C. Berkeley (F 244), Oudart (F 245), du Moulin (F 246), Le Hunt (F 254), E. Ward (F 256), Earl of Anglesey (F 258), J. Colwall (F 262), Locke (F 269), Chamberlayne (F 271), Banks (F 272), Barrington (F 279), Sir J. Williams (F 285), Tillotson (F 292), Lord Herbert (F 299).

28 Whistler (F 49), Arderne (F 265), Horneck (F 275): see above, n. 5.

29 The only Fellow who signed a bond and appears in Lists 4–5 only was Sir P. Wyche (F 106), whereas the following signatories of bonds appeared in Lists 1–3 but not 4–5: Sir P. Neile (F 5), W. Ball (F 9), T. Coxe (F 23), Earl of Devonshire (F 28), Oldenburg (F 33), Lord Berkeley (F 34), Erskine (F 79), Packer (F 89), Glanvill (F 175), de Vaux (F 197), Skippon (F 227), and E. Howard (F 267).

30 J. Hoare, jun. (F 274), Birch (F 305), F. Robartes (F 306), Sir J. Moore (F 313), Whichcote (F 314), Milles (F 315), Sir P. Percivale (F 316).

31 Earl of Kincardine (F 3), Winde (F 113), P. Ball (F 135), Leighton (F 154), Burnet (F 161), Vossius (F 164), Thynne (F 173), Aglionby (F 240), Leijonberg (F 241), Sir K. Lucy (F 268), Reading (F 287). Of the last six, all but Lucy showed some later activity; Ball died in 1675.

32 Shaen (F 109), Hayes (F 111), G. Smith (F 120), Neale (F 165), and probably also Leighton (F 154). Winde (F 113) was also expelled.

33 See Chapter 3.

34 W. Ball (F 9), Wallis (F 57), Hoskins (F 92), Brooke (F 99), Sir P. Wyche (F 106), Creed (F 155), Glanvill (F 175), Stafford (F 183), D. Coxe (F 189), De Vaux (F 197), H. Howard (F 218), Skippon (F 227), E. Howard (F 267), H. Howard (F 295), T. Howard (F 296), J. S. Howard (F 300), Birch (F 305), F. Robartes (F 306). The following lapsed in the 1680s: A. Hill (F 11), S. Ward (F 29), Lord Berkeley (F 34), Thynne (F 173), Pearson (F 222), E. Browne (F 248), Reading (F 287).

35 Oldenburg (F 33), Vossius (F 164), Aglionby (F 240), Grew (F 289: bond dating from his period of employment by the Society), E. Bernard (F 297), Plot (F 332), Tyson (F 353), Paget (F 399).

Appendix 10

1 For a surviving formal letter of resignation, see that of Sir Andrew King (F 124) in British Library, Add. MS 4444, fol. 162.

2 DM V: 2. Cf. Birch, II: 118, 213. Also nearly expelled in 1666, though for rather different reasons, was Sorbière (F 140) (cf. Birch, II: 123–4, 127).

3 Cf. ibid., III: 224, 231, 233, 243.

4 Slingsby, Pett, Nott, Downes, Colepeper. Ent (F 31) is marked 'gone off': for his resignation in 1675 see Hooke, *Diary, 1672–80*, op. cit. (Ch. 1, 70), p. 146.

5 Both were in arrears. Earlier Sir J. Clayton (F 88) had been quietly dropped from the lists after 1668 (cf. Appendix 1) and Cock (F 204) after 1672 (marked 'out' in the 1675 accounts).

6 DM V: 17. The list is printed in Birch, IV: 159. It should be noted that of those instanced by A. R. Hall (in his edition of Birch (Intro., 2), pp. xxxv–xxxvii) as being expelled but never elected, 'Francis Borthwick' is in fact a misprint in Birch, IV: 159, for Francis Smethwick (F 226), while Lord Clifford was a title applied to Charles Boyle, Viscount Dungarvan (F 156), and Lord Dursley was a title assumed by Sir Charles Berkeley (F 244) (ibid., IV: 421). The appearance of Philip, Earl of Leicester, in the list of those ordered for expulsion in Birch, IV: 421, however, is an enigma, since no one of this or a similar name was ever elected; the appearance of the name out of alphabetical sequence in the list could suggest pure error.

7 It seems to be 'Mr Map' or 'May', but is certainly not Mapletoft (F 318) or Mayow (F 343). There is also a note concerning Sir Thomas Baines' arrears of £48 14*s.* 0*d.*, to 'abate absence if desired', and 'Mr Sheridon, desired he might pay £10. Left to Dr. Wood to treat with him' (cf. Birch, IV: 119, 160 (where 'Banks' is wrongly substituted for 'Baines')).

8 Birch, IV: 159. The Fellows were Winde (F 113), Aglionby (F 240), and Dursley (F 244) (who was thereafter omitted from the accounts but not from the lists). O. Hill (F 329), though listed for expulsion, had never been in the printed lists (see Appendix 1), while the Earl of Crawford and Lindsay

(F 137) had died in 1678. On Thrustone (F 200), ordered to be omitted from the lists at this time (Birch, IV: 134), see above.

9 Burnet (F 161), Arderne (F 265), Locke (F 269), J. Lane (F 341), Bemde (F 344), W. Bridgeman (F 357), Sir P. Ward (F 379) (at this time in exile for perjury). Of these, Bemde returned in 1686, Burnet, Arderne, Lane and Bridgeman in 1689, Ward in 1691, and Locke in 1696. They have therefore not been shown as 'expelled' in the Catalogue. On Bridgeman's omission, see Evelyn to Pepys, 28 Nov. 1686: Christ Church, Oxford, Evelyn Collection, MS 39, no. 552. Further evidence of the almost unreasonable zeal shown on this occasion may be provided by the case of William Napper (F 355), omitted from the lists although not badly in arrears: but, since his identity is obscure (see Appendix 3), the omission could be due to death. Of those expelled in 1682 the only one who subsequently returns to the printed lists is Woodroffe (F 261), who reappears from 1698 to 1702, and who was slightly active and paid a year's subscription in 1699–1700.

10 The list is printed in Birch, IV: 421, from CM II: 65, but omitting the name of Parker (F 210). Schroter (F 110) and Gould (F 405) were omitted from the lists although not ordered for expulsion, while Clench (F 366), who falls into the same category, but who continued to pay subscriptions till 1686 and who contributed to a meeting in 1687 (Birch, IV: 532), was perhaps omitted accidentally.

11 Godolphin (F 166), Rycaut (F 220).

12 W. Ball (F 9), Wallis (F 57), Skippon (F 227), Birch (F 305), T. Smith (F 333), Chetwynd (F 339), Wetenhall (F 407), Mullen (F 408), Willoughby (F 409).

13 Weymouth (F 173), Pearson (F 222), E. Howard (F 267), Duke of Norfolk (F 295), T. Howard (F 296), Lord Herbert (F 299), Marquis of Halifax (F 317). For those omitted from the accounts see Appendix 6, note 18. J. S. Howard (F 300) may belong to this class or may have been left in the lists accidentally. Sambrooke (F 381) was also left out of the accounts though left in the lists.

14 R. Robinson (F 390), Turnor (F 398), Monson (F 415), Beaumont (F 416), and perhaps Sir J. Percivale (F 374).

15 See also the case of Woodroffe (note 9), and perhaps Clench (note 10).

16 Fellows' names disappear as follows: after 1688, Firmin (F 360), Turnor (F 398); after 1693, Sir P. Wyche (F 106), J. S. Howard (F 300); after 1696, R. Lane (F 450); after 1696, Day (F 453) (? died).

17 After 1698: Pope (F 72), Locke (F 269), Sambrooke (F 381); after 1699, Bagenall (F 172), J. Lane (F 341), Chamberlen (F 373). Creed (F 155), whose name also disappears from the lists at this time, may be presumed to have died, since he paid subscriptions, 1698–1700. R. Beaumont (F 416) has also been presumed to have died. The following names were removed in 1707 in a subsequent purge (cf. CM II, 193): R. Robinson (F 390) (readmitted 1731), O. Bridgeman (F 491), Prior (F 513), Fryer (F 517), Sydenham (F 549); Henley (F 471) who also disappears at this time presumably died, since he paid

subscriptions regularly till 1704. The following Fellows subsequently disappear from the lists before their known date of death: after 1708: Flamsteed (F 327); after 1713: Bowes (F 539); after 1714: Fatio de Duillier (F 439) (returns 1729); after 1715: Molesworth (F 518); after 1717: A. Hammond (F 530), Worth (F 533); after 1719: Gwynne (F 387).

18 Sir P. Wyche, Sambrooke.

19 The other was J. Lane.

20 See J. W. Yolton, *John Locke and the way of ideas*, Oxford, 1956.

21 Other than those recently elected these were: Vaughan (F 63), Sprat (F 132), Bathurst (F 149), Burnet (F 161), Weymouth (F 173), Earl of Lindsey (F 217), E. Howard (F 267), Duke of Norfolk (F 295), T. Smith (F 333), Wetenhall (F 407), Earl of Clarendon (F 420), Earl of Pembroke (F 422), Wotton (F 436), Tarbat (F 458), Lany (F 462), Lord Halifax (F 484).

22 Povey (F 47), C. Howard (F 123), Sir J. Lowther (F 157), Sir E. King (F 212), F. Robartes (F 306), Mapletoft (F 318), Clüver (F 346), Meredith (F 375), Paget (F 399), Bulkeley (F 426), Sir R. Gordon (F 427), W. Stanley (F 448).

23 Raphson (F 449), Briggs (F 469), H. Howard (F 505).

24 Birch, IV: 134.

25 Ibid., III: 191. For further replies concerning arrears see ibid., III: 127; IV: 126, 130.

26 Ibid., III: 228.

27 Sir Peter Wyche (F 106) and the Earl of Dorset (F 196) (cf. ibid., III: 118). The latter paid eight years' arrears in 1675.

28 Ibid., IV: 161.

29 Beale to Evelyn, 17 July 1669, Christ Church, Oxford, Evelyn Collection, Correspondence, no. 86.

30 Cf. 'A. B.' to the council of the Royal Society, 19 Oct. 1674, printed in Hunter and Wood, op. cit. (Intro., 12), 85–6/230–31.

31 Woodroffe to Southwell, 2 March 1675, *HMC Egmont*, II: 36. Woodroffe may well have been disingenuous in this, since in a letter to the Earl of Hastings of 1 Dec. 1674 (*HMC Hastings*, II: 166), he shows that he already knew that the Society intended to impose a penal bond and to desire those who would not subscribe to it to quit the Society. On Woodroffe's subsequent links with the Society, see n. 9.

Appendix II

1 Wallis to Oldenburg, 11 Jan. 1675: Oldenburg, XI: 156.

2 Leigh to Musgrave, 22 June 1685: LBO X: 164.

3 Cf. Oldenburg to Newburgh, 11 Sep. 1669: Oldenburg, VI: 225.

4 Cf. Musgrave to Aston, 11 July 1685: LBO X: 184. On admissions, see Appendix I.

5 JBC VII: 181.
6 See the letters cited in App. 5 n. 9.
7 Birch, IV: 402.

APPENDIX 12

1 Hunter, *Science and society*, op. cit. (Intro., 4), p. 48.
2 These figures for ten-year periods omit elections in 1700, when one foreigner was elected.
3 See McClellan, op. cit. (Conclusion, 20), passim. See also Georges Lamoine, 'L'Europe de l'Esprit ou la *Royal Society* de Londres', *Dix-huitième siècle*, XXV (1993): 167–98.
4 Lyons, op. cit. (Intro. 8), pp. 126, 165, 343–4; *The record*, op. cit. (App. 1, 1), pp. 49–50. See also Crosland, op. cit. (Ch. 3 n. 45), 176–9.
5 Foreign Fellows disappear from the lists, other than at their known dates of death, as follows: after 1674: Beaufort Vabres de Fresars (F 143); after 1675: Dumas (F 202); after 1677: Sluse (F 309) (d. 1685); after 1681: Lionne (F 203), Beringhen (F 236), Hannisius (F 349); after 1683: Leti (F 392) (d. 1701); after 1684: Alvarez da Cunha (F 257) (d. 1690), Souza (F 281), Heusch (F 359), Beuningen (F 403) (d. 1693); after 1691: Boulliau (F 224) (d. 1694); after 1697: Villermont (F 423) (d. 1707). The concentration of such cases in the early 1680s suggests a minor purge at that time, though since the date of death is unknown except where noted, it is possible that all whose date of death is unknown were removed from the lists because they had died.
6 On those proposed but not elected see Appendix 1. Those who never appeared in the lists were: Monceaux (F 284), Pacichelli (F 311), Pighi (F 368), Haddu (F 396), Borghese (F 400) (Haddu and Borghese did, however, sign the charter book: see note 11), Hautefeuille (F 437), Franck (F 474), Scarlatti (F 488), Bonfigliuoli (F 494), Agricola (F 534). Bidloo (F 495) was not included in the lists till 1702, though elected in 1696.
7 CM II: 153.
8 E.g. Birch, II: 162 (Boulliau, Petit), 401 (Stiernhielm).
9 Ibid., II: 256, 263: see also Alvares da Cunha to Oldenburg, 13 April 1668: Oldenburg, IV: 313–5. The complete list of 'corresponding' Fellows is: Hevelius (F 163), Auzout (F 208) (admitted in 1682: cf. Birch, IV, 154–5, 162), Boulliau (F 224), Petit (F 225), Alvares da Cunha (F 257), Malpighi (F 277), Souza (F 281), Stiernhielm (F 282), Cassini (F 293), Sluse (F 309), Pacichelli (F 311), Travagino (F 321), Balduin (F 326), Kerckring (F 338), Leeuwenhoek (F 362), Pighi (F 368), Jordis (F 384), Frémont d'Ablancourt (F 414), Villermont (F 423), Valvasour (F 435), Pechlin (F 440), Vieussens (F 441), Stampfer (F 442), Witsen (F 447), Grandi (F 451), Marsili (F 455) (admitted in 1722), Dolaeus (F 457), Franck (F 474), Bottone (F 479), Viviani (F 489), Fornasari (F 490), Bonfigliuoli (F 494), Spoleti (F 500), Basnage de Beauval

(F 506), Guglielmini (F 515), Baglivi (F 520), Mencke (F 542), Sperling (F 547). The following also probably belong to this category, although definite evidence is lacking: Monceaux (F 284), Hannisius (F 349), Hautefeuille (F 437).

10 Birch, II: 252.

11 The following signed: Huygens (F 139), Sorbière (F 140), Beaufort Vabres de Fresars (F 143), Vossius (F 164), Duke Ferdinand Albrecht (F 184), Auzout (F 208), Beringhen (F 236), Leijonberg* (F 241), Ubaldini (F 243), Hjarne (F 280), Helmfeld (F 283), Spanheim* (F 350), Sarotti* (F 356), Heusch* (F 359), Leti (F 392), Haddu (F 396), Borghese (F 400), Beuningen (F 403), Heinson (F 461), del Bene (F 483), Cassini (F 512), Geoffroy (F 521), Krieg* (F 535), Leyoncrona* (F 545). Dumas (F 202) and Lionne (F 203) are said in the minutes to have been admitted, although they did not sign the charter-book (Birch, II: 60), and the same is true of Faria (F 401) (ibid., IV: 168). The accounts show that Bekker (F 519) paid his admission money although he did not sign the charter-book. Marsili (F 455) was admitted in 1722 and Bidloo* (F 495) in 1702. The following are also known to have been present shortly before the time of their election, but did not sign the charter-book: Leibniz (F 298), Agricola (F 534); while Scarlatti (F 488) may be presumed to have been present, although he too failed to sign the charter-book.

12 Birch, I: 408, 410; cf. ibid., I: 415.

13 Those who paid admission money are asterisked in n. 11. For bonds see Royal Society MS 390, fols. 26 (Leijonberg (F 241)), 99 (Faria (F 401)), and 101 (Beuningen (F 403)).

14 See Oldenburg, X: 78, 322, I am unable to explain why Clüver (F 346), who is supposed to have died in 1708, was listed among the British members until that date and thereafter among the Persons of Other Nations until 1717. I have counted Ubaldini (F 243) as foreign although he attended a meeting in 1669.

15 Isaac (F 460) transfers from being in the British list to being a 'Person of Other Nations' in the lists from 1708 onwards (he is also described as 'Eq. Aurat.'), but I know insufficient about his career to account for this. JBC VIII: 140, is the source of the incorrect idea (followed by Bulloch) that Isaac was 'Dr'.

16 See Appendix 3.

17 Leti (F 392), Bekker (F 519) (see Appendix 3).

Abbreviations

adm.	admitted (in 'Date elected' and 'Activity as seen in minutes' columns); admission money (in 'Payment of subscriptions' column)
Allg. Deutsch. Biog.	*Allgemeine Deutsche Biographie*, 56 vols. (Berlin, 1875–1912)
Ang. Notit.	Edward Chamberlayne, *Angliae notitia* (London, 1669, and subsequent editions)
Ann. Sci.	*Annals of science*
appr.	approved (see Appendix 1)
attend.	attended
BJHS	*British journal for the history of science*
Beaven	A. B. Beaven, *The aldermen of the City of London*, 2 vols. (London, 1908–13)
Birch	Thomas Birch, *The history of the Royal Society of London*, 4 vols. (London, 1756–7)
Bulloch	'Roll of the Fellows of the Royal Society', compiled by William Bulloch, MD, FRS (kept in the library of the Royal Society)
CM	Royal Society council minutes (copy)
CSP Dom	Calendar of State Papers (Domestic)
Cl.P.	Royal Society classified papers
corresp.	correspondent or correspondence
DM	Royal Society domestic manuscripts
DNB	*Dictionary of national biography*, 63 vols. (London, 1885–1900)
DNB sup.	C. S. Nicholls (ed.), *Dictionary of national biography: missing persons* (Oxford, 1993)

DSB	C. C. Gillispie et al. (eds.), *Dictionary of scientific biography*, 16 vols. (New York, 1970–80)
Davies	K. G. Davies, *The Royal African Company* (London, 1957)
EL	Royal Society early letters
ESO	R. T. Gunther (ed.), *Early science in Oxford*, 14 vols. (Oxford, 1923–45)
E. India Co. Court mins.	E. B. Sainsbury (ed.), *Calendar of the court minutes of the East India Company*, 11 vols. (Oxford, 1907–38)
Evelyn, *Diary*	E. S. de Beer (ed.), *The diary of John Evelyn*, 6 vols. (Oxford, 1955)
exp.	expelled
FRCP	Fellow of the Royal College of Physicians
Foster	J. Foster (ed.), *Alumni Oxenienses 1500–1800*, 4 vols. (Oxford, 1891–2)
GEC	G. E. Cokayne, *Complete peerage*, new edn., 14 vols. (London, 1910–59)
GEC Bar.	G. E. Cokayne, *Complete baronetage, 1611–1714*, 6 vols. (Exeter, 1900–1909)
HMC	Historical Manuscripts Commission
Henning	B. D. Henning, *The House of Commons, 1660–1690*, 3 vols. (London, 1983)
Hirsch	A. Hirsch (ed.), *Biographisches Lexicon der hervorragenden Artze aller Zeiten und Völker*, 5 vols. (Berlin, 1929–34)
Hoppen	K. T. Hoppen, *The common scientist in the seventeenth century* (London, 1970)
Innes Smith	R. W. Innes Smith, *English-speaking students of medicine at the University of Leyden* (Edinburgh, 1932)
JBC	Royal Society journal book (copy)
JP	Justice of the Peace
KB	Knight of the Bath
KG	Knight of the Garter
LBO	Royal Society letter book (original)

Mid. Temp. Adm. Reg.	H. F. MacGeagh and H. A. C. Sturgess, *Middle Temple admissions register*, Vol. 1 (London, 1949)
Munk	W. R. Munk, *The roll of the Royal College of Physicians*, new edn., 3 vols. (London, 1878)
N&Q	*Notes and queries*
N&RRS	*Notes and records of the Royal Society*
Nouv. Biog. Gén.	*Nouvelle biographie générale*, 46 vols. (Paris, 1855–66)
O.F.	Original Fellow: i.e. Fellow elected to the Royal Society before June 1663
Oldenburg	A. R. Hall and M. B. Hall (eds.), *The correspondence of Henry Oldenburg*, 13 vols. (Madison and London, 1965–86)
PC	Privy Councillor
Pres.	President
prop.	proposed
RCP	Royal College of Physicians
Raven, *Ray*	C. E. Raven, *John Ray, naturalist*, 2nd edn. (Cambridge, 1950)
res.	resigned
Shaw	W. A. Shaw, *The knights of England*, 2 vols. (London, 1906)
Sloane	British Library, MS Sloane
Taylor	E. G. R. Taylor, *The mathematical practitioners of Tudor and Stuart England* (Cambridge, 1954)
trans.	translated
VCH	Victoria County History
Venn	J. and J. A. Venn, *Alumni Cantabrigienses* [to 1751], 4 vols. (Cambridge, 1922–7)
Ward, *Lives*	J. Ward, *The lives of the professors of Gresham College* (London, 1740)
Woodhead	J. R. Woodhead, *The rulers of London, 1660–1689* (London, 1965)

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