

University of Stirling.

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**'A World for the Subject and a World of Witnesses
for the Evidence': Developments in Geographical
Literature and the Travel Narrative in
Seventeenth-Century England.**

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never had they so certaine intelligence of the quantitie of the Earth, as in our own time, by the navigation of Spaniards, English and Dutch round about the same is given us; Art and Experience consulting and conspiring together, to perfect the Science of Geographie.¹

¹ Samuel Purchas, *Purchas His Pilgrimage* (1613; 1626), chap. IX, 'A Geographical Narration of the whole earth in generall, and more particularly of ASIA', p. 41.

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ABSTRACT.

In the latter half of the seventeenth century the first-person overseas voyage narrative enjoyed an unprecedented degree of popularity in England. This thesis is concerned with texts written by travellers and the increasing perception that such information might be useful to those engaged in newly-developing scientific specialisms. It draws upon a wide range of texts including geographiæ, physico-theological texts, first-person voyage narratives and imaginary voyage prose fictions. The main focus of the thesis is on the movement away from traditional encyclopaedic geographical textbooks whose treatment of non-European countries comprised an amalgam of unattributed information and a mass of traditional and erudite beliefs, towards a prioritising of eyewitness accounts by named observers.

Following an introductory survey of the production of an indigenous body of geographical literature in England, the first chapter traces the decline in popularity of traditional geographiæ and the separation of regional description from general theories of the earth. The second chapter shows how in the Restoration period the concerted efforts of Fellows of the newly-established Royal Society resulted in a significant increase in the number of overseas travel narratives being published. The third chapter looks at the way in which the Royal Society's campaign developed from its initiation in 1666 to the close of the century, focusing on the response of travellers to the Society's requests for information. The fourth chapter considers the way in which earlier accounts were advertised as fulfilling contemporary expectations of this type of discourse. The fifth and sixth chapters concern fictitious voyage narratives. Imitative of a genre the value of which was increasingly seen as residing in its

veracity, these fictions adapted in accordance with the changes being introduced to *real* voyage accounts whilst continuing to perpetuate the archaic myths and traditional beliefs which had been eliminated from factual geographical description

Appended to the thesis is a list of accounts of voyages and travels outside Europe, printed in the *Philosophical Transactions* (1665-1700) Also listed are reviews and abstracts of geographical texts, inquiries concerning specific locations and directions and instructions aimed at seamen, with brief biographical information about the authors to indicate the range of contributors to that journal

ABBREVIATIONS.

<i>BLC</i>	<i>British Library Catalogue</i>
<i>DNB</i>	<i>Dictionary of National Biography</i>
<i>DSB</i>	<i>Dictionary of Scientific Biography</i>
<i>Misc Cur</i>	<i>Miscellanea Curiosa</i>
<i>OED</i>	<i>Oxford English Dictionary</i>
<i>Phil Coll</i>	<i>Philosophical Collections</i>
<i>Phil Trans</i>	<i>Philosophical Transactions</i>

Due to the large number of primary texts cited throughout this thesis I have avoided the use of abbreviations with the exception of those listed above which are most frequently used. I have preferred instead to use short title references. Since many of the texts cited have very long titles, I have included full titles in the bibliography only. Elsewhere, the principal title (excluding subtitle) is given for the first reference in each chapter, and thereafter a consistent short title is used. The use of *Ibid* has been restricted to citations within a footnote which refer to a text mentioned above in that same note. I have standardised capitals of principal titles.

Original spelling, including contractions, and punctuation has been retained except for the correction of obvious typographical errors. I have retained italicising and upper case lettering at the beginning of nouns but I have modernised the long *s*, characteristic of seventeenth-century texts. I have also given *u* for *v* in accordance with modern usage. My own amendments to render elliptical quotations coherent are denoted by the use of square brackets.

Introduction.

Presenting 'the World to the World in the Most Certain View'.

The Mariner seemes roughhewn and rude, according to the Ocean that breeds him, but hee that can play with those dangers which would transforme others into stones and dares dwell within so few inches of death, that calls the tempestuous Elements his Parents, Hee (I say) is the true *Pegasus* that with his wing-like sailes flies over the World, which hath helped to deliver *Andromeda* (Geography) before dashed to the Rocks, and ready to bee devoured of that Monster *Ignorance* ¹

In the seventeenth century the subject of geography in England was in trouble. Despite an increase in the number of long distance voyages being undertaken, attempts to assert successfully a place for the study of geography as a scientific discipline were proving difficult. The wide-ranging scope of its concerns together with the difficulty of reconciling the two distinct types of study that it encompassed - the formulation of laws about the physical world and detailed regional description - made it hard to classify. What I set out to show in this thesis is that whilst the writers of texts dealing with various aspects of the physical world and detailing specific environmental conditions struggled to unify these two aspects of geography and render their subject compatible with inductive empiricism, the efforts of a particular group of people concerned with advancing the new natural philosophy catapulted the first-person voyage narrative to prominence.

¹ Samuel Purchas, *Purchas His Pilgrimage* (1613, 1626), chap II, book V, sect III, 'the Conclusion with commendation of the Mariner, &c', p 487

The Royal Society's promotion of voyage narratives afforded this type of text a status it had not previously possessed, empirically-gathered regional geographical description came to be seen as useful to the pursuance of 'natural knowledge' This type of first-person narrative might not in itself be scientific but its usefulness to others engaged in formulating scientific *truths* brought it within the realms of natural philosophy and scientific discourse

Implicit in the naive empiricism of the later seventeenth century was a belief that visual perception might be neutral and not subject to the influence of preconceptions held by the beholder Along with this prevailing faith in the possibility of objectivity in observation came a confidence in the medium of language to represent, objectively and unambiguously, empirically-gathered information It was believed that written texts could represent things transparently, devoid of interpretation. Overseas travellers, then, had the capacity not only to represent what they had seen without recourse to interpretation but to record their experiences dispassionately so that the texts they produced were perceived as being like a window to the world they described. Even those 'Men who will scarce believe anything but what they see, [yet] will not stir an Inch from Home to be inform'd' might use voyage accounts 'as a Prospective Glasse' to 'take easie and neere view of those remote Regions, People, Rites, Religion' ²

The notion that the clear-sightedness of the observer ¹⁵ is of more importance than his intellectual capacity to interpret what he has seen, together with the calls to represent these observations in a simple style of writing devoid of rhetoric which might cloud or obscure the description, meant that the Royal Society encouraged all travellers regardless of rank to describe their experiences Never before had the

² Purchas, *Purchas His Pilgrimes* (1625), 'Divers passages betweene the *Mogul* and *Sir Thomas Roe*', lib III, vol I, chap 1, 6, § 9, p 578

opinions of merchants, buccaneers and ordinary seaman carried such great weight among intellectual circles. And so Purchas's notion of the 'roughhewn and rude' mariner as both the saviour of geography and the conqueror of ignorance, though not in fact an apt description of his own geographical *Pilgrimage*, might more fittingly be applied to the plethora of texts which abounded in the latter half of the seventeenth century. At a time when the subject of geography faced a crisis, the narrative of the overseas traveller rose to prominence to make study of the world as observed by ordinary, and often not highly-educated men the concern of scientists.

I will investigate how geographical texts changed and developed during the seventeenth century so that the reader may view the first-person overseas travel narrative in the context of other types of literature describing specific geographical locations and dealing with the natural world. I begin by indicating the problems facing the study of geography, the demise of the traditional geographical textbook and the popularity of physico-theological texts. I then go on to look in detail at the changes in the perceived pertinence and value of first-person voyage accounts with particular reference to the changes in sponsorship and promotion of these texts and the response such advice and encouragement solicited. I look closely at the attitude of publishers, translators and travellers themselves to the genre, considering how expectations for these texts changed. I consider the growing preoccupation with truthfulness manifest in the almost obsessive efforts to authenticate both the narratives and the reliability of their authors. Finally I look at the profusion of prose fictions concerning imaginary voyages which were published during the second half of the seventeenth century. Since this type of writing imitated a genre, the value of which was perceived as residing in its truthfulness, I examine the attempts made by writers of prose fiction to appear *real*.

In recent years several studies have been made of European encounters with non-European cultures at the time of the voyages of discovery and of the colonisation of both the Americas and, later, the Antipodean continent. Most notable among them have been Stephen Greenblatt's *Sir Walter Raleigh, the Renaissance Man and his Roles* (1973) and, more recently, *Marvellous Possessions* (1989) in which he deals with the appropriation of the *new world* by European settlers who regarded it as their right to possess and occupy what they had *discovered*.³ Mary Campbell's *The Witness and the Other World* (1988) offers an exposition of European travel literature from an earlier period, 400-1600. She emphasises the importance of traditional myths and lore as influences upon European experiences of travel and ways of writing about them. Many recent texts have examined issues of ethnography in relation to cross-cultural encounter, though not specifically in relation to the literature of travel. Edward Said's, *Culture and Imperialism* (1993) and his earlier seminal *Orientalism* (1978) offer outstanding theses on the subject of cultural imperialism. Other recent studies of the impact of colonialism and the composition of its history include Robert Young's *White Mythologies: Writing History and the West* (1990) and Mary Louise Pratt's *Imperial Eyes: Travel Writing and Transculturation* (1992).⁴ Jean and John Comaroff's *Of Revelation and Revolution: Christianity, Colonialism and Consciousness in South Africa* (1991) concerns the activities of the London Missionary Society and the Wesleyan Methodist Missionary Society in South Africa. Bill Schwarz is currently editing a collection of essays entitled *The Expansion of*

³ Charles Nicholl's *The Creature in the Map* (1995) retraces and comments upon Raleigh's expedition of 1595 to South America in search of El Dorado. Recent interest in Raleigh has included Stephen Coote's lively biography *A Play of Passion: The Life of Sir Walter Raleigh* (1993).

⁴ See also Mary Louise Pratt's essay, 'Scratches on the face of the country, or, what Mr Barrow saw in the land of the Bushmen', in *Critical Inquiry* (12, 1985, pp 138-162) about the travels of Sir John Barrow at the beginning of the nineteenth century.

England Essays in the Cultural History of Race and Ethnicity which is due for publication in February 1996⁵

It is not my intention to highlight the eurocentricity and implicit racism of seventeenth-century travel texts. Nor do I trace in detail the extent to which travellers really were truthful. Some excellent studies of the relationship of the travel narrative to forms of fiction have already been written. These include Percy Adams's *Travellers and Travel Liars 1660-1800* (1962) and *Travel Literature and the Evolution of the Novel* (1983). Michael McKeon also discusses travel narratives, particularly in terms of their historicity, in his impressive and comprehensive study of types of prose writing which influenced the emergence of the modern novel, *The Origins of the English Novel* (1987).⁶ Philip Edwards's *The Story of the Voyage: Sea Narratives in Eighteenth-Century England* (1994) is a survey of voyage narratives which deals with textual representations of the experiences of travellers in the century following that with which I deal here. My objective is to outline the attempts to encourage travellers to represent what they see in as straightforward a manner as possible. Of course, the belief that it is possible to write objectively about one's experience is naive, but nevertheless it was accepted by the empiricists of the Royal Society whose ideal that linguistic expression might be transparent prevailed. The question of whether intention to truthfulness is necessarily an appropriate measure of reliability was apparently not one which concerned its Fellows. The capacity to articulate visual experience through the medium of language in an unbiassed manner was unquestioned, providing the author intended to replicate his encounter with accuracy and dispensed with the traditions of rhetoric.

⁵ Malvern Van Wyk Smith's essay "'The Most Wretched of the Human Race" The Iconography of the Khoikhoi (Hottentots) 1500-1800', in *History and Anthropology*, (5, 1992, pp 285-330) deals with issues of ethnography and European travellers in this earlier period.

⁶ See also Kenneth Parker, 'Telling Tales: Early Modern English Voyagers and the Cape of Good Hope' in *The Seventeenth Century* (x, I, Spring 1995, pp 121-149)

(i)

Interest Engendered.

We must hope, and wee must dare Those bug-beares of dangers are fit to fright babies but they anymate bolder spirits If we should sticke at them, wee should never looke out at our owne dores That was the cause *America* lay so long unknowne, and had done still (for ought I see) but that GOD sent a *Dove* from Heaven, which plucking of an Olive branch from this Continent, taught us by that, that there was yet more land, and lesse sea than wee dreamed of ⁶

England's involvement in overseas expansion was relatively late compared to other European countries ⁷ This meant that the tradition of an indigenous body of writing detailing overseas expeditions did not begin until more than half a century after Columbus wrote his first *Letter* from America

England did not have an organized policy of overseas expansion until the middle of the sixteenth century, and prior to that seemed almost entirely uninterested in the travel literature of those countries who did From the close of the fifteenth century printed literature, initially based upon epistolary accounts, began to emerge from Spain and Portugal detailing their respective voyages to the *New World* and the Orient ⁸

⁶ Joseph Hall, *The Discovery of a New World* (1609, ed Huntington Brown, 1937), 'The occasion of this travell, and the pre-instruction for it', p 13

⁷ It was not only the Spanish and Portuguese who had a vigorous commitment to voyages of discovery prior to the mid-sixteenth century, the Venetian and Genoese Republics, the Hanse, Holland and France were all more actively engaged in sea trade than England in the period preceding 1550 See G V Scammell, *The World Encompassed, the First European Maritime Empires c 800-1650* (1981) for a detailed study of these countries' involvement in overseas voyages as well as England's own later participation

⁸ The letters of Columbus and Vespucci were the earliest form of information concerning the New World made available to the rest of Europe Columbus's *Letter*

However, despite the popularity of these letters in various European countries, none of them was printed in England, and, accordingly, access to such information for English readers was very limited.⁹ Certainly, there is hardly any written evidence to suggest that England kept abreast of the geographical and navigational developments being made on the continent throughout the first half of the sixteenth century. During that period only one geographical work was translated into English. In 1541 Roger Barlow translated from the Spanish, Fernández de Enciso's *Suma de Geographia*, a manual of new geographical ideas. It was, however, never printed and was circulated only in manuscript, necessarily limiting severely its readership.¹⁰ In the first half of the century none of the Iberian voyage accounts was translated into English or printed in England.¹¹ For the general reading public, who did not have access to non-vernacular texts, the voyages of discovery were unknown.

England did have some involvement in overseas trade during this time, and there had been a number of isolated and significant speculative overseas expeditions from England.¹² As early as 1497, the Italian, Sebastian Cabot, had set out from the

written during the return journey of the first voyage via the canary Islands to Cuba and Hispaniola, was printed in Rome, Basel and Paris as well as Spain. *Mundus Novus*, adapted from Vespucci's letter to Lorenzo de Medici, concerning a voyage he made for Portugal in 1501 was reprinted several times between 1504 and 1508 in Paris, Rome, Vienna and Augsburg. Also popular in various parts of Europe was his *Quattouror Navigationes*, based on a letter to the Florentine, Piero Soderini. The most widely circulated account of Portuguese expeditions to the Orient was also an adaptation of a letter; Francisco de Almeida's *Gesta proxime per Portugales in India, Ethiopia et allis Orientalibus Terris* by João de Barros (1505).

⁹ A small number of people in England were sufficiently knowledgeable linguistically and interested in such texts to acquaint themselves with them. Richard Hakluyt in his 'Dedication to Francis Walsingham' in *Principall Navigations* (1598), claims to have devoured 'whatever printed or written discoveries and Voyages I found extant, either in Greek, Latin, Spanish, Portuguese, French or English languages' (Source *DNB*).

¹⁰ An edn. of Roger Barlow's *A Brief Summe of Geographie*, a trans. of Fernández de Enciso's *Suma de Geographia*, was printed in England in 1932 (Source *BLC*).

¹¹ Source E. G. Cox, *Reference Guide to the Literature of Travel*, 3 vols (1948-50).

¹² For a thorough and informative account of Britain's early involvement in overseas expansion see Scammell, *The World Encompassed* and for Britain's interest in

port of Bristol in an attempt to reach North America. He failed in that aim but did discover a large cod fishery off Newfoundland which came to form a significant part of England's Atlantic enterprise in the sixteenth century. England also traded directly with Madeira and the Canaries in the early Tudor period and by the mid-1540s was regularly sending ships to Brazil. It was not, however, until the 1550's that she really embarked upon a definite policy of overseas expansion. Throughout the first half of the century, there were a number of individuals in England devoted to the promotion of an active programme for overseas development. They wrote tracts and letters to state their case, but with the exception of Barlow's *Enciso* manuscript, none of them translated Spanish or Portuguese works into English. Nor did any of them attempt to make a substantial written study of the advances being made in the field of geographical knowledge in other parts of Europe.¹³

John Rastell, the brother-in-law of Thomas More and a printer by trade who was involved himself in an aborted expedition west of Britain in 1517, was one keen to promote England's involvement in overseas expansion.¹⁴ In about 1520 he printed a play entitled *A New Interlude and a Mery of the Nature of the four Elements*, whose authorship has widely been attributed to him¹⁵ Clearly intended to inspire financial

modern geographical ideas see E.G.R. Taylor *Tudor Geography 1485-1583* (1930)

¹³ Source *Cambridge History of English Literature*, chap. IV, 'The Literature of the Sea', chap. V, 'Seafaring and Travel' by C.N. Robinson and John Leyland; also C.M. Bowen's 'Elizabethan Travel Literature', *Blackwood's Magazine* 1916.

¹⁴ Rastell married More's sister Elizabeth c. 1504. His own overseas expedition in 1517 was cut short when the purser, John Ravyn, led a mutiny of which Rastell declined to be a part. They had only got as far as Waterford when this took place, and Rastell was put ashore by the crew who continued, under Ravyn, to France where they sold the cargo (Source *A New Interlude and a Merry of the Nature of the Four Elements*, ed. Roger Coleman (1971), 'Introduction', p. 3).

¹⁵ Roger Coleman writes, in his 'Introduction' to the text, that 'it is [his] aborted expedition that is referred to so feelingly in the [play] and provides us with one of the most persuasive proofs of Rastell's authorship, *A New Interlude*, 'Introduction', p. 4

backing for further speculative voyages from England, it contains the first reference to the New World ever to be printed in England

This See is called the great Occyan,
 So great it is that never man
 Coude tell it sith the worlde began,
 Tyll nowe, within this twenty yere,
 Westwarde be founde new landes
 That we never harde tell of before this
 By wrytynge nor other meanys,
 Yct many nowe have ben there ¹⁶

Despite the claim made within the play itself that it 'hath ex pownyd connyngly / Divers poyntes of cosmogryfy, / In fewe wordes and shorte clause',¹⁷ by comparison to the information imparted in the Iberian letters, Rastell's description is spartan and vague, stating little more than that the country is 'Muche lenger than all christendome',¹⁸ and that ' what commodytes be within, / No man can tell nor well imagin'¹⁹ The play's propagandist purpose, to inspire interest, and, above all, financial support from the crown treasury for exploratory voyages from Britain, is clear

O, what a thyng had be than,
 Yf that they that be englyshe men
 Myght have ben the furst of all
 That there shulde have take possessyon

¹⁶ John Rastell, '*A New Interlude and a Mery of the Nature of the Four Elements*', in *Three Rastell Plays*, ed Richard Axton (1979), p 49, ll 733-740 All textual references to *A New Interlude* refer to the Axton edition of the text, which offers a fuller version of the play than Coleman's, which represents the play as it was performed at Cambridge in 1971 Axton also preserves the original language and includes line references which Coleman does not

¹⁷ Rastell, *A New Interlude*, p 56, ll 1037-1039 These lines refer to the player, 'Experyence', who delivers all the other lines quoted here

¹⁸ Rastell, *A New Interlude*, p 49, l 742

¹⁹ Rastell, *A New Interlude*, p 49, ll 747-748

And made furst buyldynge and habytacion
A memory perpetuall

And also what an honourable thyng,
Bothe to the realme and to the kynge,
To have had his domynyon extendynge
There into so farre a grounde, ²⁰

By appealing to national pride and implying a potential historic significance that would bestow honour upon the age and, more particularly, upon its monarch, Rastell was attempting to promote interest in speculative voyages to the west, whilst giving the added assurance that there was certainly land there to be found

Interestingly, however, it is the Cabot voyages from England to which Rastell refers in order to promote his case. He makes no direct mention of the Spanish discoveries, referring obliquely to the activities of 'dyvers maryners'²¹ Also surprising, given the rhetorical nature of the play, is that Rastell makes no reference to any riches or treasure that might be found there, surely the most obvious incentive he could have drawn upon. The material attractions he cites are somewhat less compelling than the plentiful supplies of gold to which Columbus refers in his *Letter* ²²

Great haboundaunce of woddys ther be,
Moste parte vyr and pyne aple tre,
Great ryches myght come therby ²³

²⁰ Rastell, *A New Interlude*, p [50], ll 762-771

²¹ Rastell, *A New Interlude*, p 49, l 743, Rastell does make reference to 'The most wyse prynce the seventh Herry', p [50], l 773

²² Columbus's *Letter on His First Voyage* (1492-3), in *The Four Voyages of Christopher Columbus*, trans by J M Cohen (1969) Columbus states 'Hispaniola is a wonder there are many great rivers with broad channels and the majority contain gold' (Ibid, p 117), and 'In Hispaniola there are many large mines of gold and other metals' (Ibid, p 117) Cohen observes in a footnote that these statements 'did not prove to be true'

²³ Rastell, *A New Interlude*, p [50], ll 799-801

So, while Rastell should be credited with being the first person in England ever to write about the existence of the New World, his play is not very informative and shows a reluctance to even mention Spanish or Portuguese achievements

One of only two other works of geographical interest to be written in English in the first half of the sixteenth century was by Robert Thorne, member of a famous family of Bristol merchants involved in the Cabot enterprises. Thorne had lived for some years in Seville where he had gone expressly to learn about Spanish maritime activities. *The Booke of Robert Thorne* (1527) comprised two letters, one to Henry VIII, the other to Edward Lee pressing for England to use the Northern passages as a means of developing direct trading links with the East Indies.²⁴ The letters were only circulated in manuscript for fifty five years until, in 1582, Hakluyt incorporated them into his *Diverse Voyages*.²⁵ In 1542, only one year after Barlow's translation of the Spanish geographical manual, Anthony Askham's *A Lytle Treatise of Astronomy* was printed. This was the first English work to cite America by name and to bring the exploits of Magellan before English readers. Significantly, Askham confines himself to retelling the sensational and extraordinary aspects of Magellan's account, referring to his encounter with 'Giantes' which 'dyd measure to be ten foote longe'.²⁶ He is concerned with expressing the wonder and strangeness of America which differentiates this early text from those which were to be written later. These then

²⁴ Edward Lee (1482?-1544) was later to become Archbishop of York in 1531, was resident in Spain at the time, sent by Henry VIII on an embassy to the emperor with Sir Francis Pointz (Source *DNB*)

²⁵ Hakluyt, *Diverse Voyages Touching the Discoverie of America and the Islands adjacent* (1582) Letter to Lee, 'A declaration of the Indies and Landes discovered, and subdued unto the Emperor and the King of Portugale' (Ibid, p 21), Letter to Henry VIII, 'The booke made by the right worshipfull Master Robert Thorne' (Ibid, p 26)

²⁶ Askham does suggest a financial incentive to travel to the New World more splendid than the 'woddys' to which Rastell refers. He reckons there are 'to be founde many precious stones' there (*A Lytle Treatise of Astronomy* (1542), p 46)

were the only English texts to deal, however vaguely, with recent geographical developments in the first half of the century

The year 1553 may be taken as marking the beginning of England's participation in a significant programme of maritime activities. In that year interest from a number of powerful groups and individuals, within England, was consolidated, giving rise to the beginning of an organised and stable policy of sea-faring activity. Although it did not receive its charter until 1555, it was in that year that The Muscovy Company was formed to exploit the north east passage to China. This was the earliest of the great joint-stock companies, and its full official title, *The Merchant Adventures of England for the Discovery of Lands, Territories, Isles, Dominions and Seignories Unknown*, indicates that its formation represented the first concerted effort of a number of people with mercantile interests in overseas expansionism. Their interest was chiefly derived from a desire to establish new trading links to promote England's chief export, woollen cloth. Simultaneously, there was a great deal of interest among powerful London merchants in the prospect of trade with Barbary and West Africa. Another significant factor that made the voyages of the 1550's possible was that they had the support of the most powerful man in England in 1553, John Dudley, Earl of Warwick and later Duke of Northumberland, who succeeded Edward Seymour, Duke of Somerset to the position of Lord Protector to Edward VI in 1552.²⁷

1553 is also a significant date in terms of travel literature in England, because it was in that year that Richard Eden published *A Treatise of the Newe India*, a

²⁷ Northumberland, himself a shipowner and one-time commander in the English navy under the auspices of its creator Henry VIII, supported the efforts of three individuals in particular, who were anxious to promote the advantages of overseas expansion. Sebastian Cabot, who had returned to England after living for thirty years in Spain, John Dee, who had spent time on the continent learning about recent geographical advances and who was to become responsible for introducing geography as a discipline at Cambridge University, and Thomas Wyndham who sailed to the Guinea Coast of West Africa in that year.

translation of part of Sebastian Meunster's *Cosmographia*²⁸ The sections Eden chose to translate deal with the voyages of Columbus and Vespucci, Magellan's circumnavigation and the early experiences of the Portuguese in the East This was the first ever publication in English to contain voyage narratives, or indeed to make anything beyond passing reference to the voyages of discovery with which many other European countries has been acquainted for about half a century²⁹

Two years later, in 1555, Eden published *The Decades of the New Worlde or West India*, the first collection of voyage literature to be compiled in English It included a wide selection of translated works, including the first three 'Decades' of Peter Martyr d'Aupheisa's history *De Orbe Nova* (Alcala 1530), Antonio Pigafetta's *Briefe Declaration of the Voyage of Navigation Made Aboute the Worlde* (Paris 1525) dealing with Magellan's circumnavigation,³⁰ and substantial extracts from Fernandez de Oviedo y Valdes's *La Historia General de las Indias* (Seville 1535) and Francisco Lopez de Gomera's *Historia de las Indias y Conquista de Mexico* (Saragossa 1552) concerning the voyages of Cortes³¹ Through these two works, Eden made a crucial contribution to the publication of voyage literature in English, as well as inspiring English maritime effort both by his powerful exhortation for the creation of an English colony in North America contained in his preface to the *Decades*, and by bringing these accounts before an English readership for the first time He had inaugurated a

²⁸ Sebastian Meunster's *Cosmographia, a description of the whole world and everything in it* (1544) was extremely popular throughout Europe reaching 46 editions in six languages prior to 1650 (Source *DSB*)

²⁹ Despite detailing the voyages of named voyagers, Meunster's *Cosmographia* follows an encyclopedic approach to geography His entry in *DSB* explains 'he was not at all reluctant to include some choice miraculous happenings in his otherwise sober and factual narrative' Certainly, his regional descriptions of Europe contain many unusual anecdotal accounts, apparently derived from local folklore

³⁰ Pigafetta's narrative was originally printed with Magellan's journal, *Le Voyage et Navigation Fait par les Espaignolz ès Iles de Mollucques* (1525)

³¹ Information concerning Eden from Arber's *First Three English Books on America* (1885), pp xxxviii-xlviii

tradition for voyage collections which subsequent English writers and publishers were to develop, the best known being Richard Hakluyt and, shortly after him, Samuel Purchas and later still, the brothers Awnsham and John Churchill³²

Eden continued to translate geographical texts, publishing an English version of Martin Cortes's *The Arte of Navigation*,³³ in 1561 to which he added a preface, urging that England become more involved in maritime activities³⁴ There followed a great number of navigational manuals written by eminent English mathematicians eager to produce practical texts in the wake of Eden's translation of Cortes³⁵ William Bourne had the most prolific output, publishing four completely independent manuals in the space of only eleven years from 1567 to 1578,³⁶ whilst John Dee was perhaps the most famous name amongst them, his *General and Rare Memorials Pertayning to the Perfect Arte of Navigation* appeared in 1577³⁷ But by far the most influential

³² Hakluyt's main collections appeared respectively in 1589 and 1598-1600, Purchas's collection of voyage narratives, *Pilgrimes*, was first published in 1625, the first four volumes of the Awnsham Churchill and John Churchills' *Voyages and Travels* was printed in 1704 with two further volumes of seventeenth-century travels appearing in 1732

³³ In 1574, Eden translated another navigational manual, Jean Taisner's *De Natura Magnatus* His contribution to the publication in England of European geographical texts continued even after his death in 1576 with the posthumous publication in 1577 of his translation of Ludovico Bartheima's *Travels in the East* (1503) under the title *The History of Travayle in the East and West Indies*

³⁴ This was the first navigational manual ever to be published in England Prior to that, the only other English work to deal with navigational skills was William Cunningham's *The Cosmographical Glasse 'containing the pleasant Principles of Cosmographia, Geographie, Hydrographie or Navigation'*, see Taylor *The Haven-Finding Art a history of navigation from Odysseus to Captain Cooke* (1956, 1971) The title of Taylor's text is taken from Edward Wright's navigational manual of 1599 which bears the same name

³⁵ For an excellent and detailed study of the progress of navigation in the later sixteenth and early seventeenth centuries see David Waters, *The Art of Navigation in England in Elizabethan and Early Stuart Times* (1978), 3 vols

³⁶ Sources Cox, *Reference Guide* and *BLC*, an extract from William Bourne's *A Regiment for the Sea* [1574?] concerning 'The Use of Navigation' is reprinted in David Waters, *The Art of Navigation in England*, vol III, appendix 9, p 527

³⁷ For further information about Dee see Nicholas Clulee, *John Dee's Natural Philosophy Between Science and Religion* (1988), for Dee's involvement in overseas enterprise and navigation see Walter Trattner's essay, 'God and Expansion in Elizabethan England John Dee, 1527-1583', *Journal of the History of Ideas* 25 (1964)

manual to emerge from England during this period was Edward Wright's *Certain Errors in Navigation Detected and Corrected* (1599) in which he described the principle behind the projection of Mercator's 1569 world map. Published without an essay of explanation by its creator, the map had previously appeared unfathomable to seamen. Wright's seminal manual resulted in its being adopted widely for the first time in the thirty years since it had first appeared.³⁸ England had, within a short space of time, become a European leader in the field of general navigational manuals and also of manuals pertaining to the use of particular navigational instruments, producing no less than seventeen texts in the latter category in the last two decades of the sixteenth century alone.³⁹

(ii)

'Thy Booke's an Arke which all the World Containes'.⁴⁰

By the close of the sixteenth century England was producing all kinds of literature relating to sea voyages and navigation.⁴¹ By 1600, the most famous publisher of voyage narratives from this period, Richard Hakluyt, had completed all three volumes of his *The Principall Navigations, Voyages and Discoveries of the English Nation*, which he hoped would encourage further overseas expansion, specifically the programme of colonisation of North America.

³⁸ See A. Rupert Hall, *The Scientific Revolution 1500-1800, the formation of the Modern Scientific Attitude* (1954), chap. VIII, 'Technical Factors in the Scientific Revolution', pp. 217-243, which deals not only with the advances in scientific instruments but also the written texts produced to explain them. Hall offers a survey of developments in mathematics, the simplicity of which is most welcome.

³⁹ Source: Cox, *Reference Guide*, for a general survey of improvements in navigation and cartography during this period see W. P. D. Wightman, *Science and the Renaissance*, 2 vols., vol. 1, *An Introduction to the study of the Emergence of the Sciences in the sixteenth century*, chap. VIII, 'Mathematical Practitioners - Maps, Charts and Surveys', pp. 129-148.

⁴⁰ Edward Heylyn, dedicatory poem to Peter Heylyn, *Cosmographie in Four Books, Containing the Chorographie and Historie of the Whole World* (1652, 1666), Appendix 1667, sig. [A6]^r.

⁴¹ Robert Cawley considers the influence of Elizabethan voyages on contemporary literary texts in *The Voyagers and Elizabethan Drama* (1938) and *Unpathed Waters: Studies in the Influence of the Voyages on Elizabethan Literature* (1940).

Although his collection deals with narratives from his native country, Hakluyt, who lectured in geography at Oxford⁴² where he himself had been a student, was by no means only interested in the achievements of the English. His first publication in 1582 gave an account of the early Spanish voyages, *Divers Voyages touching the Discovery of America*, the reputation of which earned him the patronage of Lord Howard of Effingham, then Lord Admiral. He was also responsible for translating and publishing in England *A Notable History, Contayning Four Voyages made by Certain French Captains into Florida* (1587) based on the journal of Landonnière and the last publication on which he worked before his death in 1616 was a translation of a Portuguese text of the travels and discoveries of Ferdinand de Soto, which he entitled *Virginia Richly Valued* (1609). Nevertheless, he noted the tendency of the English to undervalue their maritime achievements.

Whilst living in Paris between the years 1583-1588 as Chaplain to Effingham's brother-in-law, Sir Edward Stafford, the English ambassador to France, Hakluyt showed a particular interest in the discoveries being made by the French. On returning to England he decided to compile a collection of voyage narratives to glorify the achievements of English travellers. Having read the voyage literature of other European nations he had been struck by the way in which they celebrated their discoveries thereby promoting the prestige of overseas travel in a way that had not previously been done in England.⁴³ Accordingly, he set about compiling a collection

⁴² Hakluyt claims to have been the first to use the 'new maps, globes and spheres' as teaching aids rather than being dependent upon traditional and classical texts (Source: J. Winter Jones's introduction to the Hakluyt Society edn of *Divers Voyages*, p. 6).

⁴³ Hakluyt complains that whilst other nations miraculously extolled their discoveries and notable enterprises by sea, but the English of all others for their sluggish security and continual neglect of the like attempts, either ignominiously reported or exceedingly condemned, and finding few or none of our own men to have care to recommend to the world the industrious labours and painful travels of our countrymen (Source: *DNB*).

of narratives extolling English voyages and in 1589 published the first volume of *Principall Navigations*, dealing with the North and North East Passage, following this a decade later with a further two volumes, the second concerning the South and South East Passage (1599) and the third volume devoted entirely to narratives about America (1600) ⁴⁴

Travel literature of all kinds continued to flourish in England during the early decades of the seventeenth century, the most significant development being the establishment of England's first successful colony in North America, for which Hakluyt himself had made a strong plea in his essay entitled 'Discourse of Western Planting' ⁴⁵ The permanent settlement of English people in Jamestown in 1607 brought with it a flood of literature ⁴⁶ Indeed, most of the literature relating to North

⁴⁵ See 'Richard Hakluyt on the art of Navigation in England and in Spain, from the second edition of his *Principall Navigations* (1598)' in which Hakluyt praises the Spanish for having set up a national 'Lecture on the Art of Navigation' in David Waters, *The Art of Navigation in England*, vol III, appendix 19A, pp 553-554

⁴⁵ Hakluyt's 'Discourse of Western Planting' was written in 1584, though only ever circulated in manuscript. It was first published in the nineteenth century. A facsimile reprint of the manuscript held in the New York Public Library with line by line transliteration on the facing pages and substantial critical annotation has been edited by David Quinn and Alison Quinn (1993). A less annotated reprint is to be found in E G R Taylor's *The Original Writings and Correspondence of the two Richard Hakluyts* (1935). Quinn and Quinn maintain the first publication of the text was in Boston 1877. However, this edition in fact is another copy of an earlier 1831 edition of 'Discourse of Western Planting' intro L Woods, ed, with notes in the appendix, C Deane (Maine Maine Historical Society, 1831) a copy of which is held in the British Library

⁴⁶ For details of England's early involvement in colonisation see, K R Andrews, *Trade, Plunder and Settlement Maritime Enterprise and the Genesis of the British Empire* (1984) and K R Andrews, N P Canny, and P E H Hair, *The Westward Enterprise English Activities in Ireland, the Atlantic and America, 1400-1650* (1979). See also E G R Taylor, *Late Tudor and Early Stuart Geography* (1934), chap XII, 'Colonial Geography', pp 158-176. The establishment of the colony was first documented by Captain John Smith in his *True Relation of Such Occurrences and Accidents of Noate hath Happen'd in Virginia Since the First Planting of that Colony* (1608). He went on to produce a map of the region with an accompanying very informative *Description of that Country* (1612). His most authoritative and significant work, however, was *The Generall Historie of Virginia* (1624). Smith went on to explore the region north of Virginia and was the first person to designate it New England. He encouraged colonization there through his propagandist essays such as *Advertisements for the Inexperienced Planters of New England* (1631).

America during the early decades of the seventeenth century was intended either to inspire the establishment of new colonies or to encourage people in England to populate existing colonies ⁴⁷

In 1613, Samuel Purchas published *Purchas his Pilgrimage or Relations of the World and the Religions observed in all Ages and Places discovered from the Creation unto the Present, a Theological and Geographical Historie of Asia, Africa and America, with the Islands adjacent, declaring the Ancient Religions before the Floud the Heathenish Jewish and Sacracenicall in all Ages since*. This, as its full title suggests, was very much in the tradition of geographical books which presented the subject of geography in a theological context. It was not comprised of first-person travel narratives but rather, offered a general survey of countries as a basis for a lecture on the progress of Christianity. The text is in the tradition of medieval encyclopaedias of knowledge, citing classical rather than contemporary sources of authority ⁴⁸. It is more concerned with establishing the location of Paradise, the source of Solomon's gold and the land of Prester John than relaying the recent experiences of overseas travellers ⁴⁹.

In 1625, however, Purchas published a collection of first-person voyage narratives entitled *Purchas His Pilgrimes*. The title page bears an engraving of Purchas

⁴⁷ For details of texts concerning the New World see John Alden, *European Americana: A Chronological Guide to Works Printed in Europe Relating to the Americas, 1493-1776*, 2 vols (1980). For a study of English involvement in America see A. L. Rowse, *The Elizabethans and America* (1959).

⁴⁸ Purchas refers to both Pliny and Solinus throughout his *Pilgrimage*, e.g., 'Of the Scythian Name, People, Religion, Language and manner of Life', p. 397, most of the extensive marginal notes pertain to classical and biblical citations, for a survey of medieval geographical ideas see G. H. T. Kimble, *Geography in the Middle Ages* (1938).

⁴⁹ Purchas, *Pilgrimage*, 'Of Presbyter John', p. 736, traditional speculation about the possible location of paradise shifted its geographical focus. Initially sought in Asia, it was later supposed to exist in Africa. Following the discovery of America speculation shifted once again and in the latter half of the seventeenth century writers speculate upon the existence of an antipodean paradise. See comments in Chap. V.

under which ¹⁵ printed the words '*Hakluytus Posthumous*' since it is in part comprised of the large collection of manuscripts, said to have been sufficient to form another volume of the *Principall Navigations*, left unpublished by Hakluyt when he died in 1616. In the wake of Hakluyt's *Principall Navigations of the English Nation*, Purchas also quite obviously prioritises the '*Navigations and Voyages of English-men*', and the recent '*Discoveries of the English Nation*'⁵⁰ Indeed, in his introduction 'To the Reader', he states unequivocally that it has been his intention to concentrate on relating the 'Voyages and Affairs of the *English*'⁵¹ However, what differentiates him from Hakluyt is that he succeeds in praising English maritime achievements whilst also making use of 'a world of witnesses', incorporating into his collection the narratives of travellers from elsewhere in Europe in translation⁵²

The *Pilgrimes*, has received very little critical attention⁵³ Historians who do make mention of Purchas have tended to be disdainful of his *Pilgrimes*, dismissing it because of its inclusion of information other than the direct experiences of contemporary travellers as well as criticising his literary skills⁵⁴ While these things do not detract from the value of the work in terms of the insight it offers to the progress of geographical literature, it is true that the way in which the accounts are written and presented certainly differentiates the *Pilgrimes* from ostensibly similar collections of overseas travel narratives compiled subsequent to the Restoration⁵⁵

⁵⁰ Richard Hakluyt, *The Principall Navigations, Voiages, Traffiques and Discoveries of the English Nation*, 3 vols (1598-1600)

⁵¹ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r

⁵² Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r

⁵³ E G R Taylor devotes a chapter of her *Late Tudor and Early Stuart Geography* to Purchas (chap V, pp 53-66)

⁵⁴ The *DNB* entry for Purchas says of the *Pilgrimes*, 'its rarity, still more than its interest, has given it an exaggerated value to book collectors', and goes on to say, 'The intrinsic value of the book is due rather to its having preserved some record of early voyages otherwise unknown, than to the literary skill or ability of the author'

⁵⁵ This will become more apparent in Chap IV when I discuss the position of the voyage narrative at the close of the seventeenth century specifically in the context of the most popular collection of accounts from that period, Awnsham and John

The *Pilgrimes* is very much a Renaissance work in style, still citing as authoritative sources of information that, by the close of the seventeenth century, had ceased to be regarded as automatically acceptable. Despite being a collection of first-person voyage narratives, a type of publication wholeheartedly promoted in the later seventeenth century, the *Pilgrimes* follows an earlier tradition of geographical description, drawing upon types of information which there was a concerted effort to eradicate in the later seventeenth century. The information it contains is not subject to the same standards which later came to bear upon this type of discourse.

Purchas begins his collection with 'A Large Treatise of King Salomon's Navie sent from *Eziongiber*, to Ophir', the forty four pages of which constitute the entire first chapter of book one.⁵⁶ Indeed the whole of the first volume, 'Contayning the Voyages and Peregrinations made by Ancient Kings, Patriarkes, Apostles, Philosophers, and others', is devoted to detailing voyages which half a century later would have no real place in a serious publication of travel accounts. He cites Biblical sources consigning an entire chapter to the 'Principall Voyages and Peregrinations mentioned in Holy Scripture'⁵⁷ whilst devoting another chapter to the 'Fabulous Antiquities of the Peregrinations and Navigations of *Bacchus*, *Osiris*, *Hercules*, the *Argonauts*, *Cadmus*, the *Græcian* Navie, to *Troy*, *Menelaus*, *Ulysses*, *Æneas* and Others'⁵⁸ These are examples of the sort of information which later in the seventeenth century is stripped away from voyage narratives though, I will suggest, often continued to find a place in the imaginary voyage prose fictions of the period.

Churchills' *Voyages and Travels* (vols I-IV, 1704, vols V-VI, 1732)

⁵⁶ Purchas, *Pilgrimes*, vol I, p 1

⁵⁷ Purchas, *Pilgrimes*, vol I, p 66

⁵⁸ Purchas, *Pilgrimes*, vol I, p 68

Despite the popularity of Hakluyt's *Principal Navigations* the most popular texts dealing with describing the world in the early part of the seventeenth century were not first-person voyage narratives but rather the large encyclopedic general geographical textbooks of which Purchas's *Pilgrimage* is an example. These texts comprised an amalgam of classical and Biblical references and folklore interspersed with information brought back by travellers. The authors of these *geographiæ* were apparently unconcerned by the mix of recent primary encounter and received tradition.

Before the prioritisation of empiricism what was already *known* about a thing, be it on the authority of the ancients, popular lore or scriptural interpretation, was regarded as no less authoritative than what could be gleaned through direct observation. Each of these sources of information was perceived as having a validity, coexisting on equal terms without necessarily vying with the others. This helps to explain the apparent inconsistencies and anomalous information, by modern standards, contained in Mediaeval and Renaissance Herbals and Bestiaries, describing animals and plants found in various parts of the world. Information recorded in these texts, which might be seen as precursors to the natural histories and regional geographical descriptions of the Restoration period, was derived not only from direct experience. Indeed primary interaction was by no means a mandatory requirement.

Edward Topsell's *Historie of Foure-footed Beastes* (1607) has accounts of a horse and dog ranking alongside descriptions of a unicorn and phoenix.⁵⁹ Not regarding this as an anomaly, Topsell offers no apology for his inclusion of mythical creatures in his bestiary and admits his acceptance of the authority of the ancients as

⁵⁹ Selections of accounts from Topsell's *Historie of Foure-footed Beastes* (1607) and *Historie of Serpents* (1608) are reprinted verbatim together with extracts of Philemon Holland's 1601 translation of Pliny's *History of the World* in *The Elizabethan Zoo: A Book of Beasts both Fabulous and Authentic*, ed. M. St. Clare Byrne (1926). All references to Topsell are to this text.

his source for this material. Amidst accounts of antelopes, beavers and descriptions of different breeds of dogs he includes an account of the Mantichora, a fabulous creature found in the writings of Pliny and also Ctesius upon whose authority Topsell explicitly draws.⁶⁰

This Beast or rather Monster (as *Ctesius* writeth) is bred among the Indies, having a treble row of teeth beneath and above feete like a Lyons, his face and eares like unto a man's his tail like the tail of a scorpion his voice like a small trumpct or pipe.⁶¹

Topsell makes no claim that recent travellers have reported seeing such a beast, he is content to accept ancient accounts and is not concerned with subjecting them to external verification.⁶²

In the tradition of the medieval encyclopedia, Topsell draws information for his books of Serpents and 'four-footed beastes' not from recent first-hand encounters by named informants, but, more significantly, from the mass of extant cultural heritage surrounding his subject, including magic, erudition, theology and regional myths. Throughout his texts he asserts his points by referring to common lore, referring obliquely to what 'some say' and what in popular knowledge 'is sayd' about the creatures he describes, rather than citing specific travellers whose accounts affirm their veracity through direct experience. And so he remarks that 'It is sayd that Unicornes doe reverence Virgines and young Maides, and that many times at the sight of them

⁶⁰ Although he cites Ctesius as his source, Topsell's description of the Mantichora is almost identical to that published in Philemon Holland's 1601 translation of Pliny the Younger's *History of the World*. The Mantichora is also to be found in the Roman encyclopedic work of Caius Julius Solinus 'Polyhistor', *Collectum Rerum Memorabilium* (c. AD 200).

⁶¹ Topsell, 'The Mantichora', *Elizabethan Zoo*, p. 76.

⁶² He cites another type of traditional authority to support the existence of the unicorn, noting that scriptural evidence 'affirmes the similitude betwixt the kingdome of *David* and the home of the Unicorne' (Psalm 92), Topsell, 'The Unicorne', *Elizabethan Zoo*, p. 90.

they growe tame, and come and sleepe beside them'⁶³ and that 'some say' in Macedonia they have such 'Tame dragons which 'are so meeke that women feede them, and suffer them to suckle their breasts like little children, their Infants also play with them, riding uppon them' ⁶⁴

His description of the unicorn is entirely derived from myth and legend and once again makes no reference to first-person eyewitness reports. Topsell is as concerned with 'its medicines and vertues' as with its appearance noting 'their flesh is not good for meate, but is bitter and unnourishable' and that 'the hornes of the Unicorns, being beaten and drunk in water doth wonderfully help against poyson' ⁶⁵ Furthermore

The horn of the Unicorne, being beaten and boyled in Wine, hath a wonderful effect in making the teeth white or cleane, the mouth being well cleansed therewith ⁶⁶

Information gathered through primary observation did not threaten to overthrow that drawn from traditional sources of authority. On the contrary, to some extent it might be said that personal experience was subordinated to it ⁶⁷. Indeed, even

⁶³ Topsell, 'The Unicorne', *Elizabethan Zoo*, p. 91

⁶⁴ Topsell, 'The Dragon', *Elizabethan Zoo*, p. 146

⁶⁵ Topsell, 'The Unicorne', *Elizabethan Zoo*, pp. 92-93, Michel Foucault observes in *Order of Things* (1966, 1981) that prior to the latter half of the seventeenth century

to write the history of a plant or an animal was as much a matter of describing its elements and organs as of describing the resemblances that could be found in it, the virtues that it was thought to possess, the legends and stories with which it had been involved, its place in heraldry, the medicaments that were concocted from its substance, the foods it provided, what the ancients recorded of it, and what travellers might have said of it

(Ibid., p. 129), see Keith Thomas's seminal studies of the influence of various sources of authority on religion and views of natural phenomena in England during the sixteenth and seventeenth centuries in *Religion and the Decline of Magic* (1971) and *Man and the Natural World* (1983)

⁶⁶ Topsell, 'The Unicorne', *Elizabethan Zoo*, p. 92

⁶⁷ The very phrase 'private judgement' was used as a pejorative term in the sixteenth and early seventeenth centuries

if a traditional source of authority contradicted what direct experience implied, it remained unweakened, and continued to be assimilated into the sum of knowledge pertaining to its subject ⁶⁸

In the latter half of the seventeenth century such sources of information were not automatically discredited but were subordinated to primary encounter and held accountable to the criteria of experimental methodology. If the compilers of Renaissance histories of natural phenomena were comprehensive collectors of existing information concerning their subject, the writers of natural history and geographical description in the latter half of the seventeenth century were collectors of proven information based on direct observation and experimentation. Where they differed from their predecessors was not in their level of credulity but rather in that they perceived certain types of information as having an essentially different status from direct observation.

Furthermore, since this change of priorities manifests itself, in the case of accounts of natural phenomena and geographical locations, in the choice of material to be included it should not be assumed that those writing accounts in this later period based their narratives wholly upon a superabundance of new empirically-gathered findings, entirely unknown to those writing earlier in the same century. Certainly, a feature of Restoration voyage narratives was that they incorporated current findings

⁶⁸ Foucault contends that the distinction between these categories was not recognised

The division, so evident to us, between what we see, what others have observed and handed down, and what others imagine or naively believe, the great tripartition, apparently so simple and so immediate into observation, document, and fable, did not exist

(*Order of Things*, p. 129) Thus the inclusion of such an eclectic medley of information in written histories pertaining to natural phenomena did not necessarily imply that the authors were more credulous than their successors. This is not so much an issue of plausibility as of the comparable status of different types of information. They simply did not prioritise to the exclusion of all else information derived from direct affirmed observation.

and up-to-date information, but in many cases their findings simply confirmed existing accounts and the data they offered hardly augmented that previously known. What is more significant, then, is that certain information which would have found a place in earlier accounts has been removed, in some respects the scope of the accounts was reduced. The precedence of a natural philosophy which prioritised observation, resulted in the elimination of certain types of information which formed a part of earlier accounts. The maxim 'Less is more' might with some aptness be used to describe this change of emphasis. Previously, part of the meaning of a thing or the description of a place was inherent in the myths and popular lore which had grown up about it together with references made to it in classical texts. However, once analysis came to be the dominant mode of acquiring knowledge, all other types of information become either redundant altogether, or at least ^{subordinated} superfluous to the primary task at hand of nominating and describing as clearly as possible what is directly visible.

In the Restoration period the Royal Society followed Bacon in the prioritisation of visual experience over the other four human senses. That which was seen was regarded as being more readily and more objectively verifiable. Significantly, this opinion was not based on a belief that this particular primary sensory perception was qualitatively superior to the others, but rather on the capacity to articulate visual experience in language that will render it unmistakably recognisable to anyone who has shared that experience, inversely smell, taste and touch were perceived as subjective sensations because they are difficult to communicate through the medium of language with any degree of accuracy.⁶⁹

⁶⁹ Nevertheless, I have found one instance in which a Fellow of the Royal Society warns against trusting to visual experience alone in the scientific scrutiny of natural phenomena. John Woodward advises caution when surveying naturally occurring metals and minerals. He suggests that their appearance might be misleading and that consequently other senses should be engaged to test the reliability of observation.

a Man had need to have all his senses about him *Colour* to discern and distinguish Things or outward appearance is not at all to be trusted. So a

The division of experienced findings from traditional lore as separate realms of knowledge with different values meant that it was no longer sufficient to cite the existence of an extraordinary phenomenon and present it as a mysterious thing of wonder to be marvelled at but not necessarily understood. The aspect of display and show which had permeated medieval and Renaissance accounts was replaced by a more sober analysis which set out to explain and classify all things in terms of their relationship to others. Founded on the principal that all things, however unusual, may be subjected to the analysis of comparative measurement, the theatricality of the extraordinary, which had been a potent force in the Renaissance, as may be seen by the very title of such texts as Thomas Moffett's *Theatre of Insects*' (1633) was minimised.⁷⁰ In the later seventeenth century the theatrical analogy ceased to be used. The spectator's role stopped being that of an amazed and passive onlooker and instead became that of a cataloguer, providing rational explanation through comparative reference, collecting and arranging systematically what appears before him and attempting to rationalise it.

Mass, which, to the Eye, appears to be nothing but meer simple Earth, shall, to the smell and taste, discover, a plentiful Admixture of Sulphur, Alum, or some other Mineral

Metals and Minerals do not have a fixed visual form by which they can with certainty be described and accordingly be recognised. Hence appearance alone is not an adequate method of examination.

Nor may we with much better Security rely upon *Figure* or external Form. 'Tis usual to meet with the very same Metall or Mineral shot into quite different Figures. a Body that has the Shape and appearance of a Diamond, may prove, upon Examination, to be nothing but Crystal.

(John Woodward, *An Essay towards a Natural History of the Earth* (1695, 1723), part IV, 'Of the Origin and Formation of Metals and Minerals', pp. 171-172)

⁷⁰ Thomas Moffett, *Insectorum sive Minimorum Animalium Theatrum* (1633), many early texts refer to the spectacle and show of their subject in their titles. This trend was prevalent in the early decades of the seventeenth century with, for example, John Speed, *The Theatre of the Empire of Great Britaine* (1627) and John Parkinson, *The Theatre of Plants, or A Herbal of Large Extent* (1640). Foucault notes that 'To the Renaissance, the strangeness of animals was a spectacle. It was featured in fairs, in tournaments, in fictitious or real combats, in reconstitution of legends in which the bestiary displayed its ageless fables' (*Order of Things*, p. 131).

Chapter I.

Geography: a Subject 'Manifoldly Mix'd'.

(i)

The Overthrow of Ancient Authority.

In this chapter I will consider what impact the rise of empiricism had on the study of geography in England in the seventeenth century and how perceptions of geography as a subject changed and developed as the century progressed. The move towards prioritising primary observation and affording less importance to secondary sources of authority had begun tentatively towards the close of the sixteenth century. At that time the word *history* was used to denote narratives which purported to offer a factual descriptive account of their subject and were as much to do with surveying contemporaneous events or manifestations of their topic as with retrospective analysis.¹

Francis Bacon conceived of history as having four distinct divisions, natural, civil, ecclesiastical and literary. Not only did he prioritise findings based on direct interaction with natural phenomena over the chronology of past information that had built up about a thing, but he wanted to direct inquiries into nature away from a desire to search for causes and, instead, to examine effects as they appear.

¹ The word *history* has its origins in the Greek word meaning 'a learning or knowing by inquiry' (Source *OED*), the traveller Dominick Fernandez Navarrete writes, 'It is call'd History either from seeing or knowing' (*An Historical, Political, Moral and Religious Account of the Empire of China* 'The Author to the Reader' in Awnsham Churchill and John Churchill, *Voyages and Travels* (1704) vol I, sig *1^v-*2^r)

contemporaneously In *The Advancement of Learning* (1605) he describes the function of all types of history as being representational rather than interpretive

It is the office of History to represent events themselves and to leave the observations and conclusions thereupon to the liberty of every man's judgement ²

For Bacon, then, analysis is not an intrinsic part of history, though history is an excellent bases for interpretation Accordingly, the role of those concerned with writing natural history is, as he conceives it, descriptive rather than analytical The function of natural history, for Bacon, is to enumerate rather than explain

It is Philosophy which is the classification of human learning concerned with determining causes and explanations, according to Bacon's plan Natural history, then, is a systematic precursor of natural philosophy Its purpose is to order, measure and arrange phenomena in preparation for analysis by those engaged in natural philosophy The role of the natural historian is to provide quantifiable information as a foundation upon which natural philosophers can begin to build

According to Bacon's scheme, natural philosophy is one of the three branches of philosophy (the other two being humanity and natural theology or divinity) It is further subdivided by Bacon into natural prudence, which deals with experiments into changes in nature, and natural science, which seeks to investigate natural phenomena Natural science functions in three realms, that of 'Physique', concerned with 'variable and respective causes', 'Metaphysique' dealing with 'fixed and constant causes' and

² Francis Bacon, *Advancement of Learning* (1605, ed G W Kitchin, 1973), p 69

'Natural History' which is 'situate in a middle term [and] describeth the variety of things'³

Bacon was enthusiastic about the information brought back by voyagers, believing that 'proficiency in navigation and discoveries may plant also an expectation of further proficiency and augmentation of all sciences' and seeing 'this present time as the coeval, as if the openness and thorough passage of the World and the increase of knowledge were appointed to be in the same ages'⁴ He saw recent advances in navigation as providing an excellent opportunity to advance learning, believing 'it would be disgraceful if, while the regions of the material globe have been in our times laid widely open and revealed, the intellectual globe should remain shut up within the narrow limits of old discoveries'⁵

Significantly, the subject of geographical knowledge was one of the first for which it became legitimate to contradict classical learning. The experiences of contemporary overseas travellers could not always be reconciled with the opinions of the ancients. Indeed, the very discovery of the Americas posed a problem in that their existence was obviously at variance with ancient knowledge. Yet, the idea that contemporary knowledge could not only augment but displace classical authority was problematic.

In his survey of changing attitudes in the early-modern period, *Ancients and Moderns* (1961), Richard Foster Jones comments on the gradual displacement of

³ Bacon, *Advancement*, p. 93, Joseph May discusses Bacon's attitude to geography in *Kant's Conception of Geography* (1970), pp. 34-38.

⁴ Bacon, *Advancement*, pp. 79-80. Bacon often used the metaphor of a voyage of discovery to convey his scheme to augment the realms of human knowledge, the frontispiece of *De Augmentis Scientiarum* (1623) bears an engraving which depicts a ship sailing forth through the mouth of a harbour.

⁵ Bacon, *Advancement*, p. 84.

erudition as an unquestioned source of authority⁶ As early as 1561, Richard Eden tentatively suggests that classical geography might be augmented by the experiences of more recent travellers Hoping that a north west passage might be discovered he cautiously states that although Ptolemy was 'an excellent Man' it is wrong to believe that 'the auncientes have invented and comprehended al thynges'⁷ However, as Jones notes, initially Elizabethan writers apologised for presenting new geographical information which contradicted the writings of the ancients He cites the example of Richard Willes who is conscious of the fact that his proposed sea passage to the far east crosses an area Ptolemy had shown as a land mass extending to the Pole Writing in 1577 he does not have the confidence to depose the authority of Ptolemy by offering the evidence alone of a recent Portuguese voyage which reported this area of the globe to be comprised of sea Instead, he considers it necessary to refer to other classical sources which contradict Ptolemy's opinion He shows how his proposed voyage is consistent with the views of Aristotle, Pliny and Plato In this way he replaces one classical source with another to endorse his own proposal, rather than suggest that the recent experience of voyagers has the capacity to supersede the pertinence of classical learning⁸

In 1581 Robert Norman was more bold in his criticism of ancient authority writing, in his treatise on the magnetic pull of the earth, *The Newe Attractive* 'many other fables have been written by those of auncient tyme, and have, as it were, set downe their owne imaginations for undoubted truthes and this most of all in

⁶ Richard Foster Jones, *Ancients and Moderns* (1961, 1982) offers a detailed survey of changing attitudes to classical authority in the late sixteenth and early seventeenth centuries, from 1530, the word *erudition* came to be associated with traditional book learning, and, more particularly, classical authority (Source *OED*)

⁷ Richard Eden, 'Preface' to English trans Cortes's *The Arte of Navigation* (1561) Cited in Jones, *Ancients and Moderns*, p 12

⁸ Richard Willes in Richard Hakluyt, *Principal Voyages* (1589), p 611 Cited in Jones, *Ancients and Moderns*, p 12

*Geographie and Hydrographie or Navigation'*⁹ By the turn of the century William Gilbert in his more famous work on the same subject entitled *De Magnate* is utterly derisive of Ptolemaic astronomy stating that it is 'now only believed by idiots'¹⁰

By the beginning of the seventeenth century it had become acceptable to admit that ancient geographical description did not offer a comprehensive and exhaustive depiction of the earth Writing in 1625 Samuel Purchas, whilst retaining a reverence for classical erudition, concedes that in certain matters of geography and navigation 'we bid you [the ancients] farewell'¹¹ Two years later in 1627, George Hakewill in his *An Apologie or Declaration of the Power of God in the Government of the World* is critical of those who 'prefer the wrinkles of Antiquity before the rarest beauty of the present times'¹² He considers 'the *Modernes* have so farre exceeded the *Ancients*' in '*Topographie* [and] the *description* of *places*' that their accounts are now recognised as being antiquated and obsolete This prompts him to ask rhetorically

both *Strabo* & *Ptolomy* themselves, if they be compared with our late Geographers how defective, how imperfect will they be found?¹³

For Hakewill it had become legitimate to prefer the opinions of contemporaries over the ancients since experience had established that, in matters of geography at least, the ancients were not omniscient Referring to their encyclopedic histories of natural phenomena, Hakewill writes 'even *Aristotle* himselfe and *Pliny* were ignorant of many things, and wrote many not only uncertaine, but now convinced of manifest error and

⁹ Robert Norman, *The Newe Attractive*, 'To the Reader' p 21 Cited in Jones, *Ancients and Moderns*, p 15

¹⁰ William Gilbert, *De Magnate* (1600) trans Gilbert Club of London (1900), p 216

¹¹ Samuel Purchas, *Purchas His Pilgrimage* (1613, 1626), p 603

¹² George Hakewill, *An Apologie or Declaration of the Power of God in the Government of the World* (1627, 1630), Lib I, Cap 2, sect , 5, p 25

¹³ Hakewill, *Apologie*, Lib III, Cap 8, sect 1, p 247 Significantly the section is entitled, 'That the *Modernes* have farre exceeded the *Ancients* in *Chronology* and *Cosmography*, the two eyes of *History*'

absurdity'¹⁴ The modern traveller, an explorer with first-hand experience of what he writes, was beginning to be seen as having an authoritative voice which might rival and even exceed classical authority So, 'Sir Walter Rawleigh, for so farre as he hath gon in the History of the World' is regarded by Hakewill as being 'equal with the best of the *Ancients*'¹⁵

By the Restoration period, the empiricist's axiom that seeing is believing had led to a complete disdain for ancient learning, with regard to the subjects of geography and astronomy, by the modern natural philosopher who claimed to base his theories about the physical world upon reason and primary experience In 1675, Robert Boyle, significantly in a treatise setting out to demonstrate the compatibility of the new empirical methodology with traditional theology, writes of classical astronomy

most of the succeeding Mathematicians for twelve or fourteen Ages acquiesc'd in it, yet almost all the modern Philosophers and Astronomers that have search'd into these matters with a readiness to believe their Eyes and allow their Reason to act freely, have been forc'd, if not to reject the whole Theory, yet at least to alter it quite¹⁶

The superior knowledge of contemporary travellers, who had seen with their own eyes what the ancients had only speculated upon, was firmly established One discussion of 'The Origin of Geography' printed in England in 1672 declares that the ancients 'have

¹⁴ Hakewill, *Apologie*, Lib III, Cap 8, sect 2, p 250 The section is entitled, 'defect of the Ancients justly corrected by the Moderns'

¹⁵ Hakewill, *Apologie*, Lib III, Cap 8, section 2, p 251, for a fascinating biography of Raleigh see Stephen Coote's *A Play of Passion* (1993) See Stephen Greenblatt's *Sir Walter Raleigh The Renaissance Man and his Roles* (1973) for a study of the Elizabethan colonisation of America in relation to its pioneer, Raleigh, as a manifestation of eurocentric ideology

¹⁶ Robert Boyle, *Some Considerations about the Reconcilableness of Reason and Religion* (1675), p 83

left us a great many forged and fabulous Stories' and derides those theories based upon 'no certain experience'

The *Geography* of the Antients was very imperfect, and commonly full of false Relations, because they knew little or nothing of those Places of the Earth which are of most consequence to be known, or at least they had no certain Experience about them They knew not that the World could be sailed round, or that the Earth was surrounded by the Ocean in an uninterrupted Continuity¹⁷

One late-seventeenth-century traveller wrote of the ancients 'there is no relying on what they have said' as to matters of geography, 'nor ought we to be surpriz'd at the many mistakes and wrong notions we find in their accounts' given 'how little knowledge' they had¹⁸ Another, assuring his reader that his voyage narrative is comprised only of what he has himself seen, demonstrates the empiricists' naive dependence upon, and faith in, the reliability of visual perception, though interestingly he does so by means of an erudite reference

Thales being ask'd *How far distant is truth from Falsehood?* answered, A Wise Man was of the opinion, that as far as the Eyes are from the Ears Cornelius a Lapide ingeniously says, That those things are undoubtedly true, which a man sees with his Eyes, not those he hears with his Ears What the Eyes see may be affirm'd with safety, what is heard is told with mistrust and apprehension¹⁹

¹⁷ Bernard Varenius, *Geographia Generalis* (1672, 1734), 'The Origin of Geography' p. 8 The first English trans. *General Geography* is printed in Richard Blome, *Cosmography and Geography* (1682), for an examination of the changes in scientific methodology which took place in the seventeenth century see A. Rupert Hall, *The Scientific Revolution 1500-1800, the formation of the Modern Scientific Attitude*, chap. VII, 'The Organization of Scientific Inquiry', pp. 186-216

¹⁸ John Barbot, *Description of the Coasts of Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol. V, p. 3

¹⁹ Navarrete, *Empire of China*, 'The Author to the Reader' in Churchill and Churchill, *Voyages and Travels*, vol. I, sig. *1v

By the latter half of the seventeenth century knowledge of natural phenomena had come to be equated with direct experience. The writings of the ancients had ceased to be upheld as an infallible source of knowledge for the very reason that the primary experience of the ancients was inferior to that of the moderns.

In his *Essay towards the Natural History of the Earth* (1695) John Woodward, a Fellow of the Royal Society and Professor of Physick at Gresham College, reckons contemporary experimental evidence must outweigh the value of classical opinion since the ancients had 'nothing to assist them in their Enquiries besides their own guesses and fancy'. He criticises those 'Moderns' who accept 'the Credit and Tradition of the ancients without due Examination or Enquiry into the Truth and Probability of it'²⁰ and those who accept ancient authority '*on trust*, their over-great deference to the Dictates of Antiquity betraying them into persuasion' that leads to falsehood.²¹ It is his recommendation, then, that classical learning be put to the test of the new experimental method and be rejected if it does not pass this empirical scrutiny. The true 'modern way', he suggests is to look 'a little into *Matter of Fact*' and consult 'History and Geography in order duly to acquaint [oneself] with the *past* and *present* state of the Terraqueous Globe'.²² As we will go on to discover, the belief that the earth had not always been in its present state was a shaping influence on theories of geography in the seventeenth century.

²⁰ John Woodward, *Essay towards the Natural History of the Earth* (1695, 1723), part I, 'An Examination of the Opinions of Former Writers on the Subject', pp. 55-56

²¹ Woodward, *Essay*, part I, p. 62

²² Woodward, *Essay*, part I, pp. 62-63

(ii)

The Problem with Geography.

Art and Experience consulting and conspiring together, to perfect the Science of Geographie²³

The most popular type of printed book dealing with the description of the earth and its regions in the late sixteenth and early seventeenth centuries was the general geographical textbook or *geographia*. Despite the overthrow of ancient authority in texts written by overseas voyagers themselves, these general geographical texts were, ironically, slow to incorporate new developments in cartographical representation and information from voyage accounts and retained a strong reverence for ancient authority. Certainly, standard and popular geographical textbooks such as George Abbot's *A Briefe Description of the Whole Worlde*, which ran to eight editions over the sixty five years it remained in print subsequent to its first appearance in 1599, espoused a view of the world which offered scarcely any information based upon recent discoveries and instead reiterated the geographical ideas of Ptolemy²⁴

These texts invariably followed a set pattern, beginning with an extensive section devoted to describing European countries. This would often account for more than half the text and would be followed by descriptions of Asia, Africa and the Americas in descending order of prominence. The information included comprised an eclectic mix of classical learning, scriptural references and popular conceptions. For example one popular geographical textbook of the early seventeenth century begins its account of Arabia with a scathing, generalised account of its countrymen

²³ Purchas, *Purchas His Pilgrimes* (1625), p 41

²⁴ The geocentric theory of the Universe remained that most usually taught until the middle of the century, around a hundred years after the death of Copernicus

The people [of Arabia] are extremely addicted to theft, which is the better part of their maintenance they hate all sciences, as well Mechanical as Civill, yet boast they much of their Nobility they are of meane stature, feminine voices, swift of foot, raw-boned, and tawny They differ not much from the old *Arabians* who were a vagabond and theevish nation ²⁵

These texts were more concerned with showing political constitutions and perpetuating popular racial stereotypes than with offering a systematic account of particular regions based upon primary evidence Although lists of contributors, which included contemporary travellers, often prefaced these texts, recent sources of specific information were seldom cited within the main body of the texts ²⁶ The author of the general geographia took upon himself the enormous task of supplying an 'Historicall, Geographicall, Politicall, Theologicall' of the 'Great World' ²⁷ Not surprisingly, the presentation of regional geographical description was severely influenced by these other subjects of concern

Another popular type of general geographia placed less emphasis on describing the present state of the world They offered instead an historical survey of the progress of mankind based upon scriptural evidence Accordingly, Purchas's *Pilgrimage* (1613) begins not with a description of Europe, but of Asia, with the first book devoted to charting 'the first beginnings of the World and Religion and the regions and religions of Babylonia, Assyria and Palastine' ²⁸

²⁵ Peter Heylyn, *Microcosmos, or A Little Description of the Great World A Treatise Historicall, Geographicall, Politicall, Theologicall* (1621), 'Arabia', p 609

²⁶ Purchas includes a 'Catalogue of Authors' at the beginning of his *Purchas His Pilgrimage* (1613, 1626) which cites such diverse authors as Solinus, Pliny, Æthiopike Lyturgie, Richard Hakluyt and John Speed, Purchas's marginal references to specific sources are plentiful by comparison to most geographiæ

²⁷ Extract from the full title of Heylyn's *Microcosmos*

²⁸ In fact Purchas does not describe Europe at all His first five books pertain to Asia, books five to seven describe Africa, books eight and nine deal with North America and South America respectively

At a time when knowledge of the earth's surface, derived from the actual experience of seamen, was progressing rapidly and considerable advances were being made in the areas of astronomy and mathematics, one would have expected the subject of geography to have received a great boost. In fact England's Golden Age of Exploration, though bringing with it a profusion of navigational texts and many first-person accounts of regions, did not initiate a comparable flowering of geography as a scientific discipline. In the seventeenth century geography was perceived as having an inherent procedural problem, apparent as soon as one attempted to define the areas of its concern and draw these together into a unified methodology.

The essence of the problem was that it encompassed two distinct types of study which appeared to be essentially diverse in their process yet singular in their objective to draw an accurate and useful representation of the world.²⁹ There was the aspect of geography concerned with formulating mathematical truths about such things as the motion, size and shape of the world and its astronomical positioning. This was the type of physical geography, referred to in the early seventeenth century as *general* or *universal*, which took as its procedural precedent the classical geography of Ptolemy.³⁰ This side of geography, which dealt with calculable formulae, made no provision for the more specific, topographical study of individual regions and environments.

²⁹ Geography, Greek *geo* - world, *graphe* - to draw (Source *OED*)

³⁰ For a survey of ancient geographical ideas see J. Oliver Thomson's *History of Ancient Geography* (1948). See also Christian Van Paassen's *The Classical Tradition of Geography* (1957) for a study of the 'literary tradition' of ancient geographical ideas. Van Paassen states his aim to show 'what the Greeks themselves understood by 'geography' and what they regarded as its aim'. He also tackles the issue of its scientific status, (*Ibid* , p. xii).

Regional description, even if it is entirely dependent upon empirical enquiry focuses on particularities, many of which are unique to specific localities. Indeed, the very value of this type of geographical study lies in its concern with the specificity of place. This is the type of geography, following the classical example of Strabo, which writers of seventeenth-century geographical texts referred to as *special* or *particular*, and which accounted for a majority of the information included in mariners' accounts of voyages to particular geographical regions.³¹ This branch of geography was further subdivided in terms of scale.

We divide Geography into General and Special or Universal and Particular. We call that Universal Geography which considers the whole Earth in general, and explains it's Properties without regard to particular Countries, but Special or Particular Geography describes the Constitution and Situation of each single country by itself, which is twofold, viz chorographical which describes the Countries of a Considerable extent, or topographical, which gives a View of some place or small Tract of the Earth.³²

Topography was the name given to more localised regional descriptions. It not only concerned the description of particular features of landscape, and accounts of local commodities and natural resources, but also dealt with describing the indigenous inhabitants of regions, both in terms of their physical appearance as well as their culture and system of Government.³³ Chorography dealt with the distribution of land masses and the physical relationship of countries to one another, though it is significant that since the demarcation of countries' boundaries is necessarily defined by

³¹ For a clear exposition of Strabo's geographical ideas see E. H. Burnbury's *History of Ancient Geography* (1932, 1959), chaps. XXI, pp. 209-275, XXII, pp. 276-337.

³² Varenius, *Geographia Generalis* (1672, 1734) 'The Division of Geography', p. 2.

³³ Topography, Greek *topos* - spot, *graphe* - to draw (Source *OED*), for sixteenth century definitions of 'geographie', 'hydrographie', 'astronomie' etc see 'Dr John Dee on the Art of Navigation and associated subjects' in David Waters, *The Art of Navigation in England* (1978), vol. III, appendix 8A, pp. 521-524.

political or constitutional units, chorography is always to some extent social in its concerns³⁴

This dual facet of the subject - that it dealt with universal laws as well as regional particularities,- posed a problem for geography because it made it hard to classify it neatly as being entirely within the realms of scientific enquiry Part of it, *general* geography, met the requirements of both Baconian experimentalism and the Cartesian method of gathering generalities which might lead to the formulation of mathematical laws But its other aspect, *special* geography, which constituted so much of the geographical literature being produced in Northern Europe following the voyages of exploration was often concerned with describing not just the physical appearance and attributes of the inhabitants of a particular place, but also their social structures and customs This brought it into conflict with the mechanistic world-view of Descartes, which tended to minimise the importance of social functioning

The problem with trying to bring specific regional description within the domain of the burgeoning scientific methodology is that its findings do not lend themselves to the formulation of laws as obviously as the results of *general* geography

Chorographie is commonly conversant in the accidentall *qualities* of each place, particularly noting unto us which places are barren, fruitful, sandy, stony, moist, dry, hot, cold, plain, or mountainous, and such like properties but *Geography* lesse regarding their qualities inquires rather of the *Quantities, measures, distances*, which places have as well in regard one of the other, as the Whole Globe of the Earth³⁵

³⁴ Chorography, Greek *choros* - part, *graphe* - to draw (Source *OED*)

³⁵ Nathaniel Carpenter, *Geography Delineated Forth in Two Bookes* (1625) chap 1, 'Of the Terrestriall Globe, the matter and forme', p 3

Chorography dealt with specific and often unique aspects of the physical world which cannot be quantified mathematically in relation to the earth overall. This is the unique aspect of geography, dealing with individualised qualities which are particular to specific areas of the earth's surface. It is this inability to replicate the results of regional geography anywhere else which was seen to make this type of study not conducive to the formulation of mathematical laws.

Writers dealing with the terrestrial globe in the early seventeenth century were clearly concerned by this problem of reconciling these two aspects of geography. One, Nathaniel Carpenter, attempted to render the subject of geography scientific in its entirety. He was convinced that geography had a rightful place amongst the sciences and that its position there was constituted not only by its contribution to the physical application of mathematics, but also by virtue of its inclusion of regional description. He proclaims as the opening sentence of his discourse that 'Geographie is a science which teacheth the *Measure and Description* of the whole Earth'³⁶

Carpenter's *Geography Delineated* (1625) does not include passages of geographical description. As its title suggests it is entirely concerned with representing a scheme by which the divergent aspects of the subject may be reconciled. Like Bacon, Carpenter notes the compound nature of geography in his classification of it. Observing 'a doubt seemes to arise, whether this *Science* be to be esteemed *Physicall*, or *Mathematicall*', he goes on to suggest that few could question that geography, including chorography, is a 'physicall' science since its subject is every tangible aspect of the physical earth³⁷. He begins by distinguishing geography from natural philosophy and astronomy.

³⁶ Carpenter, *Geography*, p. 1

³⁷ Carpenter, *Geography*, p. 4. However, he considers it is less appropriate to describe the subject overall as a mathematical science, for this classification concerns not the subject of enquiry but rather the manner in which its results and

The Earth may be considered three manner of wayes First, as it is an Element, out of which mix't Bodies are in part compounded, In which sense it appertains to *Naturall Philosophie*, whose office is to treat of all naturall bodies, their principles and proprieties Secondly, as it supposed to be the centre of heavenly motions, and so it is undertaken by *Astronomers* Thirdly according to its Sphaericall *superficies*, as it is proposed to be measured or described, in which manner it is the subject of *Geographie* ³⁸

Clearly all three of these divisions are inter-related Natural philosophy, the first way of considering the earth, would seem, as the text ensues, to be an umbrella under which astronomy and geography reside in Carpenter's scheme He offers a system for ordering investigation into the natural world similar to that put forward by Bacon in *The Advancement of Learning*, in which astronomy and cosmography (by which he means geography according to Carpenter's definition) are placed within the realm of natural science as a principle sub-division of natural philosophy ³⁹

Accordingly, astronomy and geography have distinct areas of concern, yet both come within the domain of natural philosophy Carpenter, however, does not regard astronomy as having a place within geography, and in his attempt to offer a specific definition of the subject, wishes to eliminate the common practice of using the two words *cosmography* and *geography* synonymously, though he concedes the precedent

observed effects are treated

In a Science two things are to be considered first, the *matter* or object whereabout it is conversant, secondly, the *manner* of handling and explication For the former, no doubt can be made, but that the object in *Geographie* is for the most part *Physicall*, consisting of the parts whereof the Spheare is compos'd but for the manner of Explication, it is not *pure*, but *mix't*, as in the former part *Mathematicall*, in the second rather *Historicall* (Ibid , p 4)

And so he concludes 'the whole Science may bee alike tearmed *Mathematicall* and *Historicall*, not in respect of the *Subject* which we have said to be *Physicall*, but in the manner of *Explication*' (Ibid , p 5)

³⁸ Carpenter, *Geography*, pp 4-5

³⁹ Bacon, *Advancement*, p 99

for this was set by classical writers noting 'amongst the antient Writers, Cosmographie, hath bin taken for one and the self-same science with *Geographie*'⁴⁰
For Carpenter, geography is a subdivision of cosmography⁴¹

According to Carpenter's delineation of the subject, *sphaericall (general)* geography is without doubt scientific because of its preoccupation with quantifiable data that may be organised by mathematical formulae. Here, once again, he is following Bacon's scheme of the divisions of natural philosophy by which 'Sciences Mathematicall' are grouped under natural science and thereby concerned with the investigation of causes. The function of *sphaericall* geography, then, is not descriptive representation but rather an attempt to comprehend and account for origins. It is imperative that the geographer dealing with the physical structure of the earth be acquainted with both pure mathematics, which includes the science of geometry, and mixed mathematics, which includes consideration of the earth's astronomical position. Chorography, however, requires very different skills and good execution of it is not dependent upon a sound understanding of the mathematical sciences for 'a man altogether unpractised in these faculties, might obtain a competent knowledge in *Chorography*'

⁴⁰ Carpenter, *Geography*, p. 5. Here and throughout the text he is tentative in any proposal which reforms classical definitions of geography, professing 'I dare not utterly reject. [received definitions] being strengthened with the authority of ancient and approved Authors' (Ibid., p. 5) and elsewhere making reverential references to 'our approved Ptolomie' (Ibid., p. 1). See comments above concerning the overthrow of ancient authority with respect to geographical learning.

⁴¹ In the sixteenth and seventeenth centuries the word *world* was commonly used to denote not just the earth but the entire solar, and previously geocentric, system (Source: *OED*). Whereas the concern of geography is to describe the earth and its parts, it is cosmography which 'is a description of the whole world' according to Carpenter (*Geography*, p. 1). An understanding of the science of astronomy is, however, necessary as an aid to physical geography according to Carpenter: 'Geographie considering chiefly that quantity, measure, figure, site and proportion of places, requires necessary helps of the Sciences Mathematicall, chiefly of *Arithmeticke, Geometry & Astronomie* without which a *Geographer* would shew himselfe every-where lame and impotent, being not able to wade through the least part of his profession' (Ibid., p. 3).

As we find by experience, some altogether ignorant in the Mathematicks, who can, to some content of their hearer, *Topographically* and *Historically* discourse of Countries as they have read of in books, or observed in their travaile ⁴²

Carpenter repeatedly returns to this problem but seems unable to resolve it. Despite his assurance that geography and chorography are not two distinct subjects 'but are reduced to the one and the self-same' and that the 'scope in this Treatise shall be to joyne them both together in the same', he fails to explain how a task which can be carried out perfectly well by those 'ignorant in the Mathematicks' might rightfully be regarded as scientific ⁴³

Other geographers of the early seventeenth century also acknowledge this problem though none makes such an effort to resolve it as Carpenter. William Pemble, shies away from offering a definitive classification for geography describing it rather as 'an art or science teaching us the generall description of the whole earth' ⁴⁴. His *A Briefe Introduction to Geography* (1630), makes no real attempt to show *general* and *special* geography as having a potential procedural link. Peter Heylyn discusses the various aspects of the subject in the introductions to his *geographiæ*. However, in both texts he goes on to deal exclusively with chorographical and topographical information and is not concerned with demonstrating how the subject treated in this way, might be regarded as being scientific.

⁴² Carpenter, *Geography*, p. 3

⁴³ Carpenter, *Geography*, p. 4

⁴⁴ William Pemble, *A Briefe Introduction to Geography* (1630, fac. reprint 1977), chap. I, 'A generall description and division of Geography', p. 1

(iii)

Geographie is Better than Divinity.

I was then encountered in my passage from Westminster to *White-Hall*, by a tall bigg Gentleman, who thrusting me rudely from the wall, and looking over his shoulder at me in a scorning manner, said in a hoarse voice these words, *Geographie is better than Divinity*, and so passed along ⁴⁵

This intriguing account of a chance meeting with a stranger is told by Peter Heylyn in the preface 'To the Reader' of his *Cosmographie* (1652) by way of explanation 'of the Undertaking and Performance in the Work'⁴⁶ The *Cosmographie* is described by Heylyn as a 'new Book' to replace his earlier, extremely successful *Microcosmos* of 1622 which, he concedes, had 'contracted' so many 'Errors'⁴⁷ in the intervening period that [he] could no longer call it [his], nor look upon it with any tolerable degree of patience'⁴⁸ In his preface, Heylyn ponders inconclusively the possible meaning of the big gentleman's words, though offers no further comment on the aggressive manner in which they were imparted

Whether his meaning were, that I was a better Geographer than Divine, or that Geographie had been a study of more Credit and advantage to me in the eyes of

⁴⁵ Peter Heylyn, *Cosmographie in Four Books, Containing the Chorographie and Historie of the Whole World and all the Principal Kingdoms, Provinces, Seas and the Isles thereof* (1652, 1666), 'To the Reader', sig A2^r

⁴⁶ Heylyn, *Cosmographie*, 'To the Reader', sig A2^r

⁴⁷ Heylyn, *Cosmographie*, 'To the Reader', sig A3^r

⁴⁸ Heylyn, *Cosmographie*, 'To the Reader', sig A2^v, Heylyn, *Cosmographie*, 'To the Reader', sig A3^r Despite his description of the errors as being 'contracted', he does go on to accept some culpability by saying that *Microcosmos* was 'written in an Age, on which the pride of youth and self-opinion might have some predominancies' with the result that he 'thought it freer from mistakes than I since have found it' (Ibid, sig A3^r)

men than Divinity was like to prove I am not able to determine But sure I am I have since thought very often of it ⁴⁹

In fact Divinity had proved a hazardous pursuit for Heylyn, notorious for his capacity to court controversy His long-standing dispute with Bishop Williams, Dean of Westminster Cathedral, under whom he spent four acrimonious years serving as a cleric, gained him notoriety and a reputation for being somewhat petty in his dogged pursuance of his adversary ⁵⁰ The incident with the 'bigg Gentleman' took place on the occasion of Heylyn's examination before a Common's Committee in 1649 to answer for the part he played in the preparation of the case which had resulted in the imprisonment and physical punishment of the Puritan pamphleteer William Prynne, for the publication of his *Histrionastix* ⁵¹

Whilst this does not explain the meaning of the big gentleman's words, it does offer some illumination of their context, Heylyn's activities as a cleric repeatedly brought him into controversy, whereas his geographical texts brought him popularity and praise His involvement with Divinity was highly politicised His High Church affiliation and Royalist sympathies led to his persecution during the Civil War which

⁴⁹ Heylyn, *Cosmographie*, 'To the Reader', sig A2^v

⁵⁰ Charles I and Laud sought to discredit Williams and so appointed Heylyn, their ally, a prebend of Westminster Cathedral where Williams was Dean in 1631 Between then and William's suspension from that office in 1637 by the Star Chamber, Heylyn duly took every opportunity to attack him The failed formal complaint issued by the prebendaries of Westminster Cathedral against Williams which Heylyn headed in 1635 earned the latter the reputation of pettiness in his feud

⁵¹ In 1633 Heylyn assisted Noy in preparing the case against Prynne for indirectly insulting Henrietta Maria, who took part in the performance of masques, by suggesting in *Histrionastix, the Player's Scourge* (1633) that only women without virtue acted Heylyn was one of many adversaries whom Prynne systematically set about prosecuting following the judgement that his previous sentences had been illegal The quashing of his sentence could not restore his ears, both of which had been pilloried nor remove the branding he bore on his cheeks, the letters S L signifying his guilt as a seditious libeller

reduced him to destitution⁵² For Peter Heylyn geography was at least safer than divinity

Certainly, Heylyn executed his geographical studies with less controversy He began to lecture in historical geography at Oxford at the age of only seventeen, shortly after completing his first degree there He was made Fellow of Magdalen College within a year and in 1621 first published his popular *Microcosmos*,⁵³ a traditional geographical text offering a brief description of the whole earth in the usual order⁵⁴ His proposed way of describing the earth is solely dependent upon regional descriptions and falls entirely within the realms of *special* or *particular*

Geographie is a description of the Earth by her parts and their limits, situation, Inhabitants, cities, rivers, and observable matters, with all things annexed thereunto⁵⁵

He marginalises the type of geography referred to as *sphaericall* by Carpenter He

⁵² He refers, in the Preface to his *Cosmographie*, to the period when, having been officially declared delinquent by the Parliamentary Committee, he was forced into hiding simply as the time of his 'vacancy from business' and cites this as another inducement for him to return to his 'younger studies' (Heylyn, *Cosmographie*, 'To the Reader', sig A2^r) He does, however, mourn to the loss of his books which inhibited his progress in preparing the text His library was dispersed when Parliamentary troops raided his home at Alresford in 1642 after it was discovered that he was acting as a scribe for the King at Oxford

⁵³ In fact the first edition of *Microcosmos* did meet with a degree of controversy James VI took exception to Heylyn's observation that the French were a superior nation to the English and Heylyn, claiming that this was a typographical error, omitted the statement from all subsequent editions James took exception to Heylyn's assertion that 'France is the greater and more famous kingdom' Heylyn claimed that in the process of printing the tense of this statement had been altered and that he had intended it to be in the past tense referring to an earlier period during the reign of Edward IV (source *DNB*)

⁵⁴ See comments above sect (11) concerning the usual order in which geographiæ dealt with geographical regions Almost three quarters of Heylyn's text is devoted to the description of Europe Around one fifth of the text concerns Asia The section on Africa is about a third of the length of that on Asia A very short section concerning the Americas concludes the text

⁵⁵ Heylyn, *Microcosmos*, 'The General Praecognita of Geography', p 15

describes chorography as a science though he offers no theory to explain why this type of information should be regarded as scientific

A considerably larger text than the *Microcosmos* both in format and extent, *Cosmographie* expanded upon the information contained in the earlier book not simply by updating it in accordance with more recently gathered information of specific geographical locations, but also by changing the emphasis of the text. Paradoxically, at a time when first-person overseas travel narratives were becoming less concerned with extolling the glory of the English nation and editors were demonstrating an increased willingness to translate European travel accounts,⁵⁶ Heylyn rewrote his geographical textbook placing a greater emphasis on English achievements overseas.

In his opening address 'To the Reader', Heylyn describes himself as 'an *Historian and Geographer*' and equally as 'an *Englishman*, and which is somewhat more, a *Churchman*'⁵⁷ His self-confessed, primary intention is 'to record the History of England and of Christianity',⁵⁸ asserting the 'Rights of the *English Nation*' and England's 'Sovereignty and Dominion in the British Ocean' as well as showing 'the antient and present face of *Christianity*, in all parts of the World'⁵⁹ It is interesting to notice Heylyn's attitude to recording contemporary political events in England. He states emphatically

out of that compassionate affection which a true English-man ought to bear his native Country in my approaches towards these present times I have

⁵⁶ See comments below in Chaps III and IV

⁵⁷ Heylyn, *Cosmographie*, 'To the Reader', sig. A3r. By referring to himself as a 'Churchman' Heylyn implicitly affiliates himself to the abolished Church of England.

⁵⁸ Heylyn, *Cosmographie*, 'To the Reader', sig. [A4]v.

⁵⁹ Heylyn, *Cosmographie*, 'To the Reader', sig. A3v.

forborn to take the least notice of those tragedies of bloud and death which have been lately acted on the Stage of *England* ⁶⁰

Writing in the wake of his recent persecution, Heylyn modifies his allegiance to comprehensive truthfulness. At least his previously unconditional statement on the imperative of truthfulness for geographers and historians which appears in the *Microcosmos* has been omitted from the *Cosmographie*. So in the *Microcosmos* he asserts

It is requisite that the relations should be absolutely true, neither swerving to the one side through malice, nor leaning to the other through affection, so that two things are requisite in an historiographer, 1 a generous and resolute spirit 2 An upright and sincere conversation, that so hee may neither be daunted by a tyrannicall Prince, nor transported with partiality, that he might dare to deliver all the truth without feare, and yet not dare to relate any thing which is false through favour ⁶¹

In *Cosmographie*, whilst he maintains his praise of truthfulness, he nonetheless expresses a new recognition that economy in this respect can sometimes be the wisest policy

Some things are of such a nature, that either to speak of them or to hold our peace is alike unsafe. In such a case it is best keeping at a distance. For though truth be the best Mistress which a man can serve yet it is well observed withall, that if a man follow her too close at the heels, she may chance to kick out his teeth for his labour ⁶²

It is only after this that he addresses his position as geographer 'giving unto every Province its particular bounds, in laying out their several Land-marks, tracing the course of most of the principal rivers, and setting forth the situation and estate of the

⁶⁰ Heylyn, *Cosmographie*, 'To the Reader', sig [A4]^v

⁶¹ Heylyn, *Microcosmos*, 'The General Praecognita of History', p. 25

⁶² Heylyn, *Cosmographie*, 'To the Reader', sig [A4]^v

chiefest Towns'⁶³ Although he orders the countries of the world ostensibly on the basis of their geographical location, he effectively presents them as political units and concentrates on showing the extent and distribution of European empires

In fact, Heylyn does not separate his studies in geography from his political and religious interests as the big gentleman recommends. When he elaborates upon this description of his function as compiler of the text, the order in which he discusses the constituent parts of his authorial position clearly implies that he prioritises his position both as a '*Churchman*' and as an '*Englishman*' above that of his position as either a '*Geographer*' or an '*Historian*'. Above all else, Heylyn sets out to compose a celebration of his own nation, confessing that he has 'apprehended every modest occasion, of recording the heroick Acts of [his] native Soil, and filing on the registers of perpetual Fame the Gallantry and brave attainments of the People of England'⁶⁴ So, although Heylyn states that 'the *History* and *Chorography* of the World be my principal business', the way in which he extrapolates his definition of his own position as compiler of the text, effectively subordinates the role of geographer and indeed historian to politics and the Church⁶⁵

As the century progressed, the attention of those concerned with forging a scientific procedure for dealing with every aspect of natural phenomena focused upon the task of reducing areas of concern to singular specialisms. As a direct consequence of this geography, with its wide-ranging focus, necessarily began to lose its broad-based identity and was broken down into individual areas of concern which might more readily be subjected to specialist study

⁶³ Heylyn, *Cosmographie*, 'To the Reader', sig. A3^v

⁶⁴ Heylyn, *Cosmographie*, 'To the Reader', sig. A3^r

⁶⁵ Heylyn, *Cosmographie*, 'To the Reader', sig. A3^r

(iv)

The Decline of the General Geographical Textbook.

The increasing desire for primary evidence by named observers resulted in a decline in the popularity of general geographical texts. Readers became dissatisfied with this type of text, preferring instead to consult first-person voyage narratives for information about specific regions. In fact very few general geographical texts, attempting to offer a description of all the known countries of the world, were printed after the first appearance of Heylyn's *Cosmographie* in 1652.¹ The only other text approaching the traditional geographical encyclopedia to appear in the latter half of the seventeenth century was Richard Morden's *Geography Rectified or A description of the World in all its Kingdoms, Provinces, Countries* (1680).² The 1671 edition of Samuel Clarke's *Mirroure or Looking-Glass both for Saints and Sinners* (1657) was reprinted with an additional section purporting to offer a 'Geographical Description of all the Countries in the Known World, As also the Wonders of God in Nature'. Its main purpose was to chart the history and progress of Christianity throughout the world, an end which Clarke pursues with a zeal that outstrips either Purchas in his *Pilgrimage* or the *Churchman*, Peter Heylyn. Clarke's *Geographical Description* is little more than a miscellany of marvels. Its preoccupation with extraordinary phenomena, 'the rarest Beasts, Fowls, Birds, fishes, and Serpents', is reminiscent of medieval encyclopedias of natural phenomena and unlike the natural histories and first-person voyage accounts being produced contemporaneously.

¹ Heylyn's text continued to be popular, however *Cosmographie* reached its eighth edition in 1703.

² Richard Morden also wrote a more specialist geographical text, *An Introduction to Astronomers, Geographers, Navigators and other mathematical sciences made easie by the description and uses of the coelestial and terrestrial globes* (1702). See comments in Chap. III (111) concerning criticisms made by voyagers themselves of the reliability of data in general geographical textbooks. They specifically cite the works of 'Mr Morden' and 'Dr Heylyn', which includes information at variance with their personal observations.

The only text to appear in English for the first time during this period to deal theoretically with the subject of geography and make any attempt at tackling the issue of defining the boundaries of its concerns, was Bernard Varenius's *Geographia Generalis*. In terms of chronology, this is a problematic text with which to deal when considering the progress of geography in seventeenth-century England. First published in Amsterdam in 1650, it was neither published in England nor translated into English until 1682. So, although it is a text conceived in the early half of the century, its popularity in England did not begin until the 1680's.³ Furthermore, the English translation of the text was published together with the Nicolas Sanson's regional descriptions of the world. In this way a theoretical text concerned with the definition of geography, like Carpenter's *Geography Delineated*, was presented to the English readership as an adjunct to a series of regional descriptions.⁴

Gazettes, such as Edmund Bohum's *Geographical Dictionary* (1688) and Laurence Echard's *Most Compleat Compendium of Geography* (1691), which simply tabulated place names in alphabetical order indicating their geographical location, were popular and, indeed, aimed at a wide audience, often 'made in a pocket Volume, designed for all such as frequent *Coffee-Houses*'⁵. These were not ostensibly intended as an end in themselves, but rather 'for the true understanding of all *Modern Histories* which without such helps as these can be of little use to those' who lack a good knowledge of geography. Certainly, gazettes were works of reference intended as secondary texts to clarify the location of places referred to elsewhere, as the very title of another of Echard's gazettes, *Newsman's Interpreter*

³ Prior to the appearance of the English trans. of Varenius's *General Geography* in *Cosmography and Geography* (1682), a review of the original text *Geographia Generalis* (1650) printed in England in 1672, appeared in *Phil Trans*, no 91 (1673) p 5172

⁴ Varenius begins his text by offering 'A few Particulars as to the Nature, Use and Design of Geography'. In his extensive introduction, he defines geography according to Bacon's scheme as being 'part of mix'd Mathematics, which explain the state of the Earth' (*Geographia Generalis*, p 2)

⁵ Laurence Echard, *Most Compleat Compendium of Geography* (1691), sig a3r

(1692) implies It purports to offer an encapsulation of the earth's surface within the framework of a continuous list of names organised alphabetically to assist those 'not extraordinary well-skilled in *Geography*' to understand matters requiring a knowledge of the location of countries and their political principalities⁶ The popularity of texts like this is partly attributable to their comforting allure that a basic understanding of the world might be acquired by acquainting oneself with place names

Similarly, Patrick Gordon's *Geography Anatomiz'd or the Geographical Grammar* (1693), despite its grand claim to offer '*a Short and Exact Analysis of the Whole Body of Modern Geography*,' is, by the author's own admission, an amalgam of extracts from texts previously published centring around a long list of countries and principalities, cities and towns So, like Echard, Gordon might also be seen as appropriating the subject of geography as an aid to understanding political and civil history, thereby implicitly demigrating its status as a science His alluring assertion that his text employs '*a New and Curious Method*' transpires to be a reference to the fact he offers directions for locating the listed place names on contemporary maps

The idea of placing studies of natural phenomena and geographical regions in the context of praising God persisted Indeed, there was a vogue for physico-theological texts⁷ The Fellows of the Royal Society were aware that the new natural

⁶ In 1676 a set of playing cards was published '*showing the whole world whereby Geography may familiarly and easily be learned by all sorts of People*' (Source E G Cox, *Reference Guide to the Literature of Travel*, 3 vols (1948-50))

⁷ In fact the term *physico-theology* was first used by William Derham, *Physico-Theology, Demonstration of the Being and Attributes of God from the Works of Creation* (1712, 1719) though to apply it to slightly earlier texts does not seem anachronistic since they are the very one's to which Derham refers as examples of physico-theology His text was originally conceived as one of the *Boyle Lectures for the Defence of Christianity against unbelievers* and follows John Ray's *Wisdom of God in the Creation* (1691), to which Derham frequently refers, as a text concerned with demonstrating the presence of God in nature 'and therefore Atheism unreasonable' (Ibid , p [xv1])

philosophy was often criticised for being too secular, its adherents accused of being 'professed Theists' who yet have the 'Tang of the *Mechanically-Atheistick Humour* hanging about them'⁸ Many engaged in natural philosophy or physico-mathematics in the Restoration period wrote texts designed to demonstrate the compatibility of their studies with theology They attempted to show that their efforts to comprehend their physical environment and give mathematical expression to the laws governing it celebrated the 'Wisdom of God' rather than simply gratifying their own desire for knowledge Using the popular analogy of the world as a text written by God, Robert Boyle aimed to show that he and his colleagues at the Royal Society were not 'selfish Naturalists that aim but at the pleasing of themselves in the attainment of knowledge' but instead might more properly be termed 'Religious Naturalists' motivated in their studies 'not only by the pleasantness of the knowledge itself, but by a higher and more engaging Consideration, namely, that by the Discoveries they make in the Book of Nature, both themselves and others may be excited and qualified the better to admire and praise the Author'⁹

(v)

God's Other Book.

The relationship between a text and its author had long been used as a metaphor for the natural world and God as its creator The world was perceived as comprising an elaborate sign system waiting to be discovered and its purpose revealed, a complex, infinitely interrelated message presenting itself to man for decipherment¹⁰ If these visible marks or *signatures* were read correctly they would

⁸ John Ray, *The Wisdom of God*, pp 41-42, it was originally written as a college exercise or 'Commonplace' at Cambridge

⁹ Robert Boyle, *The Excellency of Theology Compared with Natural Philosophy* (1674), p 220

¹⁰ Michel Foucault maintains that in the Renaissance attempts to understand the natural world centred around interpreting correlations between things and was therefore dependent upon a capacity to recognise the complex ways in which

alert the *reader* both to the glory of the *creator* and the usefulness of all things to man ¹¹

In his *Theory of the Earth* (1684), Thomas Burnet describes the natural world as being 'Like a fiction [a] text. [with] a *Plot* or *Mystery* pursued throughout the whole work and certain Grand Issues or Events upon which he rest depend' explaining that 'these things we do not make up or contrive ourselves but find and discover them, being made already by the Great Author and Governor of the Universe'

things resemble one another He cites the following examples as evidence that those concerned with writing texts about natural phenomena saw their task as being one of interpreting signs and recognising signatures *written* into the very stuff of nature Oswaldus Crollius, in his significantly entitled history of plants *Traite des Signatures* (1624), clearly sees nature as a mass of encoded information waiting to be made sense of and offering itself up for discovery by the astute observer

It would seem that the herbs speak to the curious physick through their signatures, discovering to him their inner virtue hidden beneath nature's veil of silence

(Cited in Foucault, *Order of Things*, p 27)

Similarly Paracelsus contends in *Die 9 Bucher der Natura Rerum*

It is not God's will that what he creates for man's benefit and what he has given us should remain hidden And even though he has hidden certain things, he has allowed nothing to remain without exterior and visible signs in the form of special marks, just as a man who has buried a hoard of treasure marks the spot that he may find it again

(Cited in Foucault, *Order of Things*, p 26)

¹¹ This unquestioned premise that all creation is a gift 'for man's benefit' continued to have a hold until the beginning to the eighteenth century According to William Derham, writing in 1712, even the most malevolent creatures were created for the benefit of man One of the detailed footnotes which adorn almost every page of *Physico-Theology* reveals that lice were created to 'oblige us to cleanliness, *Weezles*, *Kites*, and other mischievous Animals, induce us to watchfulness *Moles* to good Husbandry' and so on (Ibid, p 82, n r) Similarly, the structure of the earth has, he considers, been designed to be aesthetically pleasing to man, so that mountains and vallies exist because this 'structure of the earth is the most Beautiful and pleasant' to behold (Ibid, pp 70-71) Nehemiah Grew is also keen to show that *creation* has been organised to benefit man He observes that the northern countries 'have greater Plenty of Furrs, to keep the People warm' (Grew, *Cosmologia Sacra* (1701), p 99) and he observes that 'of the great variety we have of Minerals, Animals and Plants, how few are Noxious compared with those which are Friendly to us? And in every Species of those which are the most useful to us we have the greatest Plenty' (Ibid, p 99), see Keith Thomas's *Man and the Natural World* (1981) for a detailed survey of the decline in the *anthropocentric* world view

And when they are clearly discovered, well digested, and well reasoned in every part, there is more of beauty in such a Theory than on any poem or Romance'¹²

It seemed, therefore, 'not Incongruous to conceive that [the] most Excellent and Glorious Being thought fit to order things so that both His *Works* and *Actions* might bear some Signatures, and as it were Badges of His Attributes, and especially to stamp upon His Corporeal Works some Tokens or Impresses, discernable by Human Intellects, of His Divine Wisdom'¹³ In the later seventeenth century, attempts to *read* the natural world were less analogical than they had formerly been and more concerned with determining the mathematical principles which governed its continued existence¹⁴ Instead of seeking individual analogies on the basis of similitudes, natural philosophers of the Restoration period sought general laws which

¹² Thomas Burnet, *Theory of the Earth* (1684, 1697), 'The Preface', sig a1^v

¹³ Boyle, *A Free Enquiry Into the Vulgarly Receiv'd Notion of Nature* (1685), pp 398-399

¹⁴ Analogical interpretations of nature in the sixteenth century and early seventeenth century are easily found Crollius notes that walnuts are useful in curing ailments and injuries of the human head He then elucidates this by a process of interpreting resemblances The visual resemblance between the shell of the nut and a skull is a sign that 'wounds of the pericranium' may be salved by the protective rind of the nut Likewise the nut which shelters beneath the skull-like shell 'is exactly like the brain in appearance' indicating an affinity to the human brain suggesting it may assist in curing its ailments Similarly Crollius observes the seeds of the aconite plant resemble the human eye and are covered in a skin-like membrane resembling an eyelid, indicating the plants usefulness in curing diseases of the eye (cited in Foucault, *Order of Things*, p 27) These medicinal remedies are founded on the interpretation of visual resemblances rather than on experimental evidence of their effect on administration to the patient The recognition of resemblances and the alleged reading of signs in nature are sufficient to endorse this medicinal claim for the plant It is not dependent upon diagnostic observation The doctrine of analogy continued to have a hold in the later seventeenth century Violas were popularly believed to be beneficial to those with coronary conditions due to the arrangement of their four principal petals, which, it was considered, resemble a human heart Hans Sloane who presided over the Royal Society's physick garden, grew violas to test the efficacy of this medicinal claim through experimentation, Purchas notes that 'some have found *signatures* of Nature's own Impression fitted to their severall and especiall uses in Physicke, finding out a strange harmony and likeness in this greater and lesser World' His marginal note indicates that he refers here to Crollius's *Signatures* (Purchas, *Pilgrimage*, 'Of the Indian Trees, Fruits, and strange Plants', p 566)

might reveal a unified message Their aim was to determine the 'Rule, or rather a Systeme of Rules' designed 'by the Great Author of Things' to render the natural world understandable to man ¹⁵

This pursuance of a decipherable meaning *written* into the natural world is manifest in reactions to apparently random features of natural phenomena Boyle wonders why the stars 'are not more orderly plac'd, so as to make up Constellations of regular or handsome figures but seem to be scatter'd in the skie as it were by Chance, and have as confus'd Configurations as the Drops that fall upon ones Hat in a shower of Rain'¹⁶ Of course, admitting himself to the ranks of 'Religious Naturalist', Boyle does not imply that such apparently incongruous irregularities demonstrate imperfection on the part of 'the most Wise Author', but rather accents the 'dim-sightedness' of man And so, in another of his works, Boyle concedes that seemingly chaotic and irregular manifestations of creation are 'in fact are part of a grand design we can not yet comprehend'

I think it very possible that an Artificer of so vast a comprehension and so piercing a Sight as is the Maker of the World might have so order'd things that divers of them may appear to us to as it were break out, abruptly and unexpectedly and on such accounts be thought Irregular, which yet really have a reference that would, if we discern'd it, keep us from imputing it either to *Chance* or to *Nature's Aberration* ¹⁷

¹⁵ Boyle, *Free Enquiry*, p 253

¹⁶ Boyle, *Excellency of Theology*, p 178

¹⁷ Boyle, *Free Enquiry*, p 247 Later in the same text he repeats this idea writing, 'Several *Phænomena*, which seem to us Anomalous, may be very Congruous or Conducive to those Secret Ends and therefore are unfit to be censur'd by us dim-sighted Mortals' (Ibid , p 402) This was a common conception Nehemiah Grew states that all natural phenomena has a 'due and perfect order' and anything which appears disordered simply implies 'some Ignorance, of the best Use of Things' (Grew, *Cosmologia Sacra*, book III, chap I, 'Of Providence' p 87) He too attributes failure to recognise this to man's blindness, believing 'Regularity, or the Order of Things, tho' we see it not every where, yet it is every where to be supposed hidden order assumed order' (Ibid , p 87)

In his *A Free Enquiry Into the Vulgarly Receiv'd Notion of Nature* (1685) he elucidates this idea by presenting an anecdote, significantly in the form of a traveller's tale, in which Jesuit missionaries offer a striking clock as a gift to the King of China

these *Chineses*, that look'd upon it as a living Creature or some *European* Animal, recognising the pattern of its regular striking on the hour accepted this as a normal part of its functioning to be expected 'but when the Alarm which had been set for one o'clock came unexpectedly to make a loud, confused and more lasting Noise, they could scarce avoid thinking that the Animal was sick, or exceedingly disordered And yet the Alarming noise did as properly flow from the structure of the little Engine and was as much designed by the Manager of it, as those Sounds of the Clock that appear'd manifestly Regular¹⁸

Later in the same text he makes this point yet again This time he explicitly compares man's attempts to understand the natural world to the decipherment of a partially encoded text

As if we suppose an excellent letter about several subjects, and to different Purposes, whereof some parts were written in plain characters, others in cyphers, besides a third wherein both kinds of writing were variously mix'd to be heedfully perus'd by a very intelligent Person, if he finds that those Passages, that he can *understand* are excellently suited to the scopes that appear to be intended in them, it is Rational as well as Equitable in him to conclude that the Passages or Clauses of the third sort, if any of them seem to be insignificant or even to make an Incongruous Sense, do it but because of the illegible Words, and that both these Passages would be found no less worthy of the excellent Writer, than the plainest parts of the Epistle, if the particular purposes they were designed for were as clearly discernable by the Reader *by this way* of ordering Things so that in *some of God's Works* the

¹⁸ Boyle, *Free Enquiry*, p 248

Ends or Uses may be manifest, and the exquisite fitness of the Means may be conspicuous and in *others* the ends design'd seem to be beyond our reach ¹⁹

(vi)

Theories of the Earth.

The botanists John Ray and Nehemiah Grew, both Fellows of the Royal Society and both Masters of Divinity, were anxious to assert themselves as 'Religious Naturalists', respectively writing texts entitled *Wisdom of God Manifest in Creation* (1691) and *Cosmologia Sacra* (1701) to offer a theological context for their other writings which were sometimes perceived as controversial in content ²⁰ These were both texts concerned with decoding and discovering the hidden principles of order by which the natural world was structured Ray and Grew were among many natural philosophers eager to show the world as an autonomous mechanism, yet with the blueprint of God's scheme ever present and adhered to in the continuance of the created world

In an attempt to resolve the conflict between chance or constant divine interference in nature, those concerned with devising theories of the earth which appear consistent with theology conceived a doctrine which represented nature as having a capacity to operate independently whilst remaining subservient to God In this way God's influence could be seen as continuing to be exerted without it being

¹⁹ Boyle, *Free Enquiry*, pp 402-404 Significantly, unlike many of his contemporaries including Newton, Boyle did not think that logically everything can be understood They believed some things are 'discernable by our dim Reason, but others are probably not to be penetrated by us, but lye concealed in the deep Abyss of his Unfathomable Wisdom' (Ibid , p 398) In this way, he concludes 'the most Wise Author of them does both gratifie our Understandings and make us sensible of the Imperfections of them' (Ibid , p 404)

²⁰ These texts attempt to offer a theory to explain natural phenomena which is at once consistent with Biblical exegesis and contemporary scientific ideas, Grew was the first to put forward the theory of the sexuality of plants which was perceived as controversial Ray was very interested in this idea

necessary to suppose him behind every action. This idea of nature as an executive instrument was named, initially by Matthew Hale and reiterated shortly afterwards by Ralph Cudworth, as the *Plastic Nature*.²¹ The continuance of species is, Matthew Hale considers, surely more than simply the result of the execution of mechanistic principles.

The Mechanistic Theists make God but a Spectator in the Fortuitous Motion of Matter, and render his Wisdom altogether useless and Insignificant²²

Continuing his clear attack on the mechanistic world-view, he states that 'to suppose all things to come to pass Fortuitously or by the Unguided Motion of Matter, [is] a thing altogether as Irrational as it is Atheistical and Impious'.²³

Ralph Cudworth discusses the plastic principle in his *Intellectual System* (1678), describing it as an unseen agent which perpetuates and ensures the progress of nature. For him '*Plastick Nature*' is 'a Subordinate Instrument of divine Providence, in the orderly Disposal of Matter'

If there be no Plastick Artificial Nature admitted, then it must be concluded that either all things came to pass by Fortuitous Mechanism (the Motion of Matter unguided) or else that God doth do all things himself Immediately

²¹ *DNB* names Cudworth as the originator of the theory of 'plastic nature' in his *Intellectual System* (1678), (the imprimatur dated 1671 is incorrect, though this does not account for the attribution of inventing the term to Cudworth since *DNB* dates the text correctly). In fact it was used earlier by Matthew Hale in his *Primitive Origination of Mankind Considered and Examined according to the Light of Nature* (1677). As early as 1646 Thomas Browne refers, in his *Pseudodoxia Epidemica*, to 'a plastic or formative faculty which erected bones, membranes, veins and arteries' (Source *OED*). However, Hale is the first to elaborate upon this theory. Ray discusses the plastic principle in *Wisdom of God*, p. 42 ff.

²² Matthew Hale, *Primitive Origination*, p. 190.

²³ Hale, *Primitive Origination*, p. 191, during 1670's Bacon's influence declined and Fellows of the Royal Society, most notably Newton, paid increasing attention to the mathematical, rationalist approach of Descartes.

and Miraculously, framing the Body of every Gnat and Fly, as it were with his own hands' ²⁴

He is anxious to assert that 'plastic nature is a single presiding agent instigated by God and he concludes 'though it be not reasonable to think that every Plant, Herb and Pile of Grass hath a Plastick Soul of its own there may possibly be one Plastick Inconscious Nature, in the whole Terraqueous Globe by which all things [are] perform'd which transcend the Power of Fortuitous Mechanism' ²⁵

Also fearing accusations of impiety, those engaged in physico-mathematics were keen to demonstrate their recognition of the continued presence of God in the created world. A major preoccupation of those attempting to formulate mathematical laws in search of a 'theory of the earth' was to reconcile the present state of the earth with the Biblical account of creation and with the changes to the physical state of the earth's surface subsequent to the Flood. Claiming to show that 'the study of Geography is exceeding useful in the reading of the Holy Scriptures'²⁶ they sought to assert the compatibility of the new philosophy to theology, to show, as Boyle intended, that religion and reason are not irreconcilable ²⁷ They supposed that if the

²⁴ Ralph Cudworth, *The True Intellectual System of the Universe wherein All the Reason and Philosophy of Atheism is confuted, and its Impossibility Demonstrated* (1678), chap III, 'The Digression concerning the *Plastick Life of Nature* or an *Artificial, Orderly and Methodical Nature*', p 178

²⁵ Cudworth, *Intellectual System*, p 181, the *plastic principle* was often used to explain monstrosities and anomalies since 'Plastick Nature, cannot act Electively or with Discretion', Nature acts as a servant to reason and is 'the Executioner of it' This explains 'those Errors and Bungles when the Matter proves Inept arguing the Agent not to be Irresistible (Boyle, *Free Inquiry*, p 176), Boyle has reservations about the widespread application of the term He is willing to concede that humans are endowed with 'plastick power' but will not extend this principle to the continuance of other species He refers to women's capacity to gestate children as the 'Plastick Skill of Women' (Ibid , p 288), yet notes with reservation that 'Nature is spoken of as a personified Plastick Principle' He disagrees that the effects of creation should be seen as '*Works of Nature*, and the Changes that are observ'd in them the Phaenomena of Nature' he sees no need to acknowledge any architect besides God' (Ibid , p 74)

²⁶ Thomas Burnet, *Theory of the Earth* (1684, 1697) p 2

²⁷ Boyle, *Some Considerations Touching the Reconcilableness of Reason to Religion* (1675)

world is a mechanism, albeit presided over by its maker, then it must be governed and structured by laws which, it is reasonable to suppose, might be given mathematical expression

In 1695, the mathematician and 'Professor of Physick' at Gresham College, John Woodward (F R S), published *An Essay towards a Natural History of the Earth*. The framework upon which he hangs his theory of the physical structure of the Earth is an 'Account of the Universal Deluge and the Effects it had upon the Earth'²⁸ He describes how the entire structure of the globe changed as a result of the Flood 'and that the present Earth consists and was formed out of that promiscuous Mass of Sand, Earth, Shells and the rest subsiding from the Water' His central thesis is that 'the Deluge was not sent only as the Executioner to Mankind but that its prime Errand was to reform and *new-mold* the Earth'²⁹ In this way he obviates the necessity to reconcile the current physical state of the earth with its description in Genesis

The following year another mathematician, the Cambridge professor William Whiston, published *A New Theory of the Earth* (1696)³⁰ Relying heavily on Woodward's *Essay*, though not always agreeing with him, Whiston's text is very much that of a mathematician. It is filled with specific computations and driven by the formulation of mathematical laws to prove that the present state of the earth is compatible with the accounts in scripture³¹ Systematically dealing with 'the

²⁸ Woodward, *Essay*, extract from full title of the text, it is reviewed in *Phil Trans*, no 217 (1695), p 115

²⁹ Woodward, *Essay*, p 93

³⁰ William Whiston, *A New Theory of the Earth from its Original to the Consummation of All Things* (1696, 1725)

³¹ Whiston frequently states that he disagrees with Woodward. He accuses him of impiety over his theory of the *new-molding* of the earth subsequent to the Deluge

his Hypothesis is so strange and so miraculous in all Parts, 'tis so wholly different from the *Mosaick* History of the Deluge that I cannot but dissent from this particular Hypothesis tho' I frequently refer to the *work* it self

(*New Theory*, pp 276-277), Whiston makes much use of recent maps and sea

Creation of the World in Six Days, the Universal Deluge and the General Conflagration' his thesis is to demonstrate, with reference to modern mathematics, that '*Holy Scriptures are perfectly agreeable to Reason and Philosophy*'³² So, for example, he offers detailed calculations concerning the chronology of the Deluge³³ and, without denying divine intervention, attempts to offer a rational explanation for the quantity of water necessary to subsume the surface of the globe He provides a detailed and mathematically substantiated hypothesis that the flood was caused by a comet which cracked the surface of the earth³⁴

The most extraordinary and certainly the most controversial physico-theological text of the period was that of Thomas Burnet simply entitled, *Theory of the Earth* (1684)³⁵ Burnet maintained that the antediluvian earth was comprised entirely of land and resembled a giant egg containing the waters which burst forth through this outer shell constituting the deluge and the broken fragments of the earth's original surface to form the mountains when the waters subsided Burnet states his intention in writing the text as being 'to justify the Doctrines of the *Universal Deluge* and of a *Paradisiacal State* to see those pieces of most ancient History, which have been chiefly preserv'd in Scripture, confirmed a-new, and by another Light, that of Nature and Philosophy'³⁶ However, his text seems to advocate abandoning scriptural exegesis altogether if it seems to contradict the precepts of the new philosophy, suggesting 'it is no fault to precede from the literal sense of Scripture when it is inconsistent with Science, or experience for Scripture never undertook nor was ever designed to teach us philosophy or the Arts and Sciences'³⁷

charts in his text

³² Extract from full title of Whiston, *New Theory*

³³ Whiston, *New Theory*, p 142

³⁴ Hale also considers in detail the antediluvian world and the impact of the Flood on the structure of the globe and the distribution of its inhabitants in his *The Primitive Origination*

³⁵ Burnet, *Telluris Theoria Sacra* (1681) trans *Theory of the Earth* (1684, 1697)

³⁶ Burnet, *Theory*, 'The Preface', sig a2^r

³⁷ Burnet, *Theory*, p 2, inversely, there it is problematic to interpret natural

Not surprisingly, his *Theory* caused considerable controversy³⁸ In 1692, Burnet published *Archaeologiae Philosophicae* to reconcile his theory with Genesis, but his reconstruction of a conversation between Eve and the serpent only served to cause further considerable offence³⁹

One issue which can be seen repeatedly perplexing writers in the later seventeenth century was how the New World came to be populated Matthew Hale notes the problem incumbent with recent discovery of highly populated Americas He is concerned on two counts, first, the common parentage of all the earth's inhabitants and second how these remote areas were repopulated subsequent to the Flood Not conceiving of the earth's oceans as a product of the post-diluvian world in the way that Burnet does, Hale ponders how the sons of Noah might have reached these parts since 'the whole Continent of *America* and the adjacent Isles thereof are no way contiguous to any parts of *Asia*, *Europe* or *Africa*' but 'disjoyned from the same by huge and vast Oceans' and besides 'it was a World wholly unknown to the Europeans Africans and Asiaticks till the Discovery but in late time'⁴⁰ He

phenomena through scripture

'tis a dangerous thing to engage the authority of Scripture in disputes about the Natural World, in opposition to Reason, lest time, which brings all things to light, should discover that to be evidently false which we had made Scripture to attest (Ibid, sig [A4]r)

³⁸ Erasmus Warren attacked this controversial theory in 1690 in *Geologia, or a Discourse Concerning the Earth Before the Deluge*, answered by Burnet the same year, see also responses by John Keill, *An Examination of Dr Burnet's Theory of the Earth* (1698), Robert St Clair in *The Abyssinian Philosophy Confuted* (1697), Herbert Croft, *Some Animadversions upon a Book intituled The Theory of the Earth* (1685), John Beaumont in 1693 (see below)

³⁹ This led Burnet to publish a letter of apology, 'Ad Clarissimum virum A B' Two years later his theory of the flood was attacked on scientific grounds by the geologist and correspondent to the Royal Society John Beaumont, *Considerations of a Book intituled The Theory of the Earth* (1693)

⁴⁰ Hale, *Primitive Origination*, pp 182-183, Furthermore, Hale wonders how, and indeed why, the 'noxious untouchable beasts' found only in that continent were transported there by the Noah's sons And so, contrary to the traditional anti-evolutionist belief he tentatively suggests that new species must have evolved, or, as he vaguely puts it, 'happened there' in the intervening period (Ibid, pp 201-203), one seventeenth-century writer of imaginary voyage prose fictions, Denis Vairasse [Capt Siden, pseud] suggests that Angels were employed to transport appropriate flora and fauna to the 'southern continent' See discussion

concludes with a suggestion which earlier in the century Purchas had stated that he 'dare not thinke' ⁴¹

Since we have no probable Evidence that any of their [Noah and his direct descendents] traduced the first American plantations being so divided from the rest of the World the access thither so difficult (and Navigation being a recently perfected art) Consequently the *Americans* derive not their Original either from *Adam* or, at least, not from *Noah*, but either had an Eternal secession or, if they had a beginning, they were *Aborigines* and multiplied from other common Stocks than *Mosaical* History imports ⁴²

Burnet offers a controversial explanation for the unexpected population of the Americas and further to endorse the possibility of an inhabited antipodean continent. Whilst maintaining that the Flood was universal he thinks it is likely that just as God made provision for man in Noah so, in those parts of the world then unbeknown to Noah, God made similar provision 'that the race of Mankind might not be quite extinct in any' continent ⁴³

of *History of the Sevarites* (1675-9) in Chap V, Nehemiah Grew sought to explain the fact that descendents of Adam might be black by supposing that 'negroes' would gradually turn white if they bred for generations outside the 'torrid regions' (*Cosmologia Sacra*, p 185)

⁴¹ Purchas distances himself from the suggestion that 'the great Deluge in the dayes of *Noah* drowned not these parts, because men had not here inhabited, who with a deluge of sinne, might procure that deluge of waters' (*Pilgrimage* (1613, 1626), p 791)

⁴² Hale, *Primitive Origination*, p 183

⁴³ Burnet, *Theory*, p 185 He believes 'twere great presumption to imagine that Providence had a care of none but us' (*Ibid*, p 185), given his theory of the antediluvian world as a solid egg he has no difficulty conceiving of them as descendents of Adam since their passage to those regions would have been uninterrupted by the oceans which now separate the continents Peter Heylyn demonstrates an early belief in a form of continental drift in *Microcosmos*, p 348

The sea violently beating on some small *Isthmus* weareth it through, and turneth the *Peninsula* into a compleat Isle Thus was *Sicilie* divided from *Italie* *England* from *France* and *Wight* from the rest of *England* In *Phil Trans*, no 232 (1697), p 674, is an account by Hans Sloane entitled 'The *Fossile Tongue* of a *Pastinaca Marina* frequent in the *Seas* of *Jamaica*, and lately dug up in *Mary-land* and *England*' which debates the possibility of this occurrence being attributable to continental drift

By the end of the seventeenth century, then, the only texts regularly being written which dealt with the description of the earth, other than first-person voyage narratives, were theories of the earth with a religious emphasis. These attempted to explain the present state of the earth as being consistent with the 'Mosaick History of the creation' rather than with reference to astronomy or anything comparable to modern geological science⁴⁴

(vii)

The Rise of First-Person Voyage Narratives.

The decline in the popularity and production of general geographical texts in England in the latter half of the seventeenth century was not indicative of a lack of interest among the reading public for information about distant regions of the world. It was rather that the form of this type of book was increasingly appearing unsatisfactory to readers desirous of current information drawn from personal experience instead of reported accounts, often not attributed a named individual, and interspersed with material derived from sources which were no longer unquestionably accepted.

In the Restoration period, the first-person voyage narrative, prompted by a concerted effort to promote it among some influential figures, developed and flourished to an unprecedented extent. In this later period only primary evidence was seen as being authoritative on matters of *special* or regional geography, as one seventeenth-century traveller explains in the preface of his own personal narrative:

If he who takes Pen in hand is not an Eyewitness, or is not fully inform'd of what he commits to writing, but only relies on and trusts to other Men's

⁴⁴ Extract from full title of Whiston, *New Theory*

Accounts, which he credits without examining into them, his Reputation will certainly be in danger and the Sincerity of his Work be call'd in question ⁴⁵

So, the notion that it is possible to consult a single text in order to learn about the world was superseded by a desire to read about particular locations by those who had actually been there. Rather than trusting to the opinion of one all-encompassing narrative voice, readers came to consider 'a world of Authors [is] fitter for the purpose, than any One Author writing of the World' ⁴⁶

First-person travel narratives were not only more consistent with the new empirical method, but were perceived as having a greater capacity to engage the reader. The first-person voyage narrative offered those who 'will not stir an Inch from Home to be inform'd' about the world, the opportunity of sharing in the adventure of travel. It offered the reader a greater sense of what it is like to travel to the location described. The first-person narrative construction presented details of the responses of individuals to particular conditions and described specific incidents rather than offering a general survey of a place. This had the effect of instilling in the reader a sense of involvement and empathy with the traveller which the general geographical textbook, with its generalised comments attributed to no particular individual and devoid of any description of personal endurance or hardship, could not do. The capacity of the first-person account to capture the imagination of the reader (something more usually attributed to fiction⁴⁷) and transport him metaphorically to the location described, was often emphasised to advertise a text. In his laudatory preface to Robert Knox's *Historical Relation of Ceylon* (1682), Robert Hooke praises the author for, what he describes as, effectively bringing the places he had visited back with him that he might share the very experience of being there with

⁴⁵ Navarrete, *Empire of China*, 'The Author to the Reader' in Churchill and Churchill, *Voyages and Travels* (1704), vol I, sig *1^v

⁴⁶ Purchas, *Pilgrimes*, 'To the Reader' vol I, sig [¶5]

⁴⁷ See Chap V for a discussion of imaginary voyage prose fictions

his readers Hooke explains 'though he could bring away nothing almost upon his Back or in his Purse, did yet Transport the whole Kingdom of *Cande Uda* in his Head' so that the reader may be held captive for the duration of the narrative as securely, Hooke surmises, as the author was taken captive by the native people ⁴⁸

The idea that the travel narrative might serve to some extent as a substitute for travel itself was a popular one in an age when so few educated men would ever see beyond Europe Purchas's hope that his readers will 'use them as a Prospective Glasse, [to] take easie and neere view of those remote Regions, People, Rites, Religion' was a sentiment asserted frequently in the latter half of the century ⁴⁹ That voyage narratives might offer the advantages of travel by proxy is expressed by Richard Blome, in 1682 in his trans of Varenus's *Geographia Generalis* He suggests the best accounts of regional description conjure in the mind of the reader an image of the place described which goes some way towards compensating him for his inability to go there in person

if we cannot so well Travel with the Body, yet at least we would visit, behold and contemplate it in our Minds, for its beauty, admirable elegancy and the Honour of the Creator ⁵⁰

The publisher's of John Nieuhoff's, *Remarkable Voyages and Travels into Brasil*, suggest he succeeds in 'so plainly representing all things observable or strange there, that with the help of his Cuts we [the readers] seem to be conversing with the

⁴⁸ Robert Hooke, 'The Preface' in Knox *Historical Relation of Ceylon* (1681), sig [(a) 3]' *Errata* notes this spelling throughout the text to be wrong, the correct being *Conde Uda*, sig [(d) 2]'

⁴⁹ Purchas, *Pilgrimes*, 'Divers passages betweene the *Mogul* and Sir *Thomas Roe*, lib III, vol I, chap 16, § 9 , p 578

⁵⁰ Richard Blome, 'The Translator's Preface' in *Geography and Cosmography* (1682), p viii Note all above references to Varenus's text pertain to the 1734 edn of *Geographia Generalis* augmented by Newton and revised and corrected by Peter Shaw This edition does not include Nicolas Sanson's regional descriptions

People of those Parts, to see all their Towns and living Creatures, and to be thoroughly acquainted with their Habits Customs and Superstitions'⁵¹ The value of illustrative plates to assist the imagination of the reader is stressed by another seventeenth-century travel writer who considers 'it is certain, that the most accurate description cannot represent any thing to the reader so lively as a draught or cut, which as it were, shows the thing it self that is described'⁵² So a point which Robert Herrick makes of maps might equally well be said of good travel narratives, according to their seventeenth-century publishers

thou at home, behest with securest ease,
Sitt'st and beleevs't that there be seas,
And watrle dangers; while thy whiter hap,
But sees these things within thy Map
And viewing them with a more safe survey,
Maks't easie Feare unto thee say,
*A Heart thrice walled with Oke, and Brasse, that man
Had, first, durst plow the Ocean*
But thou at home without or tyde or gale
Canst in thy Map securely saile
Seeing those painted Countries, and so guesse
By those fine Shades, their Substances:
And from thy Compasse taking small advice,
Buy'st Travell at the lowest price⁵³

Likewise, the dedication 'To the Reader' to Thomas Herbert's *Travels into Africa and Asia* (1634) takes the form of a poem which articulates the capacity of a good voyage narrative to bring the wonders of the world before an audience who never need stir from their armchairs.

⁵¹ Churchill and Churchill, *Voyages and Travels*, 'Publishers Preface', vol. I, p. 1v.

⁵² Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels* (1732), vol. V, p. 3.

⁵³ Robert Herrick, 'A Country Life: To his Brother M. Tho. Herrick', ll 69-82

Here thou at greater ease than hee [Herbert]
May behold what he did see
Thou participates his gaines
But he alone reserves the paines
He traded not with luker sotted
He went for knowledge and he got it
Then thank the Author, thanks is right
Who hath presented to thy sight
Seas, Lands, Men Beasts, Fishes and Birds,
The Rarest that the World Affords ⁵⁴

By acquainting himself with the written accounts of travellers and their maps, even the casual enquirer 'not extraordinary well-skilled in *Geography*' and who has gathered his intelligence about the world from '*Coffee-Houses*' might derive an excellent knowledge of distant parts of the globe ⁵⁵ So 'that a man who never saw them [remote lands] but in representation, may now speake as particularly of them, as if he had beene borne and bred in them' ⁵⁶

The publication of accounts written from personal experience offering empirically-gathered details relating to a particular expedition became prolific by the final decade of the seventeenth century. This abundance of texts was partly due to the fact that more voyages were taking place as England established colonies in North America, increased their trading links with the East as well as beginning to venture south in search of the unknown antipodean continent. However, this was not the only reason for the flourishing of the genre of the voyage narrative in England at this time. In the next chapter I will show how the rise of empiricism, bringing with it a prioritisation of 'eye-evidence' and a new-found authority of eyewitnesses, had a profound impact on the value afforded to this type of discourse. It resulted in a

⁵⁴ Thomas Lord Fairfax, Baron of Cameron, 'To the Reader' in Thomas Herbert's *Travels into Africa and Asia* (1634), sig. A2^r

⁵⁵ Echard, *Compleat Compendium of Geography*, sig. a3^r

⁵⁶ Hakewill, *Apologie*, pp. 249-250

campaign to assert the usefulness of such information to those pursuing scientific specialisms to encourage their production, increase their publication and availability and to reform both the style in which they were written and the information they included

Chapter II.

The Royal Society's Promotion of Voyage Literature.

(i)

Profit and Pleasure.

*Lo here then in open Theatre presented, a show of Discoveries on an English Stage, wherein the World is both the Spectacle and the Spectator, the Actors are the Authors themselves*¹

When Samuel Purchas compiled his five volume collection of voyages and travels, *Purchas His Pilgrimes*, in the first quarter of the seventeenth century, he saw in voyage accounts a potential source of useful knowledge about the natural world which, he considered, was not being drawn upon sufficiently by those studying natural philosophy. Despite the popularity of voyage accounts and collected anthologies of such texts, the most famous of which is referred to explicitly in the sub-title, *Hakluyt Posthumous*, of Purchas's collection,² he still maintains in the introduction 'To the Reader' that, 'for the most part, those which are studious know not either to get, or to read the Authors of this kinde, of which so few speake

¹ Samuel Purchas, *Purchas His Pilgrimes* (1625), vol I, chap I, 'The First Booke' p 1

² The title page of the *Pilgrimes* bears an engraving of Purchas, under which is written, *Hakluyt Posthumous or Purchas His Pilgrimes*. As a result the collection is sometimes erroneously referred to in secondary literature simply as *Hakluyt Posthumous* though in fact the correct title of the text does not contain these words. Boies Penrose for example makes this error in his *Travel and Discovery in the Renaissance, 1420-1620*. A principal reason for this may be that the reprint of the text in 20 vols (Glasgow James MacLehose & Sons, 1905-7) is published under this title. Furthermore Cyril Wild's edition of extracts relating to Japan (London Routledge, 1939) also misuses the title.

Latine'³ Purchas highlights in this quotation the fact that the humble status of an author too often leads to his experiences being dismissed by more educated men. Yet he suggests that such disregard is incompatible with the 'New way of Eye-evidence'⁴ and, accordingly, that voyage accounts should be re-evaluated to afford importance to any account based upon the information of 'Eye-witnesses', who by virtue of their experience are in a position to relate things 'more amply and certainly' than the most educated person whose knowledge of the natural world is derived from book learning rather than empirical interaction.⁵

For Purchas, the very fact that seamen have taken the trouble to compose narratives of their experiences at least demonstrates an altruism that should put to shame those educated men who have travelled in parts of Europe, which was the fashionable way for gentlemen to complete their education, yet only 'bring home a few smattering termes, flattering garbes, Apish cringes, foppish fancies, foolish guises and disguises', little more than 'the vanities of Neighbour Nations without furthering of their Knowledge of God, the World, or themselves'.⁶ Travel, he considers, has a function beyond the mere gratification of the individual embarking upon it; its profitability lies in the unique position of the traveller to sources of information otherwise unavailable. So, Purchas advocates his collection on the grounds of its usefulness to natural philosophy and the study of the natural world, in

³ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r

⁴ Purchas, *Pilgrimes*, dedication 'To Charles Prince of Wales', vol I, sig ¶3^r

⁵ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r

⁶ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r. For further information on European travel as part of a gentleman's education see George B. Park's 'Travel as Education' in *The Seventeenth Century Studies in the History of English Thought and Literature from Bacon to Pope* by Richard Foster Jones and others in his honor (1951), E. S. Bates, *Touring in 1600: A Study in the Development of Travel as a Means of Education* (1911, 1987), E. G. R. Taylor, *Late Tudor and Early Stuart Geography*, chap. XI, 'The Urbane Traveller' pp. 144-157. For a seventeenth-century perspective on this subject see Francis Bacon's essay 'On Travel' and Joseph Hall's *Quo Vadis? A Just Censure of Travell, as it is Commonly Undertaken by the Gentlemen of our Nation* (1619), see discussion of Bishop Hall's allegorical imaginary voyage prose fiction, *Mundus Alter et Idem* in Chap. V.

as much as it offers empirically-gathered evidence about specific and remote geographical regions, 'eye-evidence' which might legitimately challenge existing understanding of the laws governing the natural world

such a Worke may seeme necessarie to these times, wherein not many scholars are so studious of Geographie, and of Natural and Universall knowledge in the diversified varieties which the various Seas and Lands in the World produce seeming an exception to Generall Rules ⁷

Seamen may not be 'scholars' but they are able to supply primary geographical evidence to which the educated gentleman, who may never journey beyond the extent of Europe, would not otherwise have access

Just as Bacon regarded natural history as a discipline concerned with the representation of natural phenomena which might then be used as an excellent foundation upon which to develop a greater understanding of natural philosophy,⁸ so the value of the traveller, and more especially the distant voyager, lies in his ability to provide the raw materials upon which the natural philosopher can begin to build and formulate laws. He delivers things 'by [his] owne eyes observed not professing Methodically to deliver the Historie of Nature according to the rules of Art, nor Philosophically to discusse and dispute, but as in way of Discourse by each Traveller relating what he hath scene'⁹ So, 'as David prepared materials for Solomon's Temple', the traveller brings back with him the raw data with which the natural philosopher can begin to formulate laws and principles. Purchas continues this lofty metaphor by comparing himself and his 'pilgrims' to the famous pupil of Aristotle ¹⁰

⁷ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶5]^r

⁸ Francis Bacon, *Advancement of Learning* (1605, ed G W Kitchin, 1973), p 91

⁹ Purchas, *Pilgrimes*, 'To the Reader', vol I, sig [¶4]^r

¹⁰ Alexander the Great was a pupil of Aristotle. E H Blakeney notes that Aristotle

as Alex furnished Aristotle with Huntsmen and Observers of Creatures, to acquaint him with their diversified kinds and natures, so here Purchas and his Pilgrimes minister individuall and sensible materials to those universall Spectators for their Theoretical structures ¹¹

Accordingly, the task of the traveller is to represent rather than interpret that which he sees. He is essentially a recorder, taking note of everything which might possibly be construed as being useful. Of course the paradox of his position is that he is called upon to present his experiences without engaging in a process either of analysis or selectivity and yet he must somehow recognise what constitutes useful knowledge. This points once again to the naivety of the empiricist view that visual perception is necessarily reliable and uncorrupted by the susceptibility of the beholder, albeit inadvertently, to impose interpretation upon what he sees. It also implies that, without presuming to edit what he observes, the traveller might present an account comprised primarily of things pertinent.

This question of how a traveller might know what to observe and how to record it in order that he might deliver in his account all that could be useful and only that which is prudent, was not addressed for almost another half century after the publication of Purchas's collection of voyage accounts. The didactic potential of this type of literature which Purchas had recognised in the early part of the century therefore, was not exploited. The 'profit' to be gained from such accounts was all too often overlooked or regarded as incidental to the 'pleasure'¹² they more readily

'was assisted in the production of his *History of Animals* 'by the kingly liberality of his former pupil, who caused large collections of natural curiosities to be made for him' (*A Smaller Classical Dictionary* (1910, 1913), p. 72)

¹¹ Purchas, *Pilgrimes*, 'To the Reader', vol. I, sig. [¶4]

¹² Purchas, *Pilgrimes*, 'To the Reader', vol. I, sig. [¶5]

afforded to 'those who read for their Diversion', while they were neglected by 'those [who] read for Instruction' ¹³

It was not until the Royal Society of London, shortly after its establishment in 1662, set about instigating an organised campaign to harness and maximise the potential usefulness of voyage literature that definite prescriptions began to emerge concerning the style and content appropriate to such accounts. Treatises were published to promote the value of well-constructed travel texts for use by those 'scholars' engaged in a variety of scientific specialisms under the umbrella of natural philosophy. Shortly after its establishment the Royal Society invited 'all Ingenious Men, and such as consider the importance of assembling together Ingeniuties, Observations, Experiments and Inventions, scattered up and down in the World, either living upon travelling into such places and to send in their *Proposals* and whatever shall occur to them worthy to desire information about in these Countries' ¹⁴. The Fellows demonstrated a commitment to promoting the writing of travellers, encouraging them to 'rest perswaded, that all possible endeavours shall be employed on our parts, to recommend all, what shall be proposed by them to *our* Correspondents, with the same earnestness we do our own Directions' ¹⁵

(ii)

Tell it in a Plain Style.

The thesis, expounded by Richard Foster Jones in *Ancients and Moderns*, that the Royal Society's attack on metaphor and other rhetorical devices had a significant impact upon the prose style of the Restoration, remained unchallenged for several

¹³ Awnsham Churchill and John Churchill, *A Collection of Voyages and Travels* (1704), 'Publisher's Preface', vol I, p 11

¹⁴ 'Preface', vol II, *Phil Trans*, no 23 (1666), p 414

¹⁵ 'Preface', vol II, *Phil Trans*, no 23 (1666), p 414

decades following its publication in 1936¹⁶ However, from the mid 1980's onwards this view has been vigorously and convincingly criticised, most notably by Brian Vickers¹⁷ He focuses many of his criticisms on Jones's unqualified acceptance of Thomas Sprat's *History of the Royal Society* (1667) as a manifesto of the Society's ideology Vickers and others in his wake, including Michael Hunter and Richard Kroll, have challenged the view that Sprat's *History* represents adequately the opinions of such a diverse group of individuals and, furthermore, that the writings of the Fellows actually bear evidence of an abandonment of rhetoric¹⁸

Richard Kroll maintains that the reliability of Sprat's *History* is surely 'heavily qualified by its polemic motives'¹⁹ and Michael Hunter warns against regarding the text as the Society's official Manifesto 'representing its "public stance" if not its "official ideology"'²⁰ He challenges the generally accepted assumption about the representative quality of the work and the notion that it constitutes 'an official advert for the attitudes of the body as a whole' by demonstrating that only parts of the *History* were officially authorized and by seeking to show that it is misleading to conceive of the Royal Society Fellows as having a unified ideology

Sprat's *History* contains the famous account of the Society's denunciation of rhetorical prose style in which he states emphatically that its Fellows have adopted 'a

¹⁶ Richard Foster Jones, *Ancients and Moderns* (1936)

¹⁷ Brian Vickers's criticisms of R F Jones's argument are to be found in 'The Royal Society and English Prose Style, a Reassessment' in *Rhetoric and the Pursuit of Truth Language Change in the Seventeenth and Eighteenth Centuries* (1985) and also in his contributions to *Occult and Scientific Mentalities* (1984) He reiterates and pursues these opinions again in the Introduction of his selection of primary scientific writing, *English Science from Bacon to Newton* (1987)

¹⁸ Michael Hunter, 'Latitudinarianism and the 'ideology' of the early Royal Society Thomas Sprat's *History of the Royal Society* (1667) reconsidered' in *Philosophy Science and Religion in England 1640-1700* (1992) ed Richard Kroll, Richard Ashcroft and Perez Zagorin

¹⁹ Richard Kroll, *Philosophy, Science and Religion in England*, 'Introduction', p 2, see comments below in n 104

²⁰ Hunter, 'Latitudinarianism', p 176

close, naked, natural way of speaking, positive expressions, clear senses, a native easiness, bringing all things as near the Mathematical plainness, as they can'²¹ Jones accepts, without question, Sprat's statement that the Fellows of the Royal Society made 'a constant resolution, to reject all the amplifications, digressions and swellings of style, to return back to the primitive purity, and shortness, when men deliver'd so many things, almost in an equal number of words'²² Yet, Vickers recommends that Sprat's *History* should 'cease to be taken as a 'manifesto' for reform but rather as a symptom of a general distrust of the abuse of language and rhetoric' and suggests that a discrepancy exists between the Society's reality and image, stating

if any passage in Sprat's *History* shows up its intention to present the Royal Society's preferred image, this is it Rational, experimental, coherent, balanced, clear, easy, solid, fruitful all the approved epithets are applied to their style as much as to the content of their research²³

He considers, 'the more we consider the implications of the account the less convincing it becomes' and 'the more we scrutinize Sprat's account of the Royal Society's supposedly naked and unrheterical style the more fictitious it seems'²⁴ Vickers documents how accounts by Fellows of the Royal Society continued to be filled with elaborate metaphors He shows that large numbers of Latinisms continued to be used and that Latin continued to be seen as the language of scientific discourse So, although Sprat assures the reader of his *History* that the Royal Society's Fellows

²¹ Sprat, *History*, p 113

²² Sprat, *History*, p 113

²³ Vickers, *English Science*, 'Introduction', p 12

²⁴ Vickers, *English Science*, 'Introduction', p 12 Like Kroll, Vickers emphasises the polemic motives of Sprat's text and, indeed, the Society's professed offensive on rhetoric He suggests Sprat has in effect taken Bacon's account of the ideal scientific style and 'worked it up in an extravagant and almost hysterical way' (Ibid, p 17) and claims 'the campaign is not a stylistic one in the sphere of literary criticism as Jones has made out but rather it is political and ideological He goes on to link this to the Church of England's attacks on pulpit eloquence suggesting that both the Society and the Church 'constructed a self-validating myth of their plain style and rational proceeding' ('Royal Society', p 42)

avoid the language of wits and scholars the rhetorical devices which he professes they despise can be seen to persist in their own writings. Indeed, Thomas Shadwell, in his *Virtuosi* (1676), satirises the language of the Fellows for its profusion of Latinisms by quoting verbatim an extract from Robert Hooke's *Micrographia* (1665)²⁵. Though Jones implies the writings of Hooke, Robert Boyle or Henry Power support his thesis that the prose style of the Society's Fellows was simplified, he fails to analyse them specifically and is selective in his use of primary examples, choosing only those which endorse Sprat's statement²⁶.

In spite of Sprat's assurance that the Royal Society prefer 'the language of Artizans, Countrymen, and Merchants, before that of Wits or Scholars' Vickers states that it is 'evident that none of the scientists connected with the Society actually wrote like an artisan, a countryman, or a merchant'²⁷. This may be true and certainly he demonstrates convincingly that the Royal Society's Fellows did not reform their style of writing in the way that Sprat suggests. However, there is plenty of evidence to suggest that they did value the written accounts of ordinary overseas travellers and merchants and even published them in the *Philosophical Transactions*²⁸. Although the opinions of gentlemen were definitely given priority, as Steven Shapin has shown in *A Social History of Truth* (1994),²⁹ the accounts of non-gentlemen were certainly

²⁵ Cited in Vickers, 'Royal Society' pp 36-37, Shadwell, *The Virtuosi, a Comedy* (1676, 1966) ed M H Nicolson, p 63, the extract Shadwell incorporates into his text is from Hooke, *Micrographia* (1665), p 127

²⁶ Vickers attacks Jones for concentrating his analysis on the writings of Glanvill and Cowley the latter of whom he regards as peripheral figure in science, Kroll notes that Jones controls his own evidence concerning the 'ideology' of the Royal Society by adopting a series of 'functional antinomies' one example of which is that of rhetoric verses plain style (*Philosophy*, 'Introduction', p 9), another of the 'functional antinomies' used by Jones is found in the very title of his book, *Ancients and Moderns*

²⁷ Sprat, *History*, p 113, Vickers 'The Royal Society and English Prose Style a Reassessment', p 17

²⁸ See Appendix I for details of accounts by merchants and seamen which were published in *Phil Trans*

²⁹ Steven Shapin shows in *A Social History of Truth* (1994) that despite his own reliance upon the work of 'invisible technicians', unnamed travellers and other 'non-gentlemen' in gathering data 'for the empirical foundations of his

not automatically dismissed and many were cited by the Society's Fellows to substantiate their experiments³⁰ Michael McKeon notes that those involved in the burgeoning early-modern scientific movement embraced people whose educational background meant they expressed themselves without recourse to the tradition of rhetoric 'Enabled to master the new knowledge by his lack of the old, the scientific recorder is an individual happily severed from tradition'³¹ Certainly, there is evidence that the Society's Fellows wanted to encourage ordinary overseas travellers to write accounts of their observations

Indeed, the assurance that the Society's members preferred the language of ordinary people to that of 'wits or Scholars' had significant implications in the case of travel accounts, for that is precisely what many travellers were able to offer a rendition of their unique encounters delivered in a straightforward, unrheterical style This was a type of discourse which might be written not just by educated gentleman but also by lower-ranking seamen, merchants and buccaneers such as William Dampier, a man of little formal education by comparison to those educated Fellows of the Royal Society who later were to applaud the plain style of his *Voyage Round the World* (1697)³²

knowledge' (Ibid , p 383), Robert Boyle nonetheless prioritised the opinions of 'scholars' and gentlemen See in particular Chap Three 'A Social History of Truth-Telling' pp 65-125 and Chap Six 'Knowing about People and Knowing about Things A Moral History of Scientific Credibility' pp 243-309 of particular relevance here are the sections "Travellers' Tales" (pp 243-247) and "Divers Reports" both of which are concerned with the credibility of 'vulgar opinion' offered by non-gentlemen

³⁰ See Chap III for a survey of the Royal Society's publication and use of the accounts of overseas travellers See Appendix II for details of accounts published in *Misc Cur* which utilise opinions drawn from travellers' accounts

³¹ Michael McKeon, *The Origins of the English Novel* (1987), 'Histories of the Individual', p 104, Percy Adams discusses the adoption by Restoration travellers of a plain narrative style in *Travel Literature and the Evolution of the Novel* (1983), "Travel Literature before 1800 - Its History, its Types, its Influence", pp 247-249

³² William Dampier, *An Account of a New Voyage Round the World* is favourably reviewed with an abstract in *Phil Trans* , no 225 (1697), p 426, Sprat asserts that the Royal Society values the opinions of Merchants by his inclusion, as an example of the kind of account the Society wants to promote, of 'A relation of

The Royal Society hoped to encourage the writing of accounts by any one who had something 'profitable' to tell, regardless of rank, and if their style of writing was plain so much the better. The general Preface to volume IV of the *Philosophical Transactions* states that the promotion of written voyage narratives extends unreservedly and without qualification to 'all Travellers by Sea and Land' regardless of rank or status, calling for 'Correspondents and all Ingenious persons residing in the more famous parts of the World, to review, and return a testimony of all such Observables of Nature as seem most considerable for Use or Instruction'³³ Very often these men did not need to make a deliberate effort to keep their language and mode of expression simple when composing their narratives. Their straightforward written style, their 'close naked natural way of speaking' was not the result of a deliberate striving for stylistic clarity but had more to do with their lack of the old scholastic learning which Sprat blames for breeding and sustaining the fashion for literary pomposity.³⁴ These were the men in whom the Royal Society Fellows, like Purchas before them, recognised a potential to embrace the new philosophy and deploy its ideals effectively precisely because they were not educationally steeped in the old learning.

The Royal Society's Fellows saw in the voyager and his specific knowledge the potential for him to become instrumental in the propagation of modern science, recording things as they present themselves to him, plainly and diligently in an 'uncorrupted manner'. In 1667 Robert Moray asserted that ordinary travellers, uncorrupted by the preconceptions of education, had the capacity to gather primary information which might 'conduce exceedingly to the Enlargement of Natural

the Pico Teneriffe Receiv'd frome some considerable Merchants worthy of Credit, who went to the top of it' in his *History of the Royal Society*, pp 200-213

³³ 'Preface', vol IV, *Phil Trans*, no 45 (1669), p 897

³⁴ Sprat, *History*, p 113

Knowledge', thereby implicitly endorsing Sprat's statement that although overseas travellers may not be 'skill'd in all *Divine* and *Human* things' they are 'plain, diligent and laborious observers such who, though they bring not much knowledge, yet bring their hands, and their eyes uncorrupted such as have not their Brains infected by false Images'³⁵ The simple seaman was seen to have the capacity to personify the ideal of empiricism, the uncorrupted man able to represent what he observes without recourse to interpretation

There was to some extent already a tradition of stylistic simplicity in voyage literature. Accounts were usually based on the concise information contained in logbooks or journals compiled contemporaneously to the voyage itself and as such they naturally retained, to some extent, a 'Matter of Fact'³⁶ style and simple clarity of expression as a derivative of that source material. Accounts relating travellers' experiences were disposed to retain not only the chronological scheme of events supplied by logs and journals but also their stylistic simplicity. Fellows of the Royal Society who wrote accounts of their own travels overseas did adopt a plain style in the composition of their narratives, presenting their observations in a simple and straightforward manner. Though they sometimes indicate their ill ease at writing so plainly, reviewers would often make a virtue of stylistic simplicity. John Ray's apologies for the simple style of his discourse are consequently considered to be unnecessary by his reviewer who observes he 'makes an Excuse for the Language, which he need not, it being well enough for plain Notes of a Traveller'³⁷ Similarly, the translator of a French text *An Account of the Shipwreck of a Dutch Vessel on the*

³⁵ Robert Moray, 'Directions for Observations and Experiments', *Phil Trans*, no 24 (1667) p 433, Sprat, *History*, sect VIII, 'A defence of the largeness of their number', p 72

³⁶ 'Publisher's Preface' in Churchill and Churchill, *Voyages and Travels*, vol I, p viii

³⁷ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p c

Coast of the Isle of Quelpaert applauds the simple style adopted by its author, Henry Hamel, about whom he knows little, in his laudatory introductory preface

it may be suppos'd this secretary the Author, was a Man of some Learning to be capable of Writing it, and not a meer Seaman, tho' to say the Truth it is plain, and of matters so obvious, and in so indifferent a Stile that it required no great matter of Literature to compose it³⁸

This may seem an unusual endorsement by which to recommend a text, but it demonstrates the way in which stylistically simple prose came to be equated with narrative reliability as we shall go on to explore in greater detail below³⁹ As the traveller's function as recorder of natural history became more formalised, the collection of data during the journey was increasingly organised into tabulated forms that would facilitate retrospective consultation⁴⁰

Nevertheless, it was not enough that the style of writing employed by travellers was plain. A plain style could only assist in rendering clearly the information chosen to be imparted. Therefore it was imperative that travellers knew what information

³⁸ Henry Hamel, *An Account of the Shipwreck of a Dutch Vessel on the Coast of the Isle of Quelpaert*, translator's 'Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, p 608

³⁹ However, this egalitarian principle that the simple style of a relatively uneducated seaman is to be valued equally with that of his higher ranking counterpart was not apparently always upheld, as is indicated in 'The Preface' to Dr John Francis Gemelli Careri's *A Voyage Round the World*,³⁹ which recommends the account on the grounds that 'being a Man of learning and excellent natural Parts, he had all the advantages of taking good Observations, and delivering 'em politely, which common Travellers generally want' (Churchill and Churchill, *Voyages and Travels*, vol IV, sig [*4]r). Likewise, John Lawson, in the 'Preface' to his *The History of Carolina* regrets that 'most of our travellers who go to this vast continent in America, are persons of the meaner sort incapable of giving any reasonable account of what they met withal in those remote parts, tho' the Country abounds with Curiosities worthy of a nice Observation' (Lawson, *The History of Carolina* (1714, ed Hugh Talmage Lefler, 1967), 'Preface', p 24

⁴⁰ The process of retrospective narrative composition and its perceived reliability in the case of voyage accounts is a main concern of Chap IV

should be regarded as useful, how to gather it reliably and how to compose their findings into an appropriate narrative. Accordingly, the Royal Society also proposed definite recommendations concerning the type of information that was appropriate for voyage accounts.

(iii)

The Campaign.

Determined to exploit this great source of new information which might be rendered compatible with the remit inherent in the Society's sub-title *for Improving Natural Knowledge*, its Fellows set about devising specific directions aimed at those participating in overseas expeditions.⁴¹ It was the intention of the Royal Society to

⁴¹ The Royal Society's campaign was seminal in its impact and influence upon the style and content of first-person travel narratives. However, the idea of devising instructions for seamen in order to establish useful information was not a new one. In *Certain Errors in Navigation* (1599) Edward Wright had suggested that instructions be given to sailors to assist them in making appropriate observations in order to formulate a method by which to calculate longitude accurately: 'that out of divers experiments some certaine reason and rule of the variation might be gathered' (cited in Richard Foster Jones, *Ancients and Moderns* (1961; 1982), p. 16). George Hakewill writing in 1627 urges that a London lecture on navigation be set up 'for the better breeding, contrivance, and increase of such expert Pilots amongst us, it would doubtlesse bee a goode and profitable worke... if any who hath the meanes and had likewise the mind to give allowance for the reading of a *Lecture of Navigation in London*' (*Apologie or Declaration of the Power and Providence of God in the Government of the World* (1627; 1630), p. 272). See also 'Richard Hakluyt on the establishment of a navigational lecture in London, 1582' excerpted from 'The Epistle Dedicatorie' to Philip Sydney in *Divers Voiages touching the discoverie of America and the Islands adiacent* (1582) in David Waters, *The Art of Navigation in England* (1978), vol. III, appendix 16A, pp. 542-543, and 'Richard Hakluyt on the establishment of a mathematical lectureship at Oxford. 1584' extracted from a letter to Francis Walsingham (Ibid., vol. III, appendix 16B, pp. 544-545). See also: 'Instructions concerning the delivery of lectures on astronomy and on Geometry at Gresham College laid down in 1597 and adhered to through out the seventeenth century' (Ibid., vol. III, appendix 17A, p. 548); 'Richard Hakluyt on Sir Thomas Smith's contributions to the improvement of the teaching and practice of navigation, 1614' excerpted from 'Dedication' to Thomas Smith from *The Dialogue in the English and Malaiane Languages* (Ibid., vol. III, appendix 19C, p. 558); 'Sir William Monson on the Convenience of a Lecture of Navigation [c. 1624]' (Ibid., vol. III, appendix 22B, p. 568).

frame a series of 'well-devised *Directions* especially proper for sea-men and Travellers whilst they are under Saile or on their Land-voyages' ⁴²

Seamen were the only group of people to whom the Society gave such specific advice, which perhaps goes some way to indicating the importance its members placed on the potential usefulness of the information to which only they had access and the Fellows' eagerness to encourage anyone who '*Travels* by Sea and Land [to] make diligent researches so that what is worthy to be acquired, or to be imitated, and may be attain'd in any *one* part of the world, may (as Arts grow, and as knowledge spreads about) be communicated for the benefit of *all*' ⁴³ In his *History of the Royal Society*, Sprat explains 'considering with themselves, how much they may increase their philosophical stock by the advantage which England enjoys of making voyages into all parts of the world' the Society enlisted the 'eminent mathematician and Philosopher', Laurence Rooke, to formulate some directions designed for those embarking upon sea voyages 'the better to capacitate them for making such observations abroad' ⁴⁴ Accordingly, Rooke's 'Directions for Seamen bound for far Voyages', was first published in the *Philosophical Transactions* in 1666 ⁴⁵

In true Baconian tradition, Rooke advocates dispensing with book learning in favour of experiential observation. The aim of the traveller should always be 'to study Nature rather than Books and from the Observations made of the Phenomena and effects she presents, to compose such a history of her as may hereafter serve to build a solid and useful Philosophy upon' ⁴⁶ In this way, Rooke aligns the role of the traveller with that of the natural historian as Bacon had perceived it ⁴⁷ Travellers

⁴² 'Preface' to volume III, *Phil Trans*, no 33 (1668), p 630

⁴³ 'Preface', vol X, *Phil Trans*, no 112 (1675), p 254

⁴⁴ Sprat, *History*, 'Appendix to Mr Rook's Discourse', p 189

⁴⁵ Laurence Rooke, 'Directions for Seamen bound for far Voyages' in *Phil Trans* no 8 (1666), p 140

⁴⁶ Rooke, 'Directions for Seamen' in *Phil Trans* no 8 (1666), p 140

⁴⁷ Rooke, 'Directions for Seamen' in *Phil Trans* no 8 (1666), p 140

should gather and organise information in preparation for analysis by those concerned with natural philosophy. They should observe rather than speculate, their accounts should be concerned with the accurate and truthful representation of what they observe rather than attempting to offer an analysis of their observations. Rooke's 'Directions' are very specific, dealing exclusively with aspects of navigation. They relate to the voyage itself, the process of transportation, rather than what to observe on arriving at the destination. They are very much the work of a mathematician with an interest in navigation. They are concerned entirely with the improvement of nautical and meteorological knowledge, and with testing the efficacy of existing navigational techniques and instruments.⁴⁸

In addition to the navigational information which Rooke instructs seamen to record, another set of directions was published by the Society the following year, with a different emphasis. In the monthly editions of the *Philosophical Transactions* of 1667 appeared some suggestions for the writing of 'a good Natural History' by Robert Boyle, which had been extracted from his *Considerations of the Usefulness of Experimental Natural Philosophy* (1663). Addressed specifically to travellers, inviting them 'not to delay their searches of matters that are so highly conducive to the Improvement of *True Philosophy*, and the welfare of *Mankind*', Boyle's advice complemented Rooke's by dealing with what to observe and record on arrival at the destination rather than during the voyage itself.⁴⁹ In 1692, Boyle's advice to travellers was reprinted in a single volume, together with other advice offered to those embarking on voyages and pertinent selections from travel accounts that had appeared in the *Philosophical Transactions* in the intervening period, entitled *General Heads for the Natural History of a Country*. Its compiler, not Boyle himself, combines his original remarks with more specific suggestions on how these directions might be

⁴⁸ See Appendix III for a transcription of Rooke's 'Directions'

⁴⁹ See Appendix III for an extract from Boyle's *General Heads*, see also Boyle's 'Inquiries Concerning the Sea' in *Phil Trans*, no 18 (1666), p 315

used by travellers and, as its title suggests, these are arranged under the headings of the countries they concern for easier consultation by travellers to those parts⁵⁰ The importance is stressed of finding out about the natural resources of each area, particularly emphasising the potential for mining, reflecting the personal interest of Boyle, himself a director of the East India Company, in the commercial potential of England's involvement in overseas expansion as well as in the pursuit of information about the natural world which might assist scientists

The specific enquiries aimed at travellers to specific regions, which had appeared in the *Philosophical Transactions* and were included in *General Heads*, combined questions and advice concerning particular phenomena to observe in named locations Overseas travellers were invited, on behalf of the Royal Society, to investigate and clarify, confirm or authoritatively confute, existing accounts of regional geography which appeared implausible or unreliable Travellers to 'Guaiana and Brazil' are asked 'whether Toads are presently produced, by throwing a kind of Morish Water, found there, upon the floors of their Houses' and 'whether the locust of Brazil changeth in the *Springtime* into a Plant, and withers away like a Plant at the onset of autumn'⁵¹ Travellers to Suratte are called upon to confirm or refute the rumour that diamonds and precious stones 'do grow again, after three years, in the same Places where they have been digged out'⁵²

⁵⁰ Boyle, *General Heads for the Natural History of a Country*, is comprised of Boyle's original advice, printed in *Phil Trans*, no 11 (1666), p 186, together with the specific 'Inquiries' and 'Propositions' printed in subsequent editions, especially no 23 (1667) See Appendix I for full details of inquiries, see Appendix III for an excerpt from Boyle's own advice in *General Heads*, the compiler of the text is unnamed but it is clear from the referential references to 'the Honourable Robert Boyle' that it is someone other than Boyle himself

⁵¹ Boyle, *General Heads*, pp 106-107, Abraham Hill's 'Enquiries for Guaiana and Brasil' appear in *Phil Trans*, no 23 (1667), p 422

⁵² Boyle, *General Heads*, p 87, 'Inquiries for Suratte and other parts of the *East-Indies*' appear in *Phil Trans*, no 23 (1667), p 415

The Royal Society did succeed in establishing a dialogue with travellers. The questions they posed were addressed by travellers who informed them of their results. Samuel Baron, in his *Description of the Kingdom of Tonqueen*, explains that Robert Hooke and John Hoskins, who effectively commissioned his account, requested him 'not to undertake an historical narration of Tonqueen but only to note the errors in Monsieur Tavernier's description of that Country'⁵³ Accordingly, in his ensuing 'Description of the Persian Empire', 'he discovers some Mistakes made by *Tavernier* in his Travels'⁵⁴ Answering a question posed by one of the Society's Fellows concerning whether there is a river in Java 'that turns wood into stone', Philibert Vernatti refutes this as 'a Foppery'⁵⁵

This method of dialogue is elaborated upon by Sprat who explains how 'out of the united Intelligence from Men and Booke, they [the Royal Society's Fellows] compose a Body of Questions concerning all the observable things' in specific locations. He continues his explication by disclosing 'Their manner of gathering and dispersing *Queries*. First they require some of their particular Fellows to examine all Treatises and Descriptions of those Countries. At the same time they employ others to discourse with the Seamen, Travellers, Tradesmen and Merchants' whom they consider are in a position to offer the 'best light' on each place.⁵⁶ As early as 1667 Sprat writes that the Royal Society had already

⁵³ Samuel Baron, *A Description of the Kingdom of Tonqueen* [1665/6] 'Advertisement' in Churchill and Churchill, *Voyages and Travels*, vol. VI, p. 1v. See comments in Chap. III (111) concerning the 'reiterated letters' sent by Robert Hooke and John Hoskins to Baron to persuade him to compose his account.

⁵⁴ Baron, *Tonqueen*, in Churchill and Churchill, *Voyages and Travels*, vol. VI, p. 106.

⁵⁵ Philibert Vernatti, 'Answers return'd to certain Inquiries sent to thither by Order of the Royal Society and recommended by Sir Robert Moray' in Sprat, *History*, p. 159.

⁵⁶ Sprat, *History*, sect. XXX, 'Their Queries and Directions', p. 155.

Collected and sent abroad Inquiries for the *East-Indies*, for *China*, for *St Helena*, for *Tenariff*, or any high Mountain, for *Ginny*, for *Barbary*, and *Morocco*, for *Spain* and *Portugal*, for *Turky* for *France* For *Italy*, for *Germany*, for *Hungary*, for *Transylvania*, for *Poland*, and *Sweden*, for *Iceland*, and *Greenland* ⁵⁷

The Society showed a commitment to publishing responses sent to them by travellers to their specific enquiries ⁵⁸

The Royal Society continued to encourage travellers to systematise their records of their experiences overseas and present them on return for public scrutiny in case their findings might 'tend to the Use of Life, or Advancement of Arts and Sciences' ⁵⁹ A year after the publication of Rooke's 'Directions' and Boyle's 'General Heads' first appeared in the *Philosophical Transactions*, preceding another article directed specifically at Seamen, the *Philosophical Transactions* announced that, despite recent improvements in navigation, 'there remain many things to be known and done', such as 'the making of exact Mapps Describing of Tydes and other things considerable in the Seas' and that 'further to encourage and facilitate the Work of those that shall be engaged to put them into practice', it was thought fit that Rooke's directions 'should now be publish't with ample and particular Explanations, and considerable Additions' ⁶⁰ Accordingly, there followed, 'Directions for

⁵⁷ Sprat, *History*, p 155 He notes here 'they have given Directions for Seamen in General and for observing the Eclipses of the Moon', both by Rooke, the latter printed by Sprat in *History*, pp 180-182

⁵⁸ For details of the Society's commitment to printing the accounts of travellers see Chap III and Appendix I, fourteen pages of Sprat's *History* are devoted to 'Answers return'd by Sir Philibert Vernatti, Resident in Batavia in Java Major, to certain Inquiries sent thither by Order of the Royal Society and recommended by Sir Robert Moray', by way of example of the sort of response from travellers the Society's Fellows wanted to encourage (Ibid , pp 158-172)

⁵⁹ *Misc Cur* (1705), 'Preface', vol I, sig A2'

⁶⁰ Robert Moray and Robert Hooke, 'Directions for Observations and Experiments to be made by Masters of ships, Pilots, and other fit Persons in their Sea-Voyages', in *Phil Trans* , no 24 (1667), p 433

Observations and Experiments to be made by Masters of Ships, Pilots, and other fit Persons in their Sea-Voyages Printed with Enlargements and Explications of what was formerly publisht of this kind, suggested partly by Sir Robert Moray, partly by Mr Hooke' which used Rooke's original instructions as numbered points as a basis for their elaborations⁶¹ Moray and Hooke justify and excuse the prolixity of the instructions stating

These Experiments are to be repeated every new Voyage, the multitude and frequency of them being necessary for finding out and confirming the truth of them, which as it will conduce exceedingly to the enlargement of Natural Knowledge, so it may in time produce New and more accurate *Sea-Maps* and *Cards* than hitherto have been publish'd, and great helps and advantages to Navigation⁶²

It was hoped that the new information brought back by seamen 'may bring no less Honour, than benefit to the English Nation' and 'that from multitudes of Experiment and Observations, such Rules may be framed, as may be of inestimable use for Scamen'⁶³ Likewise, in the same year Thomas Sprat concedes that so far the discovery of America 'has not bin altogether useless to the Mechanic Arts' but assures that if inquired into correctly 'much more of its bounty will be revealed', and urges travellers 'to pierce into all its secrets'⁶⁴

One Royal Society Fellow who endorsed, wholeheartedly, the belief that every traveller had a duty to record and make public his experiences abroad, regardless of whether or not there were existing reliable accounts of that region, was Edmund

⁶¹ Moray and Hooke, 'Directions for Observations' in *Phil Trans*, no 24 (1667), p 433

⁶² Moray and Hooke, 'Directions for Observations' in *Phil Trans*, no 24 (1667), p 433

⁶³ Moray and Hooke, 'Directions for Observations' in *Phil Trans*, no 24 (1667), p 433

⁶⁴ Sprat, *History*, sect XXVI, 'Mechanics improvablc by matter from America' p 383

Halley He was utterly convinced of the potential usefulness to natural philosophy of travellers' accounts and he frequently cited both the reports of travellers as well as his own experiences overseas as evidence to substantiate his own theories⁶⁵ In one of the papers he presented to the Royal Society concerning *Trade-Winds and Monsoons* observable in the Seas between and near the *Tropicks*', he makes a powerful plea to overseas travellers to make new observations on every journey, however well documented that particular region may already be, since he considers 'it is not the work of one, nor of few, but of a multitude of Observers to bring together the experience requisite to compose a perfect and compleat History'⁶⁶

The focus of the instructions printed in the *Philosophical Transactions* on offering practical help to seamen is obvious The Royal Society took active steps to ensure that they should reach the people for whom they were intended It made efforts to make them readily available to those embarking upon sea voyages It is recommended in the *Philosophical Transactions* that 'a good number of such printed Copies is, by the Care and at the Expense of the *Royal Society*, to be lodged with the Master of *Trinity-House*, to be recommended to such as are bound for far Sea-Voyages and shall be judged fit for the performance'⁶⁷ Furthermore, the Royal Society offered to supply seamen with up to date, relevant navigational instruments and to train them in their use, as Edmund Halley explains in his 'Account of Dr *Robert Hook's* Invention of the Marine Barometer, with its Description and Uses', commissioned by the Royal Society

⁶⁵ See Appendix II and further comments in Chap III

⁶⁶ Edmund Halley, 'An Historical Account of the *Trade-Winds and Monsoons* observable in the Seas between and near the *Tropicks*' in *Misc Cur* (1707), vol III, p 73

⁶⁷ Moray and Hooke, 'Directions for Observations' in *Phil Trans*, no 24 (1667), p 434

These Instruments are made according to the Direction of Dr *Hook*, by Mr Henry Hunt, operator to the Royal Society, who will furnish any Gentlemen with them, and give them directions how to use them' ⁶⁸

The importance of scientific instruments and books as aids to gathering information during an overseas excursion is elsewhere expressed by John Clayton, whose account of Virginia is, by his own admission, not as scrupulously researched as it might have been because he lost all his scientific instruments and books during the sea voyage

and *Virginia* being a Country where one cannot furnish one self again with such things, I was discourag'd from making so diligent a Scrutiny as otherwise I might have done ⁶⁹

In his preface to an account published in the *Philosophical Transactions*, concerning experiments into gravity in sea water, Halley describes how Robert Boyle set about acquiring the appropriate data for his experiments for the Royal Society on this matter by encouraging and assisting an unnamed traveller to carry out systematically particular observations during an Atlantic voyage, with the aid of appropriate instruments with which Boyle ensured he was supplied

Mr Boyle, having recommended this matter, among others to a Physician that was sailing into *America*, and furnished him with a small *Hydrostatical Instrument*, to observe from time to time the differences of gravity he might meet with, this account was returned to him' ⁷⁰

⁶⁸ Halley, 'An Account of Dr *Robert Hook's* Invention of the Marine Barometer, with its Description and Uses, published by order of the R. Society' in *Misc Cur*, vol III, p 257

⁶⁹ 'A Letter from Mr *John Clayton*, Rector of Crofton at *Wakefield* in *Yorkshire*, to the Royal Society, May 12 1688, giving an Account of several Observations in *Virginia*' in *Misc Cur*, vol III, p 281

⁷⁰ Halley, 'The differing *Gravitation* of *Sea-Water* according to the *Climates*' in *Phil Trans*, no 18 1666, p 315

This example of a Fellow of the Royal Society encouraging an individual traveller to find out specific information or to compose a general account of his experiences is not an isolated one, as we shall go on to see in Chapter III. Indeed, Halley himself often made specific propositions to those embarking upon overseas voyages.⁷¹

In 1704, twelve years after the first publication of *General Heads for the Natural History of a Country*, the Royal Society's campaign to promote voyage literature was not only still reaping its rewards, but its initial instructions were still being reiterated verbatim, showing that they were still considered pertinent almost forty years after their first appearance. In that year, the publishers of a four volume *Collection of Voyages and Travels* which was to prove extremely popular, reprinted Rooke's advice without revision in their 'Introductory Discourse containing The Whole History of Navigation from its Original to this time'⁷². Awnsham and John Churchill did, however, add some supplementary instructions for those engaged in land travel. Beginning in the same vein as Rooke by recommending that travellers should 'always have a Table-Book at hand to set down every thing worth remembering', they go on to encourage the traveller to measure and 'take the Dimensions of such things as require it, give some guess at the distances of Places take views of Objects at greater and less Distances' and 'observe the situation of places'. Each of these is accompanied by suggestions of appropriate apparatus and instruments which might assist them in acquiring this specific information. Furthermore, the publishers suggest, 'it is not amiss to view all Rarities in the company of other Strangers', for the reason that 'many together are apt to remark more than one alone can do'.⁷³ Placed in the immediate context of Rooke's Instructions, the Churchills implicitly

⁷¹ See further comments in Chap. III

⁷² Churchill and Churchill, *Voyages and Travels*, vol. I, pp. lxxiii-lxxiv

⁷³ Churchill and Churchill, *Voyages and Travels*, vol. I, p. lxxiv

align themselves with the Royal Society's campaign both in their advice to land travellers and their ensuing collection of narratives ⁷⁴

As well as attempting to systematise and regulate the way in which voyage accounts were written, both in terms of their style and content, the Royal Society was also eager to encourage more travellers to write about their experiences. It became perhaps the most significant patron of voyage literature in the late seventeenth century, promoting the publication of travel accounts, not only among independent publishers, but also in the pages of the *Philosophical Transactions*. So, the Royal Society's campaign to encourage and promote the writing of appropriate voyage accounts comprised a dual strategy: first, to specify how to compose an account in a manner which might be useful, and second, to persuade travellers to compose such accounts.

(iv)

Even 'Small Tracts' will Increase 'the Philosophical Stock'.⁷⁵

Among the other Royal Society members enthusiastic about the potential knowledge to be derived from voyage accounts was Robert Hooke, the Society's first Convenor of Experiments, who made a significant contribution to the Society's campaign with his exhortation to travellers to compose narratives of their experiences and to publishers to print them. In 'The Preface' to Captain Robert Knox's *An Historical Relation of the Island of Ceylon* (1681), a text published on the advice of Christopher Wren and at the bequest of the East India Company to whose directors it was dedicated, Hooke laments the loss of past travellers' accounts considering that for all those which have appeared in print 'so many others have

⁷⁴ See Chap. IV for a more detailed exploration of the Churchills' *Voyages and Travels*.

⁷⁵ Hooke, 'The Preface' to Knox, *Historical Relation* (1681), sig. (a)² v.

been lost, to the great Detriment of the Publick'⁷⁶ He therefore considers it would be 'very desirable' if 'some Remedies might be found to prevent the like losses in Future' Conscious of the popularity and type of readership a text with such powerful endorsements would be likely to command, Hooke takes the opportunity in his 'Preface' not simply to introduce the ensuing narrative but also to deliver a lecture on the need to promote the writing and publication of good and useful travel accounts He describes the 'earnest Solicitations and endeavours' necessary to persuade travellers to impart the knowledge they have acquired, who would not do so otherwise, not for 'want of Generosity and Freedom in Communicating whatever [they] knew or had observed but from too mean an Opinion of [their] own knowledge and abilities of doing any thing should be worthy of View to the Publick' Voyagers, then, must be encouraged to overcome 'that usual Prejudice of Modesty'⁷⁷

There are but few who, though they know much, can yet be persuaded they know anything worth communicating, and because the things are common and well known to them are apt to think them so to the rest of Mankind, This Prejudice has done much mischief and must be first remov'd⁷⁸

However, recognising that 'there are others that are conscious enough of their own Knowledge'⁷⁹ who require assistance in composing it 'into Histories', unsure of how to 'separate what is pertinent from what is not so, and to be Rejected', he recommends further specific guidance and advice be offered to travellers⁸⁰ Seamen should only write about what they have experienced first hand But what of the

⁷⁶ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a)2^r

⁷⁷ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]^v

⁷⁸ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]^r

⁷⁹ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]^r

⁸⁰ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^v

voyager who has too much information? How should a diligent seaman, who laboriously followed the instructions of the Royal Society and has returned from his travels equipped with a vast amount of empirically-gathered data, know what to include and what to omit from his written record of his journey? One seventeenth-century traveller suggests, rather vaguely, that a 'liberal education' should be sufficient to equip men with the 'sense and judgement to be able to give a rational account of what they see and hear, and to distinguish between what is, and what is not worth their noting down'⁸¹ Others, including Hooke, believed more rigorous guidelines should be offered to seamen and travellers further to that already offered by the Royal Society

Acknowledging that the Society, 'has not been wanting in preparing and dispersing Instructions to this end', Hooke still believes more might be done to alleviate 'the want of sufficient Instructions [To seamen and travellers] to show them what is pertinent and considerable, to be observ'd in their Voyages and Abodes, and how to make their Observations and keep Registers or Accounts of them', and that this advice should be deployed more widely and effectively⁸² He advocates that 'fit Persons' should be enlisted 'to Promote and Disperse such Instructions' and offers personal advice both on the selection of material and the formulation of it into narratives,⁸³ recommending that a system of 'ghost' writers be established to assist those who would not otherwise write about their experiences from 'want of Ability to write well or of use to compose or time to Study and Digest, or out of Modesty and fear to be in Print'⁸⁴ It is interesting, however, to notice that the same traveller who

⁸¹ John Barbot, *Description of the Coasts of Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 6

⁸² Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^r

⁸³ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^v

⁸⁴ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]^r He hopes that 'fitting Persons [are] found to Discourse and ask them [travellers not disposed to compose accounts] Questions, and to Compile the Answers into a History Of this kind was lately produced in *High Dutch a History of Greenland*, by Dr *Fogelius of Hamborough*, from the Information of Frederick Martin, who made

believes a 'liberal education' will teach a man to select appropriate material for his account also considers 'it is not always incapacity that obstructs the making of such observations, but rather a slothful disposition'⁸⁵

As well as encouraging travellers to compose accounts, Hooke was equally eager to promote the publication of voyage accounts, wishing, 'some easie Way to have all such printed' may be found To this end he endorses, in particular, the publication of collections containing 'divers of them together', since they provide a platform for shorter texts that would not otherwise be printed and furthermore 'it having been found that many small Tracts are lost after Printing' when published 'singly'⁸⁶ Publication not only preserves texts and makes them widely available 'to Curious and Inquisitive men increasing their knowledge', but may also have the added repercussion of encouraging 'many more to the like Attempts', thereby, he considers, 'increasing the philosophical stock'⁸⁷ Likewise collections, for the very reason that they do include short accounts, might serve to encourage those who otherwise might have neglected to compose narrations 'because they think they know not enough to make a Volume'⁸⁸ Hooke praises 'Mr *Haklute* and Mr *Purchas*, for preserving many such ['small tracts'] in their Works' though it is interesting that despite the considerable interest in first-person voyage narratives and collections of

several Voyages to that Place' (Ibid , sig [(a)3]r)

⁸⁵ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 6

⁸⁶ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2v

⁸⁷ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2r

⁸⁸ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]r, Better an account be short than expanded by unreliable data jeopardising its reliability overall Christopher Borri's *An Account of Cochun-China*, originally written in 1620 and printed once in England in 1633, is brought before the eyes of English readers once again 1704 when it appears as part of the Churchill Collection (*An Account of Cochun-China*, in Churchill and Churchill *Voyages and Travels*, vol II, p 787), Its editors praise its succinct expression and resistance to include either unreliable or irrelevant information for the sake of augmenting its length, explaining that ' 'tis short, but contains many curious things, being full of matter, without the superfluity of Words to swell it to a Volume' (Ibid, 'Publisher's Preface', vol I, p vi), the 1633 edition of the text incorrectly spells the author's name, *Barri*

such accounts during this period neither Hakluyt nor Purchas's collections were reprinted in the Restoration period ⁸⁹

However, Hooke initiates a move away from the trend which predominated in England since the time of Hakluyt and Purchas, whereby accounts drawn from domestic sources are valued more highly than those from elsewhere in Europe 'which are hardly ever heard of in *England*' ⁹⁰ Existing collections of voyages and travels, a type of publication which England had championed, were particularly disposed to favour narratives written by English travellers. The very title of Hakluyt's *The Principal Navigation, Voyages, Traffics and Discoveries of the English Nation* bears witness to this and most of Purchas's pilgrims are 'English-men' ⁹¹ Recognising the wealth of information being overlooked as a result of this prejudice, Hooke advocates the translation of 'all such Relations of Voyages and Accounts of Countries as have been published in other Languages' into the vernacular, a grand scheme indeed, Hooke probably intending this advice be taken in spirit rather than letter ⁹² Direct evidence that heed was taken of this advice might be seen in the large number of translated texts in the next great collection of voyages and travels to be published in England edited and published by Awnsham and John Churchill in 1704

⁸⁹ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a)2^v, a century earlier Montaigne had lamented that those composing accounts are all too often tempted to write without any real authority about 'other things' and one reason for this is to increase the length of their narrative so that it will be more acceptable to publishers (Michel Montaigne, *Essays and Letters* (1580) trans Charles Cotton (1685-6, ed William Hazlitt, 1902) vol 2, chap XXX, 'Of Canniballs', p 241) Travellers should not be tempted to embellish their narratives with secondary hearsay or any information not derived from a source which they could verify, simply to augment the length of their account Accordingly Montaigne 'would have every one write what he knows, and as much as he knows, but no more, for such a person may have some particular knowledge and experience of the nature of such a river or such a fountain, who, as to other things, knows no more than what everybody does' (Ibid , p 241)

⁹⁰ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^v

⁹¹ Purchas, *Pilgrimes*, vol I, sig ¶ 3^r

⁹² Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^v

Hooke devotes much of his 'Preface' to Knox's *Historical Relation* to advocating the establishment of a system whereby a financial reward from public funds might be offered to travellers to 'afford some moderate Encouragement and Reward', to recompense the 'Generosity of such as have had the Opportunities of knowing Foreign Countries' and been willing to 'make Publick' their experiences⁹³ In fact, such a public system of remuneration never came into being However, although the Royal Society was not able to offer monetary incentive to encourage travellers to compose accounts of their experiences, it afforded instead the opportunity to have their work appear alongside the scientific experiments of such illustrious figures as Isaac Newton, Edmund Halley and indeed Robert Hooke and Robert Boyle, among the pages of the *Philosophical Transactions* By reviewing and publishing travel accounts in the journal of its proceedings the Society elevated the status of the traveller to an unprecedented degree Travel accounts came to be regarded as having the potential to fulfil the purpose stated in the full title of the *Royal Society* by offering a useful contribution to *the Improvement of Natural Knowledge*

⁹³ Hooke, 'The Preface' to Knox, *Historical Relation*, sig (a) 2^r Hooke urges 'till such be found, 'tis to be hoped that the kind acceptance only the Publick shall give to this present work, may excite several other Ingenious and Knowing Men' to publish accounts of their experiences' (Ibid , sig [(a)3]^r)

Chapter III.

The Royal Society's Publication of Voyage Literature.

(i)

The Response of Travellers.

The success of the Royal Society's campaign to bring about changes in voyage accounts and to promote their appearance in print should be assessed on two counts in accordance with its dual strategy first, by the increase in the volume of travel accounts being written or at any rate published in England in the Restoration period, and second, by the way in which such narratives changed in style and content The last three decades of the seventeenth century saw a marked increase in the number of voyage accounts published in England¹ Whilst it is hard to determine the extent to which this was due to the exhortations to travellers to compose accounts of their experiences overseas by Fellows of the Royal Society such as Rooke, Moray, Hooke and Boyle, direct evidence that many travellers were writing in response to their behest might be seen by the number of accounts submitted to the Royal Society for publication in its monthly periodical the *Philosophical Transactions*² The Royal Society was soon inundated with accounts from travellers hoping to be included in the *Philosophical Transactions*, the full title of which indicates the international scope of the Society's concerns 'Giving some Account of the present Undertakings, Studies and

¹ See E G Cox, *Reference Guide to the Literature of Travel*, 3 vols (1948-50) for comprehensive statistical and bibliographical data disposed under general headings according to the location described and the subject of the text

² Although *Phil Trans* was ostensibly a monthly publication, from the beginning of 1677 it sometimes appeared bimonthly and for the period between January 1686 and December 1696 it was more often than not published only every two to three months Between the years 1679-1682 it was replaced by a less frequent publication, *Phil Coll* of which only seven issues were published

Labours of the Ingenious in many Considerable Parts of the World,³ and it fulfilled its promise by publishing large numbers of them in every edition from 1668 onwards⁴

Indeed, the format of the *Philosophical Transactions*, which was comprised of a large collection of short accounts of experiments and observations submitted by a large group of people, meant that by reviewing and publishing voyage narratives within the records of its proceedings, the Society itself was not only elevating the status of this sort of discourse by ranking it amidst the experimental accounts of its prestigious Fellows but, further, was directly responsible for the appearance in print of a great number of accounts, which otherwise would probably never have been made public. Those who had not enough information or time 'to swell to a volume',⁵ could send a brief letter to the Royal Society or even send bare data, not composed into a narrative, in the form of catalogues of natural history pertaining to a particular location or lists of place names within a geographical area. Sometimes such information would be printed as a list or else used to substantiate other people's theories. Accounts submitted to the Royal Society had the added advantages of being put into print quite quickly and in a publication which had an assured readership of important people. Many writers who published accounts of voyages and travels independently definitely were aware of the Royal Society's interest in this form of discourse as is demonstrated by the fact that they submitted extracts of their books to be advertised in the *Philosophical Transactions*.⁶

³ 'Preface', vol II, *Phil Trans*, no 23 (1666), p 414

⁴ Appendix I indicates the distribution of accounts throughout the issues of *Phil Trans*

⁵ Awnsham Churchill and John Churchill, *A Collection of Voyages and Travels*, vols I-IV (1704), 'Publisher's Preface', vol I, p vi

⁶ See Appendix I for a list of books reviewed with abstracts printed in *Phil Trans* between 1665 and 1700 inclusive

From 1670 onwards the *Philosophical Transactions* are permeated not only with accounts of voyages and travels based on the actual experience of their authors, but also with accounts that derive from information drawn from voyage accounts.⁷ In the 1705 abridgement of the *Philosophical Transactions* from their beginning to 1700, edited and put under 'general heads' by John Lowthorp, more than two thirds of his categories contain accounts derived directly from travellers' experiences in remote parts of the world, or information designed to assist future voyagers.⁸ So under Lowthorp's heading 'Physiology, Meteorology, Pneumaticks' are to be found 'Barometers and observations made with them at Cabo Cors in Guinea' by Mr Heathcot, and 'A Thermometer observed at Sea' by Mr James Cunningham, as well as many other accounts of weather systems from around the world. Under 'Botany and Agriculture' appear a huge number of accounts of the vegetation and wildlife of various countries. Even the chapter concerning 'The Structure, External Parts and Common Ailments of Human Bodies' contains an account of 'A Negro Boy dappled with White Spots' by William Byrd, which presents, in the form of a medical case study on abnormalities of skin pigmentation, the report brought back by Captain Charles Wager of a boy of 'about 11 Years old, who was born in the Upper-parts of *Rappabanock* River in *Virginia*' who 'till he came to be 3 Years old, was in all Respects like other Black Children, and then without any Distemper began to have several white Spots in his Neck and upon his Breast'.⁹

⁷ See Appendix I for a list of first-person voyage narratives published in *Phil Trans* between 1665 and 1700

⁸ From a total of 29 'heads', 20 contain more than one account derived directly from information brought back by overseas travellers. Indeed most of them contain many such accounts. Categories which do not draw on this source of information are those concerning pure branches of mathematics, such as chap I, 'Geometry, Arithmetick, Algebra, Logarithmotechny' and interestingly, those dealing with the arts such as vol I, chap IX, 'Perspective, Sculpture, Painting' and vol I, chap X, 'Of Musick' indicative of the lack of value afforded to these cultural pursuits in indigenous people outside Europe

⁹ William Byrd, 'A Negro Boy dappled with White Spots' in *Phil Trans*, no 235 (1697), p 781

Isaac Newton used the experiences of travellers in his account of 'The True Theory of the *Tides*' which was extracted from *Philosophiæ Naturalis Principia Mathematica* (1683) and published as an account on its own by the Royal Society¹⁰ In his explication of his theory, Newton refers directly to information gathered by overseas travellers, citing by name 'Capt Sturmy' and 'Mr Colepresse'¹¹ Newton's account includes details taken from the accounts of voyagers concerning tides 'observ'd upon all the West-Coast of *Europe* and *Africa*, from *Ireland* to the *Cape of Good-Hope*'¹² He also uses intelligence provided by travellers relating to two tides 'one out of the great *South-sea* along the Coast of *China*, the other out of the *Indian-Sea*, along the Coast of *Malacca* and *Cambodia*'¹³

Along with these accounts relating to or derived from the practical experience of travellers is printed further theoretical advice, often specifically aimed at sea voyagers and intended to assist them in matters of navigation, such as Robert Hooke's account of how 'To Sound the Depth of the Sea without a line' and Sir Robert Moray's 'Considerations and Enquiries concerning Tides'¹⁴ William Molyneux, another Fellow of the Royal Society, printed an account which offered practical information to avert a problem in navigation which 'may cause vast Errors, unless allowed for'¹⁵ Its

¹⁰ Isaac Newton, 'The True Theory of the *Tides* extracted from that admired treatise of Mr *Isaac Newton*, Intituled, *Philosophiæ Naturalis Principia Mathematica*' in *Misc Cur*, vol I, p 22 See Appendix II for other extracts from published books printed by the Royal Society which derive information from overseas travellers

¹¹ Newton, 'True Theory of the *Tides*' in *Misc Cur*, vol I, p 22 Accounts by both Samuel Sturmy and Samuel Colepresse are to be found elsewhere in *Phil Trans* Sturmy, no 37, p 726, no 41, p 813, no 143, p 2, Colepresse, no 17, p 500, no 26, p 480, no 33, p 632, no 50, p 1007 Each of these concern observations made in Britain Since none of them contains information brought back from overseas they do not appear in Appendix I

¹² Newton, 'True Theory of the *Tides*' in *Misc Cur*, vol I, p 24

¹³ Newton, 'True Theory of the *Tides*' in *Misc Cur*, vol I, p 25

¹⁴ Hooke, 'To Sound the Depth of the Sea' in *Phil Trans*, no 9 (1666), p 147, Moray, 'Considerations and Enquiries concerning Tides' in *Phil Trans*, no 17 (1666), p 298

¹⁵ William Molyneux, 'A Demonstration of an Error committed by common Surveyors in comparing the Surveys taken at long Intervals of Time arising from the Variation of the Magnetick Needle' in *Misc Cur*, vol III, p 287

publication in the Royal Society's *Miscellanea Curiosa*, is described as being due to 'its universal use' and was intended as a source of information for those embarking on overseas travel¹⁶ Similarly, Edmund Halley's 'A Theory of the *Variation* of the *Magnetical Compass*' was printed by the Royal Society in order that it might assist 'those concern'd in Sea Affairs'¹⁷

In pursuance of its lofty aim to encourage accounts from the 'multitude of Observers requisite to compose a perfect and complete History' of the world,¹⁸ the Royal Society also printed in the earlier editions of the *Philosophical Transactions* particular enquiries and requests for specific information and it was these which were later printed with Robert Boyle's *General Heads for the Natural History of a Country* in 1692¹⁹ In a letter dated September 4th 1685, addressed to the Robert Southwell, then President of the Royal Society, George Garden requests him 'to engage [his] acquaintances who go to the East or West *Indies*, to get particular and certain informations' adding that he has been much obliged by such accounts from travellers already printed in the *Philosophical Transactions*²⁰ Edmund Halley, who often cited travellers' accounts as evidence to support his theories, also requested that particular information be submitted to him

¹⁶ Molyneux, 'Demonstration of an Error' in *Misc Cur*, vol III, p 291

¹⁷ Edmund Halley, 'A Theory of the *Variation* of the *Magnetical Compass*' in *Misc Cur*, vol III, p 27

¹⁸ Halley, 'An Historical Account of the *Trade-Winds* and *Monsoons* observable in the Seas between and near the *Tropicks*' in *Misc Cur*, vol III, p 73

¹⁹ Robert Boyle's 'General Heads for the Natural History of a Country Great or Small' first appeared in *Phil Trans* no 11 (1666), p 186 Inquiries printed in the early edition of *Phil Trans* include no 20 (1666), p 360, Martin Lister's 'Directions and Inquiries concerning the Mines of Hungary, Transylvania, Austria and other Countries neighbouring', no 23 (1667), p 415, 'Inquiries for Surratte and other Parts of the East-Indies', no 23 (1667), p 420, Robert Hooke and Robert Moray's 'Enquiries for *Virginia* and the *Bermudas*', no 23 (1667), p 420, 'Inquiries for *Persia*', no 23 (1667), p 422, Abraham Hill's 'Enquiries for *Guaiana* and *Brasil*'

²⁰ George Garden, 'The Cause of *Winds* and the changes of *Weather*' in *Phil Trans*, no 175 (1685), p 1155

I shall take it for a very great kindness if any Master of a Ship, or other Person, well inform'd in any of the aforementioned parts of the World, shall please to communicate their Observation so that what I have here Collected may be either confirm'd or amended, or enlarg'd²¹

Elsewhere, Halley appeals to travellers for more information stating 'if any curious Traveller, or Merchant residing there would please to Observe, with due care, the Phases of the Moon's Eclipses at *Bagdat, Aleppo* and *Alexandria*, thereby to determine their Longitudes, they could not do the Science of Astronomy a greater Service'²²

Halley was eager to tap the wealth of information available to the overseas traveller. Among the sources he uses for his 'Account of the Cause of the Change of the *Variation* of the *Magnetical Needle*' are 'the *Portuguese Router* of *Alexo de Motta* the Voyage of *Beaulieu*, both publish'd in Mr *Thevenot's* first Collection of curious voyages 1663 [and] the Journals of our *East India* Voyagers'²³ As well as appealing generally for information, he commissioned travellers to assist him with specific projects of research. In his 'Discourse of the Rule of the Decrease of the Height of the *Mercury* in the Barometer, according as Places are elevated above the Surface of the *Earth*' he uses information derived from experiments which he especially commissioned for this purpose and which were carried out by travellers to '*Barbadoes* and *St Helena* the East Coast of *Africa*, and in *India*'²⁴

²¹ Halley, 'An Historical Account of the *Trade-Winds* and *Monsoons* observable in the Seas between and near the *Tropicks*' in *Misc Cur*, vol III, p 73. Halley also draws information from his own experience as an overseas traveller, reporting in his 'Account of Dr *Robert Hook's* Invention of the Marine Barometer, with its Description and Uses', that on a 'late Southern Voyage' in which he himself took part, 'it [the barometer] never failed to prognostick and give early note of all the bad weather we had' in *Misc Cur*, vol I, p 256.

²² Halley, 'Some Account of the Ancient State of the City of *Palmyra*, with short remarks upon the Inscriptions found there' in *Misc Cur*, vol III, p 177-178.

²³ Halley, 'An Account of the Cause of the Change of the *Variation* of the *Magnetical Needle* as it was presented to the Royal Society in one of their late Meetings by Mr E Halley' in *Misc Cur*, vol I, p 46.

²⁴ Halley, 'A Discourse of the Rule of the Decrease of the Height of the *Mercury* in

As we have already seen, the Royal Society encouraged travellers to record in a simple and precise style, personal observation of all phenomena that might be used to assist those engaged in the study of natural philosophy. Certainly, there are signs in the voyage narratives of the Restoration period of a definite striving on the part of writers to produce accounts that might be useful. The impact of this was such that by 1703 Martin Martin wrote in the preface to his *Description of the Western Islands of Scotland*

there is a great change in the humour of the world, and in consequence in the way of writing. Natural and experimental philosophy has been much improved and therefore descriptions of countries without the natural history of them, are now justly reckoned to be defective.²⁵

By 1709, the usefulness of information contained in voyage accounts was so well established that John Stevens, in his 'Dedication' to the *Travels* of Cieza, felt able to assert confidently that 'Mankind is so well acquainted with the Usefulness of Works of this Nature, I mean of Travels, that it is altogether needless to Endeavour to Convince any one of the Advantage we reap by them'²⁶

the Barometer, according as Places are elevated above the Surface of the *Earth*' in *Misc Cur*, vol I, p 95. Another example of a fellow of the Royal Society commissioning a particular traveller to collect specific data for use in experiments is that of Boyle for his experiments into gravity in water mentioned by Halley in his preface to 'The differing *Gravitation* of *Sea-Water* according to the *Climates*' in *Phil Trans*, no 18 (1666), p 315.

²⁵ Martin Martin, *A Description of the Western Islands of Scotland* (1703) in Pinkerton, *General Collection of Voyages and Travels in all parts of the World* (1808-14), vol III, p 572.

²⁶ John Stevens, *A New Collection of Voyages and Travels* (1711) 'Dedication', to Cieza's *Travels*, vol I, p iii.

By the early eighteenth century expectations of this type of writing were such that it had become mandatory for voyage accounts to be packed with plainly-expressed facts. The traveller's approach had become that of a natural historian, observing and recording accurately anything that might constitute 'useful knowledge'. Many had come to feel it their duty to try to compose an exact and truthful account of ^{their} his experiences in an unemotive, plain style, devoid of personal rhetoric. The viability of this intention, if it was executed with sincerity was apparently unchallenged by the Royal Society members. William Dampier's *Voyage to New Holland* (1703), offers no apology for the fact that his 'Accounts and Descriptions of Things are dry and jejune, not filled with vanity of pleasant Matter to divert and gratify the Reader', seeming to regard this as a virtue of his own written style.²⁷ Martin Martin, this time in the preface to his *Voyage to St Kilda* (1698) states that it has been his intention to write for 'the intelligent reader who will always set a higher value upon unadorned truth in such account, than the utmost borrowing of art'²⁸

(ii)

Establishing 'a Correspondence through all Countreys'.²⁹

The Society's Fellows seemed pleased by the response to their campaign. The 'Preface' to volume II of the *Philosophical Transactions*, advises readers to 'take notice of the late Enlargements of our *Philosophical Correspondences* in both remote and nearer parts of the World'. It particularly expresses gratitude to 'the Eminent Governors of the *East-Indies* and *Turky* Companies' and all those 'who have been very ready to receive (and promise good Accounts upon) such *Philosophical Instructions* as were

²⁷ William Dampier, *Voyage to New Holland* (1703) in *Voyages*, ed Masefield (1906), vol II, p 305

²⁸ Martin, *A Voyage to St Kilda* (1698) in Pinkerton, *Voyages and Travels*, vol III, p 488

²⁹ Thomas Sprat, *History of the Royal Society* (1667, fac reprint 1959), sect XIII, 'Their way of Inquiry into remote Matters', p 86

presented to them concerning many particulars thought worthy to be inquired into' demonstrating that response to their efforts came not just from individual travellers but also from the great joint-stock companies ³⁰ By the time of the 'Preface' to volume III of the *Philosophical Transactions* in 1668 the Royal Society considered itself to be 'still better and better furnish't with store of Judicious Correspondents in the most considerable places of the World' ³¹

Only a decade after the first appearance of Rooke's 'Directions for Seamen bound for far Voyages', the Royal Society was impressed not only by the willingness of travellers to compose accounts but, further, by the quality of those narratives which, it perceived in many instances, had come to incorporate the changes in style and content recommended in the early editions of the *Philosophical Transactions* The 'Preface' to volume XI praises those 'travellers who have made more accurate and faithful reports of the countries where they have travelled than was formerly done', though it adds with reservation

some Writers are more concern'd for Panegyricks of the amenities of the place, than will well sort with the true and modest relations of their Neighbours As when we read the beginning of the Ingenious *Barclay's Euphormio*, we are invited to prefer Scotland before any Paradise on Earth, which yet I do not Blame or censure in that noble Romance But in our designed *Natural History* we have more need of severe full and punctual Truth, than of Romances or Panegyricks ³²

An additional instruction to seamen is made in the 'Preface' to this volume requesting them to document the existence and progress of famines, plagues and sickness in order

³⁰ 'Preface', vol II, *Phil Trans*, no 23 (1666), p 414

³¹ 'Preface', vol III, *Phil Trans*, no 33 (1668), p 630

³² 'Preface', vol XI, *Phil Trans*, no 123 (1676), p 552

that those engaged in natural philosophy might 'find out the causes of some of these annoyances to prevent them or to devise remedies'³³ Subsequent to this accounts were submitted to the Royal Society which were devoted to documenting sickness and disease In November 1684 the zoologist Martin Lister published an account of 'Plague, Small-Pox, Exotic Diseases Propagated by Trade and Infection' in the *Philosophical Transactions*³⁴ In the issue for the months of September to November 1678 was printed a detailed review of Thomas Trapham's *A Discourse of the State of Health in the Island of Jamaica* which had been published earlier that year³⁵ In 1697 a substantial review appeared in the *Philosophical Transactions* of a book published in the previous year specifically concerned with the health of travellers at sea by the physician and Fellow of the Royal Society, William Cockburn He travelled with the navy with the specific remit to gather information for his ensuing *Account of the Nature, Causes, Symptoms, and Cure of the Distempers that are Incident to Sea-faring People, with Observations on the Diet of the Seamen in his Majesty's Navy Illustrated with some remarkable Instances of the Sickness of the Fleet* (1696)³⁶

The large number of accounts published in the *Philosophical Transactions* are not only evidence of a substantial response to the Society's campaign, but also bear witness to the way accounts published independently were being written in accordance with its recommendations The reviewer of John Freyer's *New Account of East India*

³³ 'Preface' vol XI, *Phil Trans*, no 123 (1676), p 552

³⁴ Martin Lister, 'Plague, Small-Pox, Exotic Diseases Propagated by Trade and Infection' in *Phil Trans*, no 165 (1684), p 793

³⁵ Thomas Trapham's *A Discourse of the State of Health in the Island of Jamaica* (1678) was reviewed with extensive extracts from the text in *Phil Trans*, no 141 (1678), p 1030 See also William King's satirical *The Present State of Physick in the Island of Cajamai to the Members of the Royal Society* [1709?] which is a parody of Hans Sloane's observations for the Royal Society concerning Jamaica

³⁶ William Cockburn's *An Account of the Nature, Causes, Symptoms, and Cure of the Distempers that are Incident to Sea-faring People, with Observations on the Diet of the Seamen in his Majesty's Navy Illustrated with some Remarkable Instances of the Sickness of the Fleet* (1696) was reviewed in *Phil Trans* no 226 (1697), p 475

and Persia (1698) enthuses about the way in which 'his method of Delivery is not bounded by the narrow limits of an historian, nor loosely Extravagant like Poetic Fiction, but suited to Time and Place, so as to manifest his Diligence in observing and collecting and his Sincerity in compiling, what may assist the next Adventurers and satisfy the present Enquirers'³⁷ This was one of many reviews of travel accounts independently published to appear in the *Philosophical Transactions*³⁸

Whilst travellers were perceived to have the authority to correct errors in existing information by offering new observations, it is significant that their role was not perceived as being analytical, it was primarily to represent what they had seen rather than to interpret it Martin Martin deliberately refrains from analysing the information he records in his *Description of the Western Isles*, explaining

this I leave to the learned in that faculty, and if they would oblige the world with such theorems from these and the like experments, as might serve for rules upon occasions of this nature, it would be of great advantage to the public'³⁹

Nevertheless, voyagers did collect information with the requirements of natural philosophers in mind, measuring and ordering what they observed in preparation for investigation by others By the close of the century it had become the task of overseas travellers to scrutinise all phenomena as though it were part of a formal scientific experiment Some, who considered themselves qualified, did carry out dissections⁴⁰

³⁷ John Freyer's *New Account of East India and Persia*, was reviewed in *Phil Trans*, no 20 (1698), p 339

³⁸ See Appendix I for a list of reviews to appear in *Phil Trans* between 1665 to 1700

³⁹ Martin, *Western Islands of Scotland* (1703) in Pinkerton, *General Collection*, vol III, p 574

⁴⁰ See Edward Browne's incredibly detailed account, 'Observations on the Dissection of an *Ostredge*' in *Phil Coll*, no 5 (1682), p 147, and Richard Waller's 'Observations in the dissection of a *Paroquet*' which appears in the *Phil Trans*, no 111 (1675), p 253, as an extract from a longer narrative, 'History of *Brasile*'

John Freyer, himself a surgeon in the East India Company, tells in his *New Account of East India and Persia* (1698) of how he impulsively carried out an experiment, when travelling in India, to test the efficacy of existing reports. He dissected a 'sea turtle' which was brought ashore in Bombay and explains how he 'caused it to be opened and examined' in order that he might establish the accuracy of the prevailing notion that such creatures have three hearts. His efforts lead him to dispel this as a 'vulgar error' though he also reveals how it might have arisen as a misunderstanding rather than a deliberate fabrication due to the three pronounced ventricles of the turtle's heart.⁴¹ Although Freyer does not indicate a specific source of this erroneous belief, it is probable that it was Richard Ligon's *A True Exact History of the Island of Barbadoes* (1657). Certainly, this error of observation is elsewhere attributed to Ligon in the *Philosophical Transactions* by Henry Stubbe in his 'Philosophical Observations made in a Voyage from England to the Caribbee Islands'⁴²

Stubbe was a long-time critic of the Royal Society. He focused his criticisms on certain aspects of its experimental philosophy and also its naive acceptance of the uncorroborated accounts of overseas travellers. He was later to make a vehement attack warning against the unqualified acceptance of information by anybody who had been on an overseas voyage.⁴³ In his 'Philosophical Observations' he refers derisively

⁴¹ John Freyer, *New Account of East India and Persia* (1698, Hakluyt Society Publications, 1909), vol I, p. 305, it should be noted that Swift makes Lemuel Gulliver a physician.

⁴² Henry Stubbe, 'Observations made on a Voyage from England to the Caribbee Islands' in *Phil Trans*, no. 27 (1667), p. 493. It is interesting that despite his lengthy feud with the Royal Society, Stubbe's 'Observations' are among the first accounts derived from overseas travel to appear in *Phil Trans*. See Appendix I for chronological placement.

⁴³ Henry Stubbe, famous for his criticism of the Royal Society, seems to equate a lack of education with unreliability and inaccuracy in the case of voyage narratives, asking rhetorically, 'what certainty shall we have of *Narratives* picked up from *negligent, or un-accurate Merchants and Seamen*?' in his critique of Joseph Glanvill's *Plus Ultra* (1668) wittily entitled *The Plus Ultra reduced to a non plus* (1668), p. 21. This formed the second part of his *Legends no Histories, or*

to Ligon's account when he stresses the importance of diligence in experimental observation⁴⁴ Stubbe, himself a physician, felt qualified to carry out a dissection In his 'Philosophical Observations made on a Voyage from England to the Carbee Islands', which are printed across three editions of the *Philosophical Transactions*, he repeatedly expresses the folly of moving beyond the realms of what one can assert with certainty⁴⁵ His detailed refutation of Ligon's earlier findings is presented here with the systematic diligence of a scientific experiment

During an Hour or two's stay at the Cayman's, I examin'd that Assertion of M Lygon's that a *Tortoise* hath three *Hearts*, and I found it False, for although the resemblance of the *Two Auricles* be such, as also the Bodies of Flesh, as to deceive the Unwary Observer, yet is there but *One Heart*, Triangular and Fleshy, the other *Two* are only the Auricles, yet of the same Shape and Body The *Two Auricles* are Distanced from the *Heart* about and *Inch*, and the passage Fleshy and Narrow by which the Blood is Infused into the Heart This *Heart* hath but *One Ventricle*, yet are there several Columns of Flesh and Receptacles in it, such as are not in the *Auricles*⁴⁶

Specimens of Animadversions on the History of the Royal Society (1668) It was one of several attacks on Royal Society and the works of its Fellows Joseph Glanvill's *Plus Ultra, or the Progress and Advancement of Knowledge since the Days of Aristotle*, advocating the value of modern learning over undue reverence for classical ideas, was presented to the Royal Society on 18 June, 1668 As the controversy between them continued, Glanvill responded by printing *A Prefatory Answer to Mr Henry Stubbe in his animadversions on 'Plus Ultra'* the following year (1669), and, in 1676, might be said to have had the final say in their dispute when he was called upon to preach the sermon at Stubbe's funeral

⁴⁴ Despite Stubbe's criticism of Ligon's account of Barbadoes, it is certainly not entirely discredited The 'Preface', vol XI, *Phil Trans* praises the narrative and the diligence of its author, 'Ligon shows his excellent capabilities and skill in painting, by describing the different shapes and features of *Indians* and *Negroes* on p 54 of his *Barbadoes*' (no 123 (1676), p 554)

⁴⁵ Stubbe, 'Observations made on a Voyage from England to the Carbee Islands' in *Phil Trans*, no 27 (1667), p 493, 'Additional Observations', no 36 (1668), p 699, 'The Remainder of the Observations', no 37 (1668), p 717 Stubbe states that some of the observations were made by Sir Robert Moray

⁴⁶ Stubbe, 'Philosophical Observations made in a Voyage from England to the Carbee Islands', *Phil Trans*, no 27 (1667), p 493 Although, Stubbe refers to the creature as a 'tortoise' he is clearly describing an aquatic mammal, or turtle, explaining in his 'Additional Observations', published the following year, 1668, that '[y]ou may keep them out of Water 20 Days and more, provided you give them twice a Day about half a Pint of *Salt-Water*' His account of the turtle here is

In his *History of the Royal Society* (1667) Thomas Sprat, outlines a vision of an effective communications network being set up between those engaged in experimental philosophy and those involved in overseas voyages, which underpinned the Royal Society's promotion of voyagers and voyage narratives, saying of its Fellows

They have begun to settle a *correspondence* through all *Coultreys*, and have taken such order, that in short time, there will scarce a Ship come up the *Thames* that does not make some return of *Experiments* as well as of *Merchandize* ⁴⁷

Whilst this ambitious ideal was perhaps never realistically possible, within a matter of only a few years many overseas travellers were beginning to see themselves as natural historians. Many speak of the recent *perfecting* of navigation and in 1668 Glanvill feels this is matched by more accurate accounts writing that not only are 'our *Travels* more remote, [but] our Reports more *intelligent* and *sincere*' ⁴⁸ A S Salley observes that Thomas Newe wrote to his father from South Carolina in 1682 requesting that a new herbal of 'Physical Plants', of which he had heard reports, be sent to him and suggests it is likely that this would have been John Ray's *Methodus Plantarum Nova*, which was first published in London earlier that year ⁴⁹ Travellers were sharing their statistical data and specimens with each other both through the medium of the Royal

worthy of inclusion due to the poetic images he uses in his scientific description of the melancholic turtle 'Once in about *half an Hour* they come up, [from the sea] and fetch One Breath like a Sigh, and then *Sink* down again. If you Hurt them on Shore, as they lie on their Backs, the *Tears* will trickle from their Eyes' It is possible that the erroneous belief that the turtle had three hearts lead to it being endowed with exceptional qualities for compassion and it would seem that even Stubbe in his empirical account succumbs to this rhetorical imagery (*Misc Cur*, vol III, pp 552-553)

⁴⁷ Sprat, *History*, sect XIII, 'Their way of Inquiry into remote Matters', p 86

⁴⁸ Joseph Glanvill, *Plus Ultra, or the Progress and Advancement of Knowledge since the Days of Aristotle* (1668), p 50

⁴⁹ A S Salley, *Narratives of Early Carolina* (1911), p 184

Society and through direct correspondence with each other William Dampier, for example, states in his *Voyage to New Holland*, that he brought back plants from Australia for John Woodward in 1703⁵⁰

The many personal letters which were submitted to the Royal Society by their recipients indicate a correspondence between those who travelled overseas and those engaged in the pursuit of natural philosophy, not only of ideas but of tangible items acquired on their respective journeys, as well as offering an insight into the circulation overseas of the *Philosophical Transactions*⁵¹ Writing from Amsterdam, the Burgomaster, Nicholas Witsen begins his letter to the English zoologist and Fellow of the Royal Society, Martin Lister, with a reference to his having sent him 'several curious *Shells* with a piece of *Agate*, and the *Transactions* of the Royal Society for the month of *June* last, for which favours I return my humble Thanks'⁵² In response to an inquiry in a previous correspondence from Lister, he offers a detailed reply

As to the Cockles of the *Caspian* Sea, and from the Mouth of *Volga*, I have advice from *Moscou*, that they are expected there this Winter Mean while, I herewith send you some *Snail-Shells*, taken out of the River *Jante*, not far from the City of *Moscou* Our Apothecaries make use of them powdered, and

⁵⁰ Dampier, *Voyage to New Holland* in *Voyages*, Masefield, vol II, pp 343-344

⁵¹ See Appendix I for letters submitted for publication in *Phil Trans* by their recipient These indicate that the Society's sponsorship of information was enhanced by personal exhortation rather than being dependent upon travellers reading this publication Lister and Witsen, whose correspondence with each other is cited below, were among those who submitted personal correspondence to the Society For letters to Lister see Thomas Towns writing from Barbadoes, no 117 (1675), p 339, John Bannister writing from Virginia, no 198 (1693), p 667, Witsen forwards letters sent to him by an unnamed 'experienced person' concerning Nova Zembla, no 101 (1674), p 3, accounts by English Merchants sent to him concerning Aleppo and Tadmor, no 218 (1675), p 129

⁵² Nicholas Witsen, 'A Letter from Monsieur N *Witsen* to Dr Martin *Lister*, with two Draughts of the Famous Persepolis', dated January 1st 1694, Amsterdam, in *Misc Cur*, vol III, p 236

probably for the same purpose as *Crabs-Eyes* There are some others likewise which are found in the Rivers of *Moscou* and *Neglina*, and in the *Volga* ⁵³

At the beginning of 1698 the East India Company presented to the Royal Society a large collection of botanical specimens brought back by one of its members Delighted with this acquisition, the Royal Society vowed to publish accounts describing its contents in the *Philosophical Transactions* 'for the Publick Good' and emphasised the usefulness of such a hoard

The Honourable *East-India* Company, having received from Mr *Samuel Browne*, a Physician who has liv'd Seventeen Years in their Service at Fort St George in the East-Indies, a very considerable collection of dried Specimens or Samples of Plants, Fruits, and Drugs, together with an account of his Observations of the Uses of them, by the Natives and others of those Parts, both in Physick, Dying, &c have very generously and for the Publick Good, presented them to the Royal Society who considering that great Use and Improvement may be made of such collections, have ordered that the Publick shall have the Benefit of this Present, by printing the whole Account that came with them, from time to time in these Papers, and by taking care that the things themselves shall be preserved from Corruption in their Repository, where recourse may be had to them by the curious, so soon as they are put into such a condition, as not to suffer by being handled ⁵⁴

As well as publishing accounts within the pages of its own publication, the Royal Society also offered its endorsement to particular narratives, advocating that they be published in their own right Robert Knox's *Historical Relation of the Island of Ceylon* (1682) not only benefits from its laudatory 'Preface' by Robert Hooke in which he proclaims that 'All that love truth will be pleased',⁵⁵ but also includes a letter of

⁵³ Witsen, 'Letter to Dr Martin Lister' in *Misc Cur*, vol III, pp 236-237

⁵⁴ 'Preface', vol XX, *Phil Trans*, no 236 (1698), sig π2^v,

⁵⁵ Hooke, 'The Preface' in Robert Knox, *Historical Relation of the Island of Ceylon*, (1682), sig [(a)3]^v

recommendation by Christopher Wren to 'Richard Chiswell, Printer to the Royal Society' recommending it on the grounds that he 'conceive[s] it may give great satisfaction to the Curious, and may be well worth your Publishing' ⁵⁶

(iii)

Finding Fault.

Evidence of the influence of the Royal Society's support is also to be found in voyage accounts published independently with some travellers choosing to dedicate their narratives to the Society and its Fellows. In 1674 John Josselyn's *An Account of Two Voyages to New England*, is dedicated to the President of the Society and its Fellows⁵⁷ and William Dampier's *New Voyage Round the World*, first published in 1697, is dedicated by its author to the Royal Society's President at that time, the Right Honourable Charles Montague. Dampier explicitly claims a desire that his account will be useful stating 'I avow according to my narrow Sphere and poor Abilities, a hearty Zeal for the promoting of useful knowledge, and of any thing that may ever so remotely tend to my Countrey's Advantage' ⁵⁸

⁵⁶ Christopher Wren's letter to 'Richard Chiswell, Printer to the Royal Society' in Knox, *Historical Relation*, sig. π'. Also printed at the beginning of the text is a letter by Robert Mackbourne, 'Secretary At the court of Committees for the East-India Company', to whom Knox dedicates his account, in which he writes on behalf of the company 'We Esteem Captain Knox a Man of Truth and Integrity, and that his Relations are worthy of Credit, and therefore encouraged him to make the same Publick' (sig. π'), John Freyer's *New Account of East India and Persia* (1698) written for the East-India Company of which Freyer was a member is one such account recommended for publication in a review published in *Phil Trans*, no 244 (1698), p 339

⁵⁷ John Josselyn, *An Account of Two Voyages to New England* (1674) 'Epistle Dedicatory' The text was reviewed in the *Phil Trans*, no 85 (1672), p 5021

⁵⁸ Dampier, *New Voyage Round the World*, 'Dedication' in *Voyages*, ed John Masefield. It received a favourable review by the Royal Society in *Phil Trans*, no 225 (1697), p 426

Samuel Baron's dedicatory letter to his *Description of the Kingdom of Tonqueen*, which he addresses to John Hoskins and Robert Hooke, provides still more evidence not only of the Society's Fellows seeking to persuade individuals to compose narratives and submit these accounts of their experiences for publication, but also of the desire of travellers to provide information that might be useful. In his introduction he states that the encouragement of Hoskins and Hooke was responsible for his writing the account, and describes their zealous pursuit of him in this matter. He refers not only to their initial proposal, but to their subsequent exhortations in the form of 'reiterated letters'. He claims that without their encouragement he would never have composed his account.

[their] approved judgement, which I shall always reverence, did alone encourage me to undertake this task, were it but to satisfy their curiosity and noble desires, ever constant in assiduous application to advance learning, and enrich the publick by new discoveries, which otherwise I would not have ventur'd on.⁵⁹

He concludes his dedicatory letter to these two men with an assurance that he will inform them of any thing of interest that he comes across on his ensuing travels.

I am now on a voyage to *China*, where if I can pick up any curiosity, or discover any thing worthy your sight or information, you are sure to hear from me.⁶⁰

Further examples of members of the Royal Society exhorting particular travellers to write narratives are to be found in the letters of 'Mr *John Clayton*, Rector of Crofton at *Wakefield* in *Yorkshire*', who was shortly to become Attorney of Virginia. Clayton's letters, which he addressed to the Royal Society, are filled with

⁵⁹ Samuel Baron, *Description of the Kingdom of Tonqueen*, 'Dedication to the Honourable William Gyfford' in Churchill and Churchill, *Voyages and Travels*, vol. VI, p. [111]

⁶⁰ Baron, *Tonqueen*, 'Dedication to John Hoskins and Robert Hooke' in Churchill and Churchill, *Voyages and Travels*, vol. VI, p. [1]

plainly-expressed descriptive passages about natural history. In his first letter, giving an 'Account of several Observations in Virginia', the author's modest opening remarks point to his having been persuaded to compose his account by members of the Royal Society.

Having oftentimes being urged to give an Account of *Virginia*, by Several of the Worthy Members of the Royal Society, I cannot but, as far forth as I am able, obey commands whereby I'm so much honour'd and show my Respect by my ready compliance, tho' I am so sensible of my own Weakness and Incapacity to answer your Expectations ⁶¹

Furthermore, the opening comments to 'Mr Clayton's second Letter, containing his farther Observations on *Virginia*', indicate that the Society's members had responded favourably to his previous epistle and continued to support and encourage his efforts, since he states that 'Being honour'd with the Thanks of the Society for my last, and receiving their Commands to proceed' ⁶²

Travel writers were perceived to be in a position of authority. The speed with which their accounts appeared in journals such as the *Philosophical Transactions*, and, in the early eighteenth century, in the monthly serial of travel narratives entitled *A New Collection of Voyages and Travels*, meant they had a greater degree of pertinency and relevance than the general geographical textbook which, by the close of the seventeenth century, ^{they} had replaced in popularity ⁶³. There was definite criticism of

⁶¹ John Clayton, 'A Letter from Mr *John Clayton*, Rector of Crofton at *Wakefield* in *Yorkshire*, to the Royal Society, May 12 1688, giving an Account of several Observations in Virginia and in his voyage thither, more particularly concerning the Air' in *Misc Cur*, vol III, p 281. The 'Preface' vol VII of *Phil Trans*, no, 81 (1672), p 4003 makes the following request of a specific, named traveller, Monsieur Bernier, 'we hope this Ingenious Traveller will make haste to give us a *Philosophical* account of his Travels'

⁶² Clayton, 'Mr Clayton's second Letter, containing his farther Observations on *Virginia*' in *Misc Cur*, vol III, p 293

⁶³ *A New Collection of Voyages and Travels*, published in seven vols between 1708

general geographical textbooks from within the Royal Society. It is faint in the compliment it pays to Heylyn's *Cosmographie*, describing the author as having 'digested into one volume what he could gather from such credible Authors as he did best understand' ⁶⁴

Whilst Daniel Beckman concedes, in his *A Voyage to and from the Island of Borneo* (1718), that the Hottentots of the Cape of Good Hope are, as they are represented in geographical textbooks 'filthy animals' and 'hardly deserving the name of rational creatures' they are as well, in his experience, 'so honest that you may trust them almost with any thing'. So, he concludes 'This shows the aspersion to be groundless which some authors (particularly Mr Morden, in his book of *Geography Rectified*) cast upon them, saying, that they were such great thieves that they will steal with their feet, while they stare you in your face'. He goes on to state that other writers of printed geographical texts are wrong to 'affirm, (and particularly Dr Heylyn) that they feed upon human carcasses' for though he concedes 'it is true, their diet is very beastly upon inquiry, I never could find that to be true' ⁶⁵. It was this very capacity to inquire directly into what they recorded that Morden and Heylyn lacked to the

and 1710 (sources *BLC* and index to *Term Catalogues*)

⁶⁴ 'Preface', vol VI of *Phil Trans*, no 69 (1671), p 2092, Bernard Varenius is criticised for not citing particular sources, preferring to offer in his narration a consensus of unnamed opinions. Edmund Halley writes

Although *Varenius* seems to have endeavoured after the best information from *Voyagers* yet cannot his accounts be admitted for accurate by those that shall attentively consider and compare them together, and some of them are most evident mistakes

Halley believes himself to be in a position to rectify these errors 'having had the opportunity of conversing with Navigators' directly and seeking specific information from them ('An Historical Account of the *Trade Winds* and *Monsoons* observable in the Seas between the *Tropicks*' in *Phil Trans*, no 183 (1686), p 153)

⁶⁵ Daniel Beckman, *A Voyage to and from the Island of Borneo* (1718) in Pinkerton, *Voyages and Travels*, vol XI, p 129, see Malvern Van Wyk Smith's fascinating essay concerning attitudes to the Hottentots "'The Most Wretched of the Human Race" The Iconography of the Khoikhoi (Hottentots) 1500-1800', in *History and Anthropology*, (5, 1992, pp 285-330)

detriment of their publications. The general geographical textbook quite simply could not compete with the speed at which new accounts appeared in serials and periodicals.

The first-person travel narrative was also hailed as being able to show where even the 'best maps' are in error. An account printed alongside a series of letters detailing a voyage to the far east shows that the first-person overseas travel narrative was valued more highly as an up-to-date source of geographical information, particularly with respect to political ownership of land, than published 'Geographical Charts' and geographical textbooks which become redundant quickly. An anonymous author writing on behalf of the Royal Society, considers that

those who have seen these Countries have made Discoveries much differing from these which our Geographers have informed us to hitherto' ⁶⁶

Once again it is Heylyn's *Cosmography*⁶⁶ that is criticised as offering an outmoded account, in this case, of the degree to which the 'Muscovites have extended the bounds of [their] empire along the *Tartarian* Sea'. The instance cited offers a fascinating example of the superiority, in terms of political pertinence, of first-person voyage narratives over geographical textbooks. An anecdote is recalled in which the Muscovite Ambassadors, having been offered hospitality by a Monsieur D'Arcy and his French Fleet 'in such a manner as put them into a very good Humour', are shown a Chart indicating a short route to Peking. In so doing the French are treated to a view of the Muscovite's military secrets, through a drunken indiscretion they came to hear of military intelligence concerning a war being planned by the Muscovite's against China.

⁶⁶ 'An Explanation necessary to justify the *Geography* supposed in these Letters' relating to preceding anonymous accounts concerning 'Muscovy and Tartary' in *Misc Cur*, vol III, p 210. See Appendix II.

This Map it seems must be kept very secret in Moscovy For the next Day the *Moscovite* was in despair, for having given it, saying that if it should be known, he should come to great Damage' ⁶⁷

It was this greater degree of relevance which gave the first-person travel narrative the authority to expose errors in the geographical textbooks

Whilst the geographical textbook lost credibility, the rise to prominence of the first-person narrative apparently led to a reassessment of earlier collections of such accounts. The 'Preface' to volume VI of the *Philosophical Transactions* in 1671 seems to indicate a revaluation of Purchas's collection of voyage narratives. It suggests a new appraisal of the achievement of his *Pilgrimes*, conceding that he 'did his part strenuously, and very usefully, and hath rather gained than lost reputation by the greater growth of Experience' ⁶⁸. The 'Preface' to volume XI of the *Philosophical Transactions*, five years later, also praises 'an excellent Treatise by the famous Purchas' ⁶⁹. In a letter to the Royal Society in September, 1685, containing observations concerning weather systems in South America, George Garden refers to his use of Purchas's collection of voyage narratives for additional source material suggesting it had a renewed credibility in that its 'Relations do not now pass for fabulous' ⁷⁰.

It is clear that travellers, themselves, embraced the notion that the information they might offer could be valuable and that they should compose their accounts with a view that they might be useful to those studying natural philosophy. Martin clearly expresses a desire that his account may have a didactic function, saying

⁶⁷ 'An Explanation necessary' in *Misc Cur*, vol III, p 210

⁶⁸ 'Preface', vol VI, *Phil Trans*, no 69 (1671), p 2092

⁶⁹ 'Preface', vol XI, *Phil Trans*, no 123 (1676), p 552

⁷⁰ George Garden, 'The Cause of Winds and the changes of Weather' in *Phil Trans*, no 175 (1685), p 1155

of his *Description of the Western Isles* 'if I had been so happy as to oblige the republic of learning with anything that is useful, I have my design'⁷¹ Similarly, 'A Letter from Monsieur N *Witsen* to Dr *Martin Lister*' was submitted by its recipient to the Royal Society for publication on account of the usefulness it might afford others *Witsen* ends his epistle by expressing the hope that his data might assist the research of his eminent zoologist correspondent, writing 'I should be much satisfied had I any thing worthy of your curiosity and the Publick, which you so often oblige with your discoveries'⁷² The very fact that *Lister*, himself a Fellow of the Royal Society, submitted his own private correspondence for publication, rather than simply using it for his own research, shows that he recognised the usefulness of its contents not just to himself but to assist the wider public as raw data This was not the only occasion in which *Lister* submitted letters sent to him for publication by the Society of which he was such a prominent member Among many others in March 1693 the *Philosophical Transactions* printed 'A Catalogue of several *Curiosities* found in *Virginia* and mention'd in some letters to Dr *Lister*' by the Naturalist, John Bannister⁷³

Another personal letter, submitted for publication by its addressee, clearly articulates the value the author places on the sort of information it imparts In particular, the value of human geography is expressed in 'A Letter from the East Indies of Mr John Marshal to Dr *Coga*, giving an Account of the Religion, Rites, Notions, Customs, Manners of the Heathen Priests, commonly called *Bramines*' in which, the author equates the worth of empirically-gathered information concerning natural phenomena, with the tangible wealth more usually considered the booty of overseas expeditions *Marshal* begins his epistle with his declared intention of taking the

⁷¹ *Martin*, *Western Islands of Scotland* (1703) in *Pinkerton*, *General Collection*, vol III, p 574

⁷² *Witsen*, 'Letter Dr *Martin Lister*' *Misc Cur*, vol III, p 237

⁷³ John Bannister, 'A Catalogue of several *Curiosities*' in *Phil Trans*, no 198 (1693), p 667

opportunity of 'presenting to you what I understand you more value than all the Riches of the East, to wit, a few Specimens of the knowledge of those People whom we stile Barbarian, Heathens and Idolaters' He goes on to explain that he is of a like mind, recognising the value of natural history writing 'I have always had a profound veneration for the Dictates of Nature, and the universal Traditions of nations, for hereby are infinite things to be learned' ⁷⁴

(iv)

Supporters and Critics.

By the beginning of the eighteenth century, travellers were themselves describing the detailed way in which they set about recording information in accordance with the precepts put forward by the Royal Society Writing retrospectively about his system for recording what he saw during his life as an active seaman, John Barbot explains

Wheresoever I was, either at sea, or ashore, I us'd to pry into every object that occur'd to the eye, and made enquiry after what I could not have the opportunity of seeing, if there was any thing in it either curious, or useful, and immediately noted it down in my pocket book, or on a loose paper mentioning the perspective, distance, proportion, and form ⁷⁵

Despite his stated lack of education, he employed the Royal Society's method of documenting his experiences when he travelled In his *History of the Royal Society*, Sprat expresses his fear that on reading the *Philosophical Transactions* some people might

⁷⁴ John Marshal, 'A Letter from the East Indies of Mr John Marshal to Dr Coga' in *Misc Cur*, vol III, p 256

⁷⁵ John Barbot, *Description of the Coasts of Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 13

think, that too many of them [its accounts] seem to be incredulous stories, and that if the *Royal Society* shall much busie themselves, about such wonderful, and uncertain *events*, they will fall into that mistake, of which I have already accus'd some of the *Antients*, of framing *Romances*, instead of solid *Histories* of Nature ⁷⁶

But he justifies the inclusion of such information and the non-interventionist editorial stance of the Royal Society in publishing accounts presented to them in their entirety by warning 'many things, which now seem *miraculous*, would not be so once we come to be fully acquainted with their *compositions*, and *operations*' So, he considers in the case of natural history

To make that [natural history] only to consist of strange and delightful Tales, is to render it nothing else but *vain*, and ridiculous *Knight-Errantry* Yet we may avoid that extreme, and still leave room, to consider the singular, and irregular *effects*, which *Nature* does sometimes practise in her *works* ⁷⁷

However, despite the emphasis placed on eyewitness accounts, anecdotes based on hearsay were still reported in voyage narratives. The following unusual anecdote forms part of 'Mr Clayton's Voyage to Virginia' which appeared in the *Philosophical Transactions*. Although it is received as an anecdotal report by the author, Clayton is keen to assert the creditable circumstances of his first hearing it and also that others have since confirmed its authority.

I was with my Lord *Howard of Effingham*, the Governor, when they brought word that one Dr A was killed [by thunder] He was *Smoaking a Pipe of Tobacco*, and looking out at his Window when he was struck *Dead* and immediately became so *Stiff*, that he did not fall, but stood Leaning at the

⁷⁶ Sprat, *History*, sect XXXII, 'The Relation of things of Nature and Art they have received', p. 214

⁷⁷ Sprat, *History*, pp. 214-215

Window, with the Pipe in his Mouth in the same Posture he was in when Struck,
but this I deliver as a Report, tho' I heard the same Account from several,
without any contradicting it ⁷⁸

In other cases it is less clear which information in a text represents the primary experience of the author and which is based on the reports of others. The reader of Caren's *Voyage round the World* discovers he writes both 'of his own knowledge, and what he had from others'. So, the information he includes is only in part that which he acquired 'as an Eye-witness, the rest as he received it'. Although the reader is assured that all the 'collected' material is 'curiously and well grounded', it is not clear which information is derived from secondary sources ⁷⁹

Certainly, despite the substantial reforms to the style and content of overseas travel narratives, the methodology of later seventeenth-century accounts will still

⁷⁸ Clayton, 'Mr Clayton's Voyage to Virginia', *Phil Trans*, no 201 (1693), p 781. Accounts of electrocution during storms are usually nominally attributed to thunder rather than lightning in seventeenth century accounts. Here Clayton goes on to explain that he speaks 'confusedly of *Thunder* and *Lightning*' since it is when these occur simultaneously due to the 'nearness of the cloud' that such '*Fatal Circumstances*' happen. Other examples in contemporary voyage accounts and *Phil Trans* of thunder being regarded as a destructive agent in itself, causing the effects more properly attributed to lightning include, Richard Hakluyt, *Principal Voyages*, vol 1, p 60 'He was afterward slaine by a thunderclap', Thomas Herbert, *Travels* (1638), 2, p 19, 'Falling downe as thunder-struck', Thomas Neale, *Phil Trans*, no 1 (1664), p 247 'The Account concerning the boy that was Thunder-struck near Nantwich in Cheshire', *Phil Trans*, no 11 (1666), p 648, 'Those Thunder-stricken ones [compasses] did never recover their right position', Thomas Cook, *Voyage round the World*, (1733, 1769), vol II, 11 p 304, 'to acquaint them that we had weapons which, like the thunder, would destroy them in a moment'. Thunderclap is also used figuratively by Herbert, *Travels*, p 331 'A thunderclap was heard'. For thunder manifesting itself in the form of a tangible dart or bolt which sometimes accompanies the flash of lightning see, William Lithgow *Travels* (1632), vol II, p 69 'Men should dread the thunderbolt when they see the lightning'. For a contemporary discussion of the cause and effects of electric storms see 'A Letter of Dr Wallis to Dr Sloane, concerning the Generation of Hail, and of Thunder and Lightning, and the effects thereof', *Misc Cur*, vol II, p 315.

⁷⁹ John Francis Gemelli Caren, *A Voyage Round the World*, 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, sig [*4]. This refers to Caren's 'Description of the Persian Empire'.

appear disconcerting to the modern reader. By modern standards, the process of comparative analysis appears primitive. The analysis of regional mortality patterns in Mr Hillier's 'Observations at Cape Corse' written in a letter to 'Dr Bathurst, President of *Trinity College Oxford*', is concluded by a brief and vague analogy in which he states, 'I think there be many more *Funerals* here than at *Oxford*'⁸⁰ The composition and structure of accounts also seems startling⁸¹ Martin Martin's '*Observations in the North Isles of Scotland*' is disconcerting in its brevity, comprising a series of numbered points on diverse topics relating to the various islands that he visited, many of which, despite Martin's allegiance to the Royal Society's remit to travellers, appear to be derived from local folk-lore as is shown by the following extract which retains the sequence in which his observations appear in the account published in the *Philosophical Transactions*

9 *Anna George*, who continu'd in the State of *Virginity* till the 51st *Year* of her Age (as is evident by her Declaration on her Death-Bed) Marry'd and brought forth a Boy in the 52nd *Year* of her Age, having 2 *Teeth* in his Head

10 Another Woman in *Lewis*, was 7 *Years* bringing forth a *Child*, Bone after *Bone*, and all by the *Fundament*

11 A Boy in the Isle of *Skie*, Aged 16 *Years*, has a Faculty of Erecting his *Ears* at his *Pleasure* There are several Towns in *Skie*, where the *Sheep* have no *Marrow*, all these Towns are *Rocky*, *High*, and very *Windy*

⁸⁰ J Hillier, '*Observations at Cape Corse*', in *Misc Cur*, vol III, p 361 First printed in *Phil Trans*, no 232 (1697), p 687

⁸¹ The style of accounts written in *Phil Trans* highlights the difference between contemporary and seventeenth-century experimental methodology. The procedure for gathering samples for analysis adopted by John Harris in his '*Microscopical Observations*' is documented with a thoroughness which, to the modern reader, is inconsistent with the arbitrariness and unsystematic nature of the operation. He describes how he looked for 'creatures' in the '*Film or Whitish Scum*' on stagnant water

'I Examined some *Rain-Water* that stood Uncovered a pretty while, At the same Time I look'd on a small Drop of the *Green Surface* of some *Puddle-water*, which stood in my Yard'
(*Phil Trans*, no 220 (1696), p 254)

12 The Inhabitants of St *Kilda*, are every Summer Infected with a *Cough* upon the *Chamberlain's* Landing which lasts for 10 or 12 *Days*, and the useful Remedy for it is *Gibben* Drunk upon *Brochen* of Meal and Water This *Gibben* is the *Fat* of *Sea-Fowls* Preserved in the Stomach, a Sovereign remedy for *Coughs* and *Green Wounds* ⁸²

This extraordinary mix of anecdote and observation is certainly not a systematic account based entirely on primary interaction. Though the information may have been gathered during his visit, it is based on hearsay. So, for example, the account of Anna George is not only reported to Martin subsequent to her death but the assertion of her virginity is substantiated solely on the grounds of her own declaration without any questioning of her reliability. The reviewer of another account advises the reader to exercise discretion and separate the author's observations from what he reports upon the advice of others. So, the reader is warned that whilst that which the author, a Portuguese Jesuit, describes based on his own primary experience 'no doubt is very authentick', some of the 'other things' concerning fabulous creatures which 'he writes upon hearsay' deserve not the same Credit' ⁸³

Not everyone was impressed by the experimental philosophy of the Royal Society and its unequivocal reliance upon empirical encounter. Henry Stubbe was not alone in his criticism of the apparent willingness of its Fellows to entertain even the most extraordinary opinions if they were presented as being based upon primary observation ⁸⁴. Many satirical assaults on the Royal Society and its Fellows began to appear by the close of the century. These include Thomas Shadwell's dramatic comedy

⁸² Martin, 'Observations in the *North Isles* of *Scotland*' in *Phil Trans*, no. 233 (1697), p. 727

⁸³ Christopher Born, *Account of Cochun-China*, 'To the Reader' in Churchill and Churchill, *Voyages and Travels*, vol. II, p. 787. The translator of this text is referring here to another account which he does not name, of which he goes on to say that despite being written 'in a commendable Stile, is of no credit being full of false Relations, as is made out by all other Author's that write of those Parts'

⁸⁴ See references to Stubbe's criticisms of the Royal Society, above

The Virtuosi (1676) and William King's *The Transactioneer* (1700) which satirises the *Philosophical Transactions* and includes a parody of Hans Sloane's 'Voyage to Jamaica'⁸⁵ King satirises Sloane's exhaustive representation of circumstantial observation as well as the blandness of the straightforward and plain style in which his account is composed⁸⁶ He lampoons the belief upheld by the Royal Society's Fellows that natural philosophy must search for truths and that in the pursuance of this end ornamental expression acts as an inhibitor The publisher⁸⁷ of King's character Slovenburgh, who clearly is a caricature of Sloane, confesses that many of the things described by the author in his travel narrative 'may seem at first to be trivial, yet contain in them great penetration, of thought and depth and judgement'⁸⁸ King then proceeds to parody Sloane's almost compulsive enthusiasm for collecting specimens from his travels that might be brought back as evidence for further investigation It is boasted that Slovenburgh

hath not so much as ne[g]lected an Earpicker or a Rusty Razor, for he values anything that comes from the *Indies* or *China* at a high Rate, for were it but a

⁸⁵ See also, [King], *The Present State of Physick in the Island of Jamaica* [1709?] which is another satire of Hans Sloane's travel writing, William King also translated Joseph Hall's *Mundus Alter et Idem*

⁸⁶ King names Sloane as the subject of his *Transactioneer* in his 'Preface' writing derisively

All who read his *Transaction* beyond the Seas, cry out that the subjects which he writes on are generally so ridiculous and mean and he treats them so emptily that it is plain he's so far from any useful Knowledge that he wants even common Grammar

(William King, *The Transactioneer* (1700), 'The Preface', sig [A3]r)

⁸⁷ The character of the publisher or 'Transactioneer' is, by King's own admission, ('The Preface', sig [A2]r) a parody of Henry Oldenburg, who, as assistant-secretary of the Royal Society, edited *Phil Trans* 1664-1677 However, Sloane's account of his experiences in Jamaica appeared as seven separate accounts between 1691-1699 in *Phil Trans* no 192 (1691), p 462, no 204 (1693), p 922, no 209 (1694), p 78, no 222 (1696), p 398 [298], no 232 (1697), p 674, no 249 (1699), p 44, no 251 (1699), p 113 See Appendix I for the titles of each extract

⁸⁸ King, *Transactioneer*, p 16

Pebble, or a Cockle-Shell from thence, he'd soon write a comment upon it, and perpetuate its Memory upon a 'Copper-plate'⁸⁹

In his 'Preface' to *The Transactioneer*, King makes a forthright attack on travellers who proffer accounts of their capers as though they are of intellectual value, expressing his sorrow 'to see that Excellent Society in any hazard of being Eclipsed by the wretched Gambols of these People'⁹⁰ Samuel Butler also satirises the Royal Society Although he does not explicitly criticise the its Fellows' acceptance of the opinions of travellers, his satire of a 'Traveller' condemns those overseas travellers who, on their return, claim a superiority of knowledge He considers 'little credit is to be given' to those that 'speak and write of their Travels'⁹¹

Anthony Ashley Cooper, Earl of Shaftesbury, refers with ironic derision to 'travellers, learned authors and men of truth and great philosophers' and criticised Locke for affording value to the opinions put forward in the narratives of such men when he should be consulting 'antient philosophers'⁹² Elsewhere, Shaftesbury wonders at the fact that 'historys written by Fryers and Missionarys, Pirates and Renegades, Sea-Captains and trusty Travellers, pass for authentick Records, and are *canonical*' He is sceptical of the idea that intention to truthfulness is sufficient to ensure accuracy in the accounts of lowly-educated men His concern is not that they

⁸⁹ King, *Transactioneer*, p 18, note how pleased the zoologist, Martin Lister, was with the specimens of 'Cockle-Shells' sent to him by Nicholas Witsen referred to above

⁹⁰ King, *Transactioneer*, 'The Preface', sig [A3]^r, he is concerned that the reputation of this 'Excellent Society', which 'Learned Men abroad have ever very justly had a vast esteem for', will be damaged by the ill-advised acceptance of travellers' accounts (Ibid, sig [A3]^r)

⁹¹ Samuel Butler, 'Traveller' in *Characters and Passages from Note Bookes*, p 64 Butler also satirises the interest of the Royal Society's Fellows in extraordinary phenomena in his 'Ballad of Gresham College' See also the discussion of his 'Elephant in the Moon' in Chap VI, (1)

⁹² Anthony Ashley Cooper, Third Earl of Shaftesbury, *Letters to a Student of the University* (1716, 1746) p 47

may deliberately lie but that lack of ability may lead them inadvertently to compose inaccurate accounts since 'Facts unably related, tho with the greatest Sincerity, and good Faith, may prove the worst sort of Deceit'⁹³

Even those who did accept the premise that uneducated seamen offered a freshness of vision which lent inestimable value to their accounts, sometimes expressed concern that their stylistic simplicity of expression might detract from the subject matter and thereby be a source of weakness. The fashion for modest references by the very authors themselves, requesting pardon for not writing 'in elegant termes', demonstrates a concern about the simplicity of their narrative style which, though invariably justified by them, implies a certain unease⁹⁴. Samuel Baron, writing retrospectively, apologises for the prose style of his own accounts saying 'the stile and diction thereof must needs be very defective'. He urges his 'friends', presumably Hoskins and Hooke to whom he dedicates his account, to correct it where necessary⁹⁵. Similarly, John Barbot, also writing retrospectively about the narrative style of his *Description of the Coasts of Guinea*, says of himself 'I must own I have often lamented my misfortune, of not having been brought up to learning, which disables me from delivering what I have observ'd in so good a method and with such elegancy of style, as might be expected'⁹⁶. He does not think this jeopardises the value of his observations, but does seem concerned that their reception might be adversely affected by the manner in which they are recorded.

⁹³ Cooper, *Characteristicks of Men, Manners, Opinions, Times* (1711, 1734) vol I, part III, sect III, pp 345-346

⁹⁴ Pierre d'Avity, *Estates, Empires and Principalities* (1615), 'Translator to the Reader' by Edward Grimstone, sig π 3^v

⁹⁵ Baron, *Tonqueen*, 'Advertisement' in Churchill and Churchill *Voyages and Travels*, vol VI, p 1^v

⁹⁶ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 3

So, by the beginning of the eighteenth century, the first-person overseas travel narrative had come to be seen as having a definite didactic purpose. Travellers had begun to adopt the role of collectors of data which might be useful for those engaged in the study of natural philosophy. They began to see themselves as natural historians whose remit is to gather and record information about the natural world, to present it 'as it appear'd to them' rather than interpreting it or presuming to conjecture how it might be used by others. The influence of the Royal Society, with its specific address to travellers and interest in this type of discourse, is traceable in bringing about this change not only in its execution of its campaign but in the response of travellers. This is one of the few campaigns aimed at revising a written genre, the results of which are discernible almost immediately. There is evidence, manifest in the comments of those writing accounts, to suggest that the efforts of the Royal Society's Fellows were responsible for instilling in many overseas travellers a sense of responsibility to report and make public their findings and a desire to offer an account that might 'Facilitate the many *Discoveries* still ready to Reward the *Labours* and *Expenses* of all Industrious *Promoters* of the *Natural Knowledge*'⁹⁷

⁹⁷ John Lowthorp, *Philosophical Transactions*, abridg'd (1705, 1716), 'The Preface', vol. I, p. 1v.

Chapter IV.

The Restoration Voyage Collection: the Re-evaluation of Earlier Accounts.

(i)

The Churchill Collection.

not a booke of Voyages and Travels in the World, but the World historised in a world of Voyages and Travels ¹

It has already been shown how British travellers responded to the suggestions put forward by Fellows of the Royal Society concerning both what observations should be made by those engaged in overseas travel and how these findings should be made public. It has been noted how British seamen, writing subsequent to the Royal Society's campaign, explicitly addressed their observations to the changing criteria concerning the composition of travel narratives and stressed their desire to offer accounts that were useful both to other travellers and to those engaged in experimental philosophy. In this chapter we will look at some seventeenth-century voyage and travel accounts which were published in English at the very beginning of the eighteenth century, many of which were translated European texts, written prior to the establishment of the Royal Society yet not previously published in English. By considering the way in which these accounts were advertised, I hope to show that although many of them were composed before the appearance of specific instructions

¹ Samuel Purchas, *Purchas His Pilgrimes* (1625), 'To the Reader', vol. I, sig. [¶5]r

concerning the style and content appropriate to such texts, and do not therefore make self-conscious references to their proposed usefulness, they were re-evaluated in the wake of the Royal Society campaign and considered appropriate for translation and publication

I have chosen to do this specifically, though not exclusively, with reference to the largest and most popular compilation of seventeenth-century voyage accounts, *A Collection of Voyages and Travels*, edited and printed by the brothers Awnsham and John Churchill in 1704² The Churchills were the leading booksellers of the day, Awnsham, the elder of the two, holding the prestigious post of 'stationer to the King' They had already established a reputation for themselves as willing to undertake publications of substantial length dealing with historical geography, in 1695 they published the first edition of Edmund Gibson's translation of William Camden's *Britannia*³ Their *Collection of Voyages and Travels*, the first four volumes of which were published at the outset of the eighteenth century, was comprised of seventeenth-century overseas travel accounts '*some now first printed from Original Manuscripts, others translated out of Foreign Languages and now first published in English [and] some few that have formerly appear'd in English, but are now for their Excellency and Scarceness deserve to be Re-printed*' as the full title of the text elaborates

This collection, by publishers who explicitly aligned themselves to the Royal Society campaign to promote voyage accounts by reiterating its directions and elaborating upon its ideals, might be seen as fulfilling Robert Hooke's proposal for an

² Awnsham Churchill and John Churchill, *A Collection of Voyages and Travels* vols I-IV (1704) Two further volumes, also comprised entirely of seventeenth-century voyage and travel narratives, followed in 1732 In the 'Publisher's Preface' to vol I, they explain they already have sufficient material to constitute two further volumes (Ibid, p vi)

³ Edward Gibson, later Bishop of Lincoln (1716) and London (1723), translated Camden's *Britannia sive Florentissimorum Regnorum Angliae, Scotiae, Hiberniae et Insularum Adjaentum ex Intima Antiquitate Chorographica Descripto* (1586)

anthology of voyage and travel narratives that preserved rare texts. It included not just the accounts of educated captains but also of lowly sailors, and made efforts to overcome the nationalistic pride which had dominated the previous famous collections of voyage accounts in England, chiefly those of Richard Hakluyt and Samuel Purchas, both of whom, as has already been noted, confined their attentions to the '*Navigations, Voyages and Discoveries of the English Nation*'⁴ Here, for the first time in England, was a collection of voyage accounts which declined to distinguish between the value of English and European texts⁵ Furthermore, the collection was prefaced by an extensive 'Introductory Discourse containing The Whole History of Navigation from its Original to this time', which not only reiterated verbatim Rooke's instructions but offered additional advice to overseas travellers, as Hooke had hoped for, and provided its own specialist bibliography, a 'Catalogue and Character of most Books of Travel' already published with a brief summary of their contents as a source for further reading⁶

⁴ Richard Hakluyt, *The Principall Navigations, Voiages and Discoveries of the English Nation* (1589), Purchas, *Purchas His Pilgrimes Navigations, Voyages, Traffiques, and Discoveries of the English Nation*

⁵ Richard Eden, *The Decades of the New Worlde or West India* (1555) was the first collection of voyage accounts to be compiled in English. Due to its early date it consisted of translated texts. It is an example of early English Renaissance voyage literature being printed to exhort interest in overseas expansion rather than to document English achievements, as were the later collections of Hakluyt and Purchas, compiled subsequent to England's involvement in voyages, see Introduction, other voyage collections published for the first time in the period 1660-1711 are

John Evelyn, *Navigation and Commerce* (1674)

John Ray, *Collection of Curious Travels and Voyages* (1693)

Tancred Robinson, *An Account of Several Late Voyages and Discoveries* (1694)

A Collection of Original Voyages, ed. William Hacke (1699)

Miscellanea Curiosa, vol. III 'Containing a Collection of Curious Travels, Voyages and Natural Histories of countries as they have been Delivered in to the Royal Society' (1707)

A New Collection of Voyages and Travels (monthly serial), VII vols (1708-1710)

A New Collection of Voyages and Travels, into several parts of the world, none of them ever previously printed in English compiled by John Stevens, II vols (1711)

⁶ Churchill and Churchill, *Voyages and Travels*, 'Introductory Discourse containing The whole History of Navigation from its Original to this time', vol. I, pp. lxxii-

Since most of the texts included in the Churchills' collection were written prior to the establishment of the Royal Society, what is most interesting about them is the ways in which they were advertised and promoted as fulfilling what were by then widely regarded as appropriate criteria for the overseas travel narrative. Here, the individual narratives which comprise the collection will be considered, primarily in the context of the publication as a whole, in an attempt to show not only the reasons why these particular accounts were selected for inclusion, but also how the publishers set about presenting each account, and their collection overall, to appeal to an increasingly enlightened readership with changing expectations of what overseas travel narratives should be like. I hope to establish that the Churchills' collection represents something quite distinct from previous collections of voyage narratives compiled in England, and is very much a product of the Restoration period.

It has been shown that the Royal Society's campaign to promote a simple and uncluttered prose style and its professed preference for 'the language of Merchants, before that, of Wits, or Scholars' widened the field of authors from whom opinions might be sought.⁷ The position of an authoritative travel writer was no longer the exclusive domain of the educated captain or senior officer. Lower-ranking seamen had written accounts before, but it was not until the Restoration period that their narratives began to be recognised as having a value and were published.⁸

lxxiv, 'Catalogue and Character of most Books of Travel', vol I, p lxxvi ff

⁷ Thomas Sprat, *History of the Royal Society* (1667, fac reprint 1959), p 113. The Royal Society's acceptance of the authority of men with practical experience of that which they describe, is well documented. A Rupert Hall observes in *The Scientific Revolution 1500-1800*, chap VIII, 'Technical Factors on the Scientific Revolution', that 'the wealth of fact was augmented by admitting the observations of craftsmen, navigators, travellers, physicians, surgeons and apothecaries as worthy of serious consideration'. It is his contention that the status of empirically-gathered information was gradually enhanced so that it came to be regarded as 'hardly inferior' to the 'systematic truths' (by which he implies the theoretical, formulaic laws) of physics and medicine, (Ibid, p 217)

⁸ Although Richard Hakluyt does not only include narratives written by the Captains

An example of this is to be found in Edward Pellham's account of eight men's survival of a winter in Greenland⁹ This narrative was composed shortly after that expedition in 1630, but since its author, Pellham, was 'an ignorant Sailor who, as he confesses, was in no better a Post than Gunner's Mate' it was not regarded as being worthy of publication until the close of the seventeenth century¹⁰ Indeed, this is an example of one of the texts brought before the English public for the first time by the brothers Churchill, who, in accord with the prevailing ideas of the later seventeenth century, perceived ^{the} a value of the information it contained Although this account is almost entirely concerned with the circumstances of the individuals involved, it is constructed very much as experimental observations, charting '*their Miseries, their Shifts and Hardships they were put to*'¹¹ Consequently, the information it affords is absolutely consistent with the Royal Society's quest for information which might be used to develop understanding of natural phenomena, in this instance, the condition of human beings placed in a particular geographical environment under conditions which the account specifically and carefully documents The Churchills are unperturbed by the fact that the '[n]arrative has nothing of Art of Language', urging their readers to 'expect no more than bare Matter of Fact, deliver'd in a homely Stile'¹²

In fact, it might be said that a 'homely Stile' had, by the close of the seventeenth century, come to be equated with truthfulness, for the bare recital of information in

themselves, the accounts almost always document the expeditions of the great famous English Travellers such as Martin Frobisher, John Davis, John Hawkins, Humphrey Gilbert, Walter Raleigh, Francis Drake and Thomas Cavendish In this respect they differ from the accounts which proliferate in the Restoration period which afford far greater importance to the opinions of lower-ranking seamen

⁹ Edward Pellham, *the Miraculous Preservation and Deliverance of Eight Men in Green-land, Anno 1630* in Churchill and Churchill, *Voyages and Travels*, vol IV, p 808

¹⁰ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p viii

¹¹ Subtitle of Pellham's *Miraculous Preservation* in Churchill and Churchill, *Voyages and Travels*, vol IV, p 808

¹² Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p viii

such narratives gave the impression that they never, in the words of Hooke, 'swarve from the truth of Matter of Fact'¹³ Indeed, the stylistic simplicity of the seaman came to be idealised to such an extent that the crudely expressed narratives of lower-ranking seamen were regarded not just as having a legitimacy equal to the elegant prose of better-educated men, but as actually being more trustworthy

An account by seven barely literate seamen, even though it contradicts previous accounts, is proclaimed true 'in Opposition to divers fabulous Relations, which have been published upon the same subject'¹⁴ This is how the Churchills describe *Journal kept by seven sailors, in the Isle of S Maurice in Greenland* which is surely the most extreme example in their collection of a travel narrative written in a simple style due to the low standard of education of its authors. The narrative construction of this account, which charts the decline to death from starvation and exposure of seven ordinary sailors who had voluntarily chosen to spend a Winter in Greenland and '*all Died in the said Island*', is praised by the Churchills who heartily recommend it to the reader despite the fact that the last survivor, who composed the narrative from the journal kept by all seven of them throughout their stay ' was illiterate before having to take on the task of writing about the others, as did appear by his Hand-Writing, and the reports of others'¹⁵ Whilst their definition of illiteracy is perhaps rather loose, the overall point remains clear, although the author's literary talents were few, this was not seen by publishers in the Restoration to jeopardise the value of his experiences¹⁶

¹³ Robert Hooke, 'The Preface' in Knox, *Historical Relation of the Island of Ceylon* (1681), sig [(a)3]^v

¹⁴ *Journal kept by Seven Sailors, in the Isle of S Maurice in Greenland*, in Churchill and Churchill, *Voyages and Travels*, vol II, p [414]

¹⁵ *Journal kept by Seven Sailors* in Churchill and Churchill, *Voyages and Travels*, vol II, p 424

¹⁶ See further comments concerning the narrative construction of this account below, sect (v)

By the close of the seventeenth century readers, now turning to travel accounts for instruction and information, for 'profit' as well as 'pleasure', were vociferous consumers of this type of literature, willing to express and specify their disappointment if their expectations were not met¹⁷ If they were willing to criticise authors for omitting details of information in his own account, how much more resistance would they show to the abridgement of narratives by publishers, translators or editors?

(ii)

The Role of the Editor.

The process of gathering and editing voyage accounts for publication, particularly in collections, involved complex decisions for the seventeenth-century compiler, rendering it a time-consuming task In the 'Epistle Dedicatorie' to the fourth and final part of his *Pilgrimes*, Purchas notes apologetically, by recourse to an appropriately sea-faring metaphor, that his 'ship hath been longer in her Circum-Navigation than any of the World-Compassers' whose accounts he includes¹⁸ What

¹⁷ In the 'Introduction' to the second volume of his *A Voyage to the South Sea and Round the World* (1712), Edward Cooke answers criticisms from his readers concerning his own editorial decision to omit details of winds and weather systems from the first volume, written in 1709, claiming defensively, 'to swell a volume with what could neither be of Use, nor afford Entertainment would have been altogether superfluous' (Edward Cooke, *A Voyage to the South Sea and Round the World* (1712), 'Introduction', vol II, pp xviii-xix) Cooke's dismissal of such data on the grounds of their superfluity to usefulness or entertainment is an example of an editorial decision which, by 1712, was considered to be unacceptable by those reading the accounts Laurence Rooke specifically refers to the monitoring of wind and weather conditions in his 'Directions for Seamen' (1665) Captain Thomas James's *Voyage for the Discovery of the North West Passage into the South Sea* (1631) was prized for its detailed description of the weather 'The Account he gives of the extremity of the Cold in those Quarters, and his Observations on it are curious and were very useful to Mr Boyle, in the Experiments he made about Cold' (Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p v)

¹⁸ Purchas, *Pilgrimes*, vol IV, 'Epistle Dedicatorie to George, Archbishop of

serves to make the task of the editor of such texts so arduous, however, is not as one might expect, the abridgement of those accounts selected for publication. On the contrary, it is the editors' very determination to present accounts in their entirety, their commitment to representing the travellers' experiences in the form and manner in which they were originally constructed, that is often problematic.

Commenting on the fact that their *Collection of Voyages and Travels* had taken longer to produce than they had anticipated and previously advertised, the Churchills explain in their 'Publisher's Preface' to the first volume: 'We might have made quicker dispatch, and perform'd what we undertook at less Charge, could we have contented our selves with abridging any of the Pieces we have given entire, or with leaving out some of those Cuts'¹⁹ Why then should the editorial process be significantly complicated by what would appear to be an editorial decision that would simplify the task of the compiler? Continuing his seafaring metaphor, Purchas excuses the protracted execution of his project on the superfluity of information offered by his 'pilgrimes', and, in an attempt to pre-empt his critics, further blames any factual errors which might be exposed in his collection on this very surfeit of information which, he claims, pushed his editorial capacity to the point of bursting. He contends his ship was 'often in danger to be overset, while the Author's impotent and impatient Genius filled all her sailes to the Top and Top-gallant beyond the proportion of her ballast, whereby some leakes of uninviting errors' might conceivably have 'happened in'²⁰

One of the main reasons voyage collections were seen to be valuable and could attract such a large readership was that they could encompass a wide range of accounts, affording readers the opportunity to select the type of narrative appropriate

Canterbury' sig ¶3^v

¹⁹ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol. I, p. 11

²⁰ Purchas, *Pilgrimes*, vol. IV, 'Epistle Dedicatorie' sig ¶3^v

to their particular requirements²¹ Accordingly, they could, with some legitimacy, be advertised as being 'diverting and useful to all sorts of readers',²² since, as Purchas claims 'such as want either lust or leisure, may single out, as in a Library of Bookes, what Author or Voyage shall best fit to his Profit or pleasure'²³ Indeed, this was a claim made not only for collections but for voyage accounts published on their own as well, for this division of seventeenth-century consumers of overseas travel narratives between those seeking instruction or 'profit' and those who read for diversion or 'pleasure', which was by no means a mutually exclusive polarity, lies at the core of understanding the non-interventionist editorial stance that was so often self-consciously adopted by publishers of voyage accounts in the latter half of the seventeenth century and early eighteenth century It was in recognition that such texts attract readers not only seeking instruction but also, or perhaps exclusively, reading for entertainment, and that, furthermore, there is no consensus concerning what constitutes useful information, that the notion arose that it would be inappropriate for publishers to perform an editorial function of abridgement 'seeing those who read for their Diversion, have different Tastes, and those who read for Instruction have different Views'²⁴

Certainly, this is how the Churchills justify their method of including accounts in their entirety, stating 'we would not assume the Liberty of prescribing to the Publick how much of an Author they should read, or determine which figures are useful and which superfluous'²⁵ Furthermore, they claim to present the accounts in

²¹ Purchas claims that in his collection he is
Intending to present the world to the World in the most certaine view, I
thought a world of Authors fitter for the purpose, than any One Author
writing of the World

(*Pilgrimes*, chap I, 'The First Booke', vol I, p 1)

²² Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p vi

²³ Purchas, *Pilgrimes*, vol I, 'To the Reader', sig ¶5'

²⁴ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 11

²⁵ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 11

full in deference to the judgement of the respective authors stating 'we shall not presume to abridg the Originals, but fairly and candidly deliver whatever our Authors have thought fit to be inserted in their several Pieces'²⁶ As we are about to discover, these editorial claims in the preface to the collection are compromised to some extent in the presentation of the actual texts

There was a notion of what sort of information was appropriate for inclusion in a travel narrative and what should be omitted by a prudent but cautious editor. Just as voyagers were coming to see their role as being that of suppliers of primary information for those engaged in natural philosophy and were willing to concede that their 'descriptions of countries without the natural history of them, are reckoned to be defective', so a notion of what was not appropriate to include also began to crystallise²⁷. Certain types of information ceased to have a valid place in the travel narrative. The Churchills are critical of the earlier famous English collections of voyage accounts, though, interestingly, not, as one may expect, on the grounds that they so obviously prioritise the experiences of English travellers. Rather, they refer to the editorial 'method' of both Hakluyt and Purchas, suggesting that, the selection of material to be included in their respective collections was somewhat haphazard, and would not meet with the more stringent and exacting requirements that have come to be expected by consumers of Restoration voyage and travel accounts. In their bibliographical 'Catalogue and Character of most Books of Travel', they refer somewhat disdainfully to Hakluyt's 'method of heaping together all things good and bad' and go on to suggest that his *Voyages* might have been improved by his adoption of a more selective process of editing.

²⁶ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 11

²⁷ Martin Martin, *A Description of the Western Islands of Scotland* (1703) in Pinkerton, *Voyages and Travels*, vol III, p 575

The Collection is scarce and valuable for the good there is to be pick'd out, but it might be wish'd the Author had been less voluminous, delivering what was really authentick and useful, and not stuffing his work with so many stories taken upon trust, so many that have nothing new in them so many not at all pertinent to his Undertaking, and such a multitude of Articles, Charters, Privileges, Letters, Relations and other things little to the purpose of Travels and Discoveries ²⁸

Something no longer considered appropriate was religious rhetoric. The writer of 'The Preface' to *The History of the Provinces of Paraguay, Tucuman, and the adjacent Provinces in South America*, explains that the original text written by Nicholas del Techo, a Jesuit Priest, has been abridged in order to omit those passages which detail the lives, preaching and actions of the Jesuits themselves 'and other pious Matter', since the inclusion of such information runs contrary to the prevailing expectations of readers of travel narratives ²⁹ The editor asserts firmly that 'religious Narrations' are

not the Subject of this present Work, nor likely to be at all acceptable to the Reader, who in a Book of Travels, will expect to meet with nothing but what is profane History, Description, strange Manners, Customs and Superstitions, surprising Accidents, Discoveries, conquests, and such Things as are usual in Books of this Nature ³⁰

The new style of travel narrative, then, was so firmly established by the close of the seventeenth century that it was deemed that this account in its original format would be immediately unacceptable to a modern readership. And so the publishers feel justified in engaging their editorial control to render the account in a manner more acceptable to a modern audience, in order that the readers' 'Expectation may be

²⁸ Churchill and Churchill, 'Catalogue and Character', in *Voyages and Travels*, vol I, p xciii

²⁹ F. Nicholas del Techo, *The History of the Provinces of Paraguay, Tucuman, Rio-de-la-Plata, Parana, Guaira and the adjacent Provinces in South America*, 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

³⁰ Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

answer'd according to the Nature of the Work' Therefore, 'those religious Narrations are either quite left out, or, if any thing be said of them, it is so concise as may no way be tedious, but rather afford something of variety'³¹

Through a process of editing, the perceived failure of Techo's original Latin text to conform to the criteria for a 'useful' voyage account has 'in some measure been rectify'd' by 'joyning some Accounts, which in him lye far sever'd', so that 'several Matters which in the Original lye far asunder, are here for the better understanding of them brought together'³² The editors explain

when he begins to enter upon the subject of the Jesuits we reduce many Chapters into a few Lines each there are Chapters quite left out, till we meet with more temporal Affairs sometimes delivering whole Chapters, oftener reducing them into less compass, by leaving out those Things that are not Historical, and sometimes wholly omitting Chapters³³

Because the author's principal concern has been to present his experiences in the context of the affairs of the Jesuits, he 'has not therefore digested the others to the best advantage for a Reader that looks only for Travels'³⁴ Nevertheless, efforts have been made to maintain the spirit of the original text which serves to give it at least the appearance of authenticity Passages dealing with religious matters are retained in those instances when, the editor considers, they 'serve to make a connection' with passages that are pertinent to a travel narrative, so as not to induce a dislocation in the

³¹ Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

³² Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

³³ The first 21 sections are left unchanged 'for the author proceeds here without interrupting it with any spiritual Matter', Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

³⁴ Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

text 'lest breaking off too abruptly in some place, we should altogether lose the Order and Method of the Author'³⁵

Similarly, information relating extensively to issues of trade, whilst constituting useful knowledge to a specialised readership, is omitted from the *Journal of Sir Thomas Roe*, originally intended for perusal by the East India Company, when it is presented for publication for a wider audience³⁶ Hence, out of the 'vast multitude' of letters accompanying Roe's *Journal*, the Churchills have extracted only some for publication, thereby deciding 'all that is remarkable or of use' in them, 'the rest being only business of Trade' to the East India Company and, therefore, deemed to be of little interest or value to the general reader³⁷ Nevertheless, they are clearly uneasy about omitting any information contained in the original text This is shown by their self-conscious defence of this decision to omit some letters, particularly since this very account is advertised on the premise that it is a more full version than those published previously³⁸ They include a précis of what has been left out in the form of a list 'containing all things that are good saleable commodities' with the express purpose 'that nothing might be omitted to satisfy the most curious'³⁹

³⁵ Techo, *History of the Provinces of Paraguay* 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

³⁶ Thomas Roe, *The Journal of Sir Thomas Roe* in Churchill and Churchill, *Voyages and Travels*, vol I, p 762

³⁷ Thomas Roe, 'Preface', *The Journal of Sir Thomas Roe* in Churchill and Churchill, *Voyages and Travels*, vol I, p [758] Similarly the Churchills are unconcerned by the incomplete state of Roe's *Journal*, having accepted the assurances of Purchas whose version of the text they have elsewhere derided, who omits all the information even though he professes it was available to him on the grounds that it contained 'only what peculiarly related to Trade and the Business of the Company', and was therefore inappropriate for inclusion in a book of Travels *Journal*, 'Preface', p [758] See further comments below, sect (iv)

³⁸ See comments below concerning the Churchills' assurances that their version of Roe's *Journal* is superior to that printed in Thevenot's *Voyages and Travels* and Purchas's *Pilgrimes*

³⁹ Roe, *Journal*, in Churchill and Churchill, *Voyages and Travels*, vol I, p [758]

The presentation of accounts verbatim was often used as a means of asserting their authenticity. The very fact that an account was published exactly as it had been written by the traveller himself was explicitly cited as evidence of its authority and truthfulness. The *Travels from Moscow into China* of Feodor Iskowitz Backhoff, 'the Muscovite Envoy', is praised, in its *Advertisement to the Reader*, not only for its 'usefulness in Geography' but is also recommended on the grounds that it is presented 'without the least Alteration according to the Copy thereof sent to [the publisher]' ⁴⁰ Unexpurgated accounts, presented in the style in which they were composed were considered to carry with them an air of authority derived from the primary nature of the information being imparted. The introduction to the publication of Pellham's account of the 'Miraculous Preservation and Deliverance of Eight Men in Green-land' notes that it has a simple and direct narrative style, which, the editor considered 'it was not fit to alter, lest it might breed a Jealousy that something had been chang'd more than the bare Language' ⁴¹ Once again, the stylistic simplicity of the humble seaman is consciously retained as an expression of the text's veracity in conjunction with an assertion, by the publishers, that the account represents exactly what was written by Pellham himself.

Even those accounts compiled by a third party, not present during the journey itself, often claim to use the very words of the original texts from which the information is taken. John Nieuhoff's *Remarkable Voyages and Travels into Brazil and the East Indies*, composed 'after his Decease' by his brother, Henry, is purportedly comprised of the very words used by John Nieuhoff himself to describe his experiences. So, 'those Things which he relates of the Revolt of the *Portugueses* in

⁴⁰ Feodor Iskowitz Backhoff, *The Travels of Feodor Iskowitz Backhoff, the Muscovite Envoy, from Moscow into China*, in Churchill and Churchill, *Voyages and Travels*, vol II, p [546]

⁴¹ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p viii, Pellham, *Miraculous Preservation*, in Churchill and Churchill, *Voyages and Travels*, vol IV, p 808

Brasil, are extracted *verbatim* out of the Records' kept by Nieuhoff during his travels, and also from 'Authentick Letters' written by him ⁴²

It was not unusual for publishers in the Restoration to promote voyage accounts as superlative, in an attempt to lure readers by the promise that if they read their publication they will surely learn all there is to know, or, at least, all that is useful to know about that particular subject or geographical region. John Greaves's *Pyramidographia, or a Description of the Pyramids of Ægypt* is described by the Churchills as being 'the most accomplished Narrative we have of those wonderful Piles, and may spare all other Travellers the Trouble of writing of them' ⁴³ Likewise,

⁴² John Nieuhoff, *Remarkable Voyages and Travels into Brasil*, in Churchill and Churchill, *Voyages and Travels*, vol II, sig [a2]^r, geographiæ of the early seventeenth century were regularly amended and augmented by editors and translators. Edward Grimestone, the translator of Pierre d'Avity's *The Estates, Empires and Principalities of the World*, which first appeared in English in 1615, feels quite at liberty to offer additions to the text as he translates it.

I may not advow it to be a meere translation, for that I have not tied my selfe strictly unto the lawes, but have added unto it in divers places, whereas by my owne search and studie, I have found somethings (happily not seene by him) which might beautifie the worke, and give content unto the Reader (Ibid , sig π 3^r) So, although Grimestone claims only to have 'bin forced to varie something from [the] phrase' of the original 'but not from the truth of the subject' it transpires that he is in fact willing to vary the original text considerably in order to present what he considers to be the real truth of the subject.

I have also in other places omitted some things, wherein my Author had beene abused by the relations of others, and in some sort taxed the honour of some Nations, the which in mine owne knowledge were mistaken (Ibid , sig π 3^r) Furthermore, the author of the text himself, in his 'Preface to the Reader', allows that his work might be improved upon by others, not by composing similar texts of their owne, but by correcting and supplementing his.

I protest with trueth, that if I have given any ranke or commendation to this worke, I will give much more to those that shall labour to make it perfect, for that in my opinion it is not yet fully finished, and that any man may adde something dayly unto it, for from time to time they have more certaine advice from all parts, especially from those countries which have not been much frequented, either by reason of the distance or for their barbarousnesse (Ibid , 'Preface to the Reader', sig [A4]^r)

In 'The Preface' to his abridgement of the *Phil Trans* (1705), John Lowthorp gives a detailed account of his editorial method and explains that he has never supplemented any of the accounts with additional material of his own. 'I thought it very Unwarrantable to Obtrude any thing of me, under the Name of another Person' (Lowthorp, *Phil Trans to 1700, abridg'd* (1705, 1714), 'The Preface', p 11)

⁴³ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p vi

even though it was not composed with the intention of being made public, John Nieuhoff's *Remarkable Voyages and Travels into Brasil* contains a 'description of *Brazil* so exact and full, that he has left nothing for the diligence of those who have come after him', according to the anonymous writer of its 'Preface', who feels confident enough to assure the reader 'he leaves nothing worth relating untouched'⁴⁴

This claim that any one narrative offers a definitive account is actively criticised by one seventeenth-century traveller whose account is also included in the Churchills' collection. In 'The Introductory Discourse' to his *A Description of the Coasts of North and South-Guinea*, John Barbot expresses his view that 'countries of such a vast extent [as Guinea and America] daily afford matter of new discoveries', so that 'it is impossible for those who have writ already, tho' ever so capable and indefatigable, to have seen and found out all things'. Therefore, he believes 'any man may justly conclude there is still room enough for his remarks'⁴⁵ Indeed, Barbot blames the fact that some overseas travellers still show a reluctance to compose accounts detailing their experiences on the prevalence of the editorial line that those accounts already published are definitive and can not be improved upon. He claims that travellers have allowed themselves to believe this rhetoric, even if only to indulge their own lethargy

it is a great misfortune that among such a multitude of men as have been employ'd in voyages [to Guinea] since navigation has been brought to the present perfection, so few have been curious to make proper remarks and observations of what might be found entertaining and useful. This omission, I am of opinion, proceeds from the opinion generally conceiv'd, that *Guinea* and *America* are already so well known, that it is not worth their trouble to make any farther observations, than what have been already publish'd⁴⁶

⁴⁴ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 1v

⁴⁵ John Barbot, *Description of the Coasts of Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 3

⁴⁶ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V p 3

So, however confident the assertions of truthfulness and claims of exhaustive coverage of the subject may be, either by the author or publisher, the process of documentation of regional locations was, according to Barbot, an ongoing one, necessarily negating the very possibility of any account being definitive. Just as Sir Robert Moray stressed in his enlargement of Rooke's 'Directions for Seamen', that the specified collection of data and the carrying out of experiments 'are to be repeated every New Voyage, in order to find out and confirm the truth of them', so, it follows, every new voyage should ideally give rise to new narratives describing those observations⁴⁷

Whilst reiterating the recommendation previously put forward by Rooke and then endorsed by Moray,⁴⁸ that travellers carry with them appropriate instruments and table books to facilitate the taking and recording of measurements, John Barbot further adds that seamen should include amidst their luggage 'the most valuable accounts of those countries that they intend to visit' in order to 'make remarks where they are exact, or note down their faults'. This suggestion that voyagers be 'provided with any printed accounts of those countries' they are to visit in order that they might 'compare their own particular observations with them', is further evidence that the discourse of the voyage narrative was regarded as having a direct influence on the primary act of observation and the process of documentation is an ongoing one⁴⁹

⁴⁷ Rooke's 'Directions for Seamen' were reprinted and expanded upon subsequently both in *Phil Trans*, by Robert Moray, no. 24 (1667), p. 433, and later in Churchill and Churchill, *Voyages and Travels*, 'An Introductory Discourse containing the Whole History of Navigation from its Original to this time', vol. I, pp. lxxiii-lxxiv.

⁴⁸ Moray, 'Directions for Observations and Experiments', *Phil Trans*, no. 24 (1667), p. 433.

⁴⁹ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol. V, p. 11. Barbot warns, however, that this 'ought to be done without any odious reflections on the authors, as has been done by many, thinking, thereby to recommend their own works' since they should consider that 'they may perhaps themselves commit mistakes, which when others shall rectify, they will be exposed to the same severe censures' (*Ibid*, p. 12).

The publication of ever more detailed and allegedly more pertinent and truthful accounts did not render those published previously redundant, however. Even accounts that were recognised as not being exhaustive, and had already been superseded by more extensive and current narratives, were perceived as retaining a value providing they made some contribution to useful knowledge. Sir Thomas Roe's account 'of all the provinces subject to the Mogul, and of the Extent of his Dominions', originally published in the first quarter of the seventeenth century, is, the Churchills urge 'not to be rejected, for, tho' time and Experience have produc'd more ample and exact Relations, yet his are just as to the main, such as he receiv'd upon the spot, and pleasing to those that read of this mighty Monarch'⁵⁰

Captain Thomas James's *Voyage for the Discovery of the North West Passage into the South Sea* (1631-2) was published previously in England in 1633, but was not printed again until the Churchills included it in their collection. Since it tells of a failed expedition it was afforded little attention in the early part of the century. It was not one of the great achievements of the English nation of the sort which Hakluyt wanted to preserve, but rather the documentation of an unsuccessful mission. However, in the latter part of the century it came to be valued for a reason to which, interestingly, James himself refers in his introduction to his narrative, that is, its usefulness to others that they might learn by his mistakes. Although his account proclaims in its subtitle that it offers a description of 'the Miseries Indured, Both Going, Wintering, Returning' James is confident it will not inhibit the efforts of subsequent voyagers. 'I very well know that what I have here hastily written, will never discourage any noble Spirit, that is minded to bring this so long tried Action to Absolute effect'. On the contrary, he

⁵⁰ Thomas Roe, *Journal*, 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol I, p [758]

takes pleasure in the knowledge that his experiences and research manifest in his account may actually be of use to subsequent voyagers embarking on a similar mission. This, then, is some recompense for the hardships he himself endured for such little effect.

For although I have spent some years of my ripest Age, in procuring vain Intelligence from Foreign Nations, and have travelled out divers Honourable and Learned Personages of this kingdom, for their Instructions, have Bought up whatever I could in Print or Manuscript, and what Plot or Paper so ever conducing to this Business, that possibly I could procure and spent some time in rendering a relation, (since my coming home) yet I repent not my self, but take a great deal of Comfort and Joy in that I am able to give an account (in some reasonable way) of those Parts of the World, which heretofore I was not so well satisfied in.⁵¹

Indeed this is precisely the reason the Churchills decide to include the narrative in their collection.⁵² Significantly, following its appearance in their *Voyages and Travels* it became a very popular text because it came to be seen as fulfilling the current criteria of usefulness in a way which it had not been perceived as doing before.⁵³

⁵¹ Thomas James, *Voyage for the Discovery of the North West Passage into the South Sea* (1631-2) in Churchill and Churchill, *Voyages and Travels*, vol II, p. 530. Nicholls's *Bristol Biographies* (no. 2, p. 76) and, Ivor James, *The Source of the Ancient Mariner* (1890) both put forward arguments to suggest that James's narrative of his expedition was read by Coleridge and may have inspired him in his composition of the 'Rime of the Ancient Mariner'.

⁵² 'The names of the Several Instruments Captain Thomas James provided and brought for the Voyage of 1631-2 in his intended Discovery of the North West Passage into the South Sea' from *The Strange and Dangerous Voyage of Captain Thomas James* (1633) is reprinted in David Waters, *The Art of Navigation in England* (1978), vol III, appendix 25, pp. 572-573.

⁵³ After being resurrected by the Churchills in 1704 it was printed again in Harris's *Collection of Voyages and Travels*, the following year and a second edition in which it was published alone in 1740.

(iii)

'By his very Method he Appears to have been a Sincere Man'.⁵⁴

Of course, the authority of an account is dependent on the trustworthiness of its author. We have already seen how a wider selection of travellers was afforded the status of being authoritative reporters, but how did writers and their publishers set about relating this idea to specific narratives? Asserting the reliability of the observer and his capacity and willingness to narrate his account in a truthful and unbiased manner was to become a major concern for writers and publishers of Restoration overseas travel accounts. Some assert their allegiance to telling the truth in a personal preface or introduction to the text. Alonso de Ovalle, in his own 'Preface', written subsequently, to *The Historical Relation of the Kingdom of Chili (c. 1646)* 'declares how sincerely he has dealt' with the data, 'in order to deliver nothing but the Truth'⁵⁵

If such an assurance is made on behalf of the author by a respected figure so much the better. Robert Knox's *Historical Relation of Ceylon* (1682), benefits from the endorsement of three famous individuals, each of whom explicitly praises the authority and truthfulness of the author. The publication includes a letter of recommendation by Christopher Wren and, additionally, is prefaced by an assertion of the author's honesty and reliability from Robert Mackbourne, Secretary 'At the Court of Committees for the East-India Company'. Writing on behalf of the East-India company, to whom Knox dedicates his account, Mackbourne declares 'We Esteem Captain Knox a Man of Truth and Integrity, and that his Relations are worthy of

⁵⁴ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol. I, p. iv

⁵⁵ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol. I, p. vi
The Churchills are referring here to Ovalle's own 'Preface' to his account

Credit, and therefore encouraged him to make the same Publick'⁵⁶ Furthermore, in his preface, Robert Hooke writes of Knox

I conceive him to be no ways prejudiced or byassed by interest, affection, or hatred, fear or hopes, or the vain- glory of telling Strange Things, so as to make them swarve from the truth of Matter of Fact'⁵⁷

The Churchills are eager to assert the veracity of the accounts they include in their collection They set about doing this, both in the 'Account of the Bookes contain'd in this Collection' in which they not only offer brief biographical details of the author along with the date and proposed purpose of the voyage but, more significantly, in the introductions to each specific narrative in which, above all, they assert the reliability of the author This is done in a variety of ways depending on who the author is So the ideal of the simple seaman is conveniently forgotten if, like John Francis Gemelli Careri, the author is 'a Man of learning and excellent natural Parts' bringing with him 'all the advantages which common Travellers generally want',⁵⁸ but upheld in the case of accounts such as that written by the barely literate sailor who died during a winter in Greenland whose 'want of Ability ought to plead strongly', they assure the reader, for 'the simplicity and honesty of his Observations'⁵⁹

The *Account of Cochun-China* by the Jesuit Missionary, Christopher Borni, is authenticated by the Churchills with reference to the duration and nature of his stay in the location which he describes In the preface 'To the Reader', his credibility as an author and the perceived exactitude of his observations are expressed by comparing

⁵⁶ Knox, *Historical Relation of Ceylon*, sig π v

⁵⁷ Hooke, 'The Preface' in Knox, *Historical Relation of Ceylon*, sig [(a) 3]v

⁵⁸ John Francis Gemelli Careri, *Voyage Round the World*, 'The Preface' in Churchill and Churchill *Voyages and Travels*, vol IV, sig [*4]r

⁵⁹ *Journal kept by Seven Sailors*, in Churchill and Churchill, *Voyages and Travels*, vol II, p [414]

the extent of his residency there and his knowledge of the vernacular with that of travellers whose stay is more transitory and for whom linguistic differences may account for misunderstanding

He liv'd five years among them, and learn'd their Language to perfection, and therefore his Relation is not like those of Traveller's, who just pass through a Country, or Merchants, that touch at ports upon the Business of Trade, and consequently deliver very fabulous Accounts, either to make their Travels the more surprising, or for want of knowing better, taking things upon hear-say, and not understanding the Language to get certain Information ⁶⁰

Such an introduction promises a dry and unremarkable account from Borri, which indeed the ensuing narrative duly delivers. It does, however, imply he checked his sources and does not deliver anything he could not reasonably verify or that might have suffered in inadequate translation, since, having lived there for so long and being fluent in the language he 'had the opportunity of knowing what he writ' to be the truth, and not be dependent 'upon hear-say' ⁶¹

Perhaps the unremarkable and ordinary nature of Borri's account makes it seem more plausible and gives it an air of reliability. Certainly, a sense of integrity arising from the very style of the narration was often referred to as a means of demonstrating a text's authority and affirming the candour of its author. '[T]he greatest commendation that can be given' to Borri's account is manifest in 'the general Approbation it has

⁶⁰ Borri, *Cochin-China*, 'To the Reader', in Churchill and Churchill, *Voyages and Travels*, vol II, p 787

⁶¹ Borri, *Cochin-China*, 'To the Reader', in Churchill and Churchill, *Voyages and Travels*, vol II, p 787. Similarly, Hooke considers the reader need not doubt Knox's authority to deliver the information contained in his account of Ceylon saying, 'for his opportunity of being informed, any one may satisfie himself when he understands his almost twenty years Abode and Converse among them'. Hooke also cites Knox's 'skill in the Language and customs of the People' in his assertion of that author's authority. Hooke, 'The Preface' in Knox, *Historical Relation*, sig [(a) 3]^v

always receiv'd', but, significantly, this approval and acclaim is derived not from any tangible corroboration of the information it imparts, but rather from a sense of truthfulness, which emanates from the very style of the narrative, seeming 'to convey all the Air of Truth imaginable'⁶² Exactly the same phrase is used to endorse Dr Careri's *Voyage Round the World* which is described as having 'An Air of Truth' that 'appears Throughout it, there being nothing but what is told with much Modesty, and what is probable and natural enough in so it self'⁶³

This notion that the honesty of a traveller and the veracity of his documentary evidence is somehow manifest in the very style of his prose writing is reiterated by the translator of Henry Hamel's *An Account of the Shipwreck of a Dutch Vessel on the Coast of the Isle of Quelpaert* (1653),⁶⁴ assures the reader, 'There is nothing in it that carries the face of a Fable, invented by a Traveller to impose upon the believing World'⁶⁴

Other examples of the veracity of an account purportedly being apparent in its narrative style include the *Journal* of Thomas Roe, of which the Churchills claim 'there is little cause to suspect the Truth of his Relation, because by his very Method he appears to have been a sincere Man'⁶⁵ Significantly, the subject matter itself is not referred to at all but, rather, the unaffected simplicity with which he records his experiences in his journal It is his method rather than the result of his exploration

⁶² Borri, *Cochin-China*, 'To the Reader', in Churchill and Churchill, *Voyages and Travels*, vol II, p 787

⁶³ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p vii, Michael McKeon also comments on the Churchills' use of this phrase to assert the historicity of the accounts in their collection He notes 'plainness of style seems almost a precondition for the documentary authenticity - the truth - of the text' (*The Origins of the English Novel* (1987), p 109)

⁶⁴ Henry Hamel, *Account of the Shipwreck of a Dutch Vessel on the Coast of the Isle of Quelpaert*, translator's 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, p 608

⁶⁵ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p iv

which is perceived as having the greatest pertinence to the overall truthfulness of his account. In his letter to Richard Chiswell recommending that he print Robert Knox's *Historical Relation of Ceylon*, Christopher Wren, writing in his capacity as a representative of the Royal Society, concludes that by simply reading the text it 'seems to be written with great Truth and Integrity'⁶⁶ Likewise, the reader is prompted to believe that William Monson's *Naval Tracts* 'plainly appear to be written with a true Zeal for the Publicke, and without Prejudice or Affectation'⁶⁷ How precisely this aura of trustworthiness is to be discerned is not elaborated but the reader is assured that Monson is motivated by an ardour for the reader that compels him to be sincere and which is somehow manifest, at least to his publishers, in the very manner in which he writes

Conscious of a need to authenticate the reliability of his brother John's *Remarkable Voyages and Travels into Brasil*, Henry Nieuhoff, who presents his brother's accounts for publication posthumously, is eager to assert the reliability of the author and his persistent adherence to truth, assuring the reader that throughout a lifetime of travel his brother never fell victim to an 'illness' which afflicted so many voyagers

The Vast Countries through which my Brother Travell'd in his Life-Time could not in the least Infect him with the Disease so incident to Travellers, To Relate Fables instead of Histories, it having been his constant Practice, to Adhere most Religiously in all his Treatises, to the Naked Truth, without the least Disguise⁶⁸

⁶⁶ Christopher Wren, letter to Richard Chiswell, printer to the Royal Society, in Knox, *Historical Relation*, sig. π^v

⁶⁷ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol. I, p. vi

⁶⁸ John Nieuhoff, *Remarkable Voyages and Travels into Brasil*, Henry Nieuhoff's 'An Advertisement to the Reader', in Churchill and Churchill, *Voyages and Travels*, vol. II, sig. [a2]^v

Fear of being discredited and gaining a reputation for falsehood was, of course, a major motivator to truthfulness for many well-known travellers. The writer of the preface to Nicholas del Techo's *History of the Provinces of Paraguay* proclaims boldly

As for the Truth of the Relation, I see little reason to call it in question, since the Author could have no Inducement to forge any part of it, as being a Religious Man, who valued his Reputation, and could propose to himself no Benefit or Advantage by Falschood ⁶⁹

Yet, motivation to tell the truth is referred to as a means of authentication even in the case of the journal kept by seven sailors, all of whom died, and perhaps even more significantly were aware of their own demise, during their trip to Greenland, and who consequently have no reputation to preserve. Praised, for their dedication to the task of recording the details and advance of their plight for as long as they could,⁷⁰ they are further described in the 'Publisher's Preface' as 'doubtless [having] no Inclination to impose on the World' as 'they felt themselves declining' ⁷¹ This follows an excuse for the simplicity of the narrative, which upholds the mundane nature of both its style and content as evidence of its veracity.

The Method so plain, and such as might be expected from Sailors, and as there is nothing in the Relation that seems incredible, so neither is there any ground to call the Truth of it in question, because they all died one after another, and left behind them without any Alteration ⁷²

Likewise, the memoirs of Henry Hamel concerning his captivity for thirteen years in Corea are supposed true on the grounds that he had no reason to think they would be made public. Since he did not know 'in that miserable Life whether he should ever obtain his Liberty to present the World with what he writ', the publishers consider he

⁶⁹ Techo, *History of the Provinces of Paraguay*, 'The Preface', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 681

⁷⁰ *Journal kept by Seven Sailors*, in Churchill and Churchill, *Voyages and Travels*, vol II, p 424

⁷¹ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p v

⁷² Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p v

had no reason to fabricate his experiences ⁷³ There is no question in the preface to his narrative that the reason for his prolonged residency there may have affected the reliability of his observations and biased his opinions

(iv)

'Eye-evidence'.

The Churchill's say of the account of a Spanish Friar, Domonick Fernandez Navarette's *Historical Political Moral and Religious Account of the Empire of China*

he delivers nothing but upon the best grounds, as an Eye-witness, where he could be so, or else upon the Authority of Chinese Histories, which he searched and very well understood, or upon the information of credible Persons, ever mentioning on which of these the reader is to rely for the truth of what he narrates ⁷⁴

It is significant that whilst the author himself concedes that not all the information is drawn from his own experiences, nonetheless he is careful to identify his secondary sources and the Churchills are keen to stress this fact. Almost all the narratives included in the Churchill collection are written in the first person. They are ostensibly based on the primary observations of the narrator alone and dependent entirely on empirically-gathered data. On closer scrutiny, however, it becomes apparent that this was not always the case. The assertion of Charles May, whose sentiment typifies that so commonly expressed by travel writers of the later seventeenth century, that he delivers his account 'not upon hearsay, but as an eye-witness, present at every part' and, therefore, is not in 'any way inclin'd to romance' is not only inaccurate but is

⁷³ Hamel, *Account of the Shipwreck*, translator's 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, p 608

⁷⁴ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 11

based upon a premise which is palpably untrue⁷⁵ We have seen the claims of the Churchills and the translators and editors of specific narratives in the collection that the accounts are presented verbatim and without abridgement and the punctilious descriptions of what has been omitted and why Yet despite these claims, many accounts, whilst purporting to be first-person narratives based entirely on the experiences of the traveller cited in the title, are, in fact, constructed quite differently

Certainly, some seventeenth-century voyage accounts, though they at first appear to be exact transcriptions of a specific traveller's memoirs, have in fact been adapted⁷⁶ Very often an account which ostensibly appears to be written by the traveller to whom its authorship is attributed, is, on closer scrutiny, not in fact comprised solely of the experiences of that author In other words, their primary journals have been rewritten by a ghost writer into a methodical narrative⁷⁷ So, it transpires, Martin Baumgarten's *Travels through Egypt, Arabia, Palastine, and Syria* in fact represents the conflation of his own journal with 'his Servant's Observations, both of them having kept Diaries of all they saw'⁷⁸

Most writers do not claim to have written their account at the very time of travel though there is certainly an implication, upon which their reliability depends, that they are written shortly following their return lest, as Hooke had feared, 'they should forget

⁷⁵ Charles May, *An Account of the Wonderful Preservation of the Ship Terra Nova of London Homeward-bound from Virginia* [1688] in Churchill and Churchill, *Voyages and Travels*, vol VI, p 345

⁷⁶ The only blatant example to be found in the Churchills' collection of an account being rendered by someone who is not an eyewitness of the events described is the *Fragment of the Discovery of the Islands of Salomon* The 'Advertisement' clearly states that 'the relation must be taken from some of the Discoverers, yet the Methodizer of it, was certainly none of them, because he all along speaks in the third Person, as one no way concern'd', in Churchill and Churchill, *Voyages and Travels*, vol IV, p 665

⁷⁷ See Robert Hooke's suggestion that 'fitting Persons' be found to compile the memoirs of travellers 'into a History' cited in Chap II

⁷⁸ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface' vol I, p 111

what they intended'⁷⁹ Nevertheless, many were anxious to inform the reader that the information included was noted down at the very time of travel as Hooke and the Royal Society had suggested William Dampier assures his reader that he 'kept a Journal of every days Observations' upon which his account is closely based John Barbot explains 'I constantly, and day by day gather'd all the memoirs, notes, remarks, and figures I could judge useful, diverting, or curious'

Every evening I retir'd, either to my cabin aboard, or my chamber ashore, and their enter'd in my journal all that I had during the day set down by way of memorandum in my table-book⁸⁰

Writing retrospectively about the actual process of composing a travel narrative, Barbot suggests that the length of the voyage itself, so often hated by travellers to distant locations, might be seen as helpful with regard to the composition of narratives describing the journey He notes the opportunity which long periods in transit afford the traveller by allowing him to transcribe the notes he has taken into a coherent narrative that might be published on his return, whilst the information about which he writes is fresh in his mind Accordingly, he says of the journey from America to Guinea 'there is scarce any other voyage that will afford a man more leisure to observe and write'

every man may have spare hours to make his remarks, and write them down as they occur, all which may be afterwards transcrib'd during the passage from one continent to the other two or three hours every day may be better employ'd that way than in drinking, gaming, or other idle diversions too frequently used⁸¹

⁷⁹ Hooke, 'The Preface' to Knox, *Historical Relation*, sig [(a)3]v

⁸⁰ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 13

⁸¹ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 3

It was generally accepted, however, that it was infeasible to compose these notes into a narrative during the journey. Occasionally a traveller claims to have 'transcrib'd the whole again during our passage back', but more usually accounts were composed retrospectively.⁸² So the seventeenth-century travel narrative, so prized because of its immediacy, was in fact almost always constructed subsequent to the moment of observation. Furthermore, it was often dependent upon intelligence derived from indigenous inhabitants, incorporating the very sorts of folklore and traditional understanding of environmental phenomena which the new type of literature boasts of having rejected, or, at the very least, questioned and tested. In this way a narrative overlay involving a tension between information specifically noted contemporaneously and remembered events, wrestle with one another in the text. Contemporaries, it would seem, underestimated, to the point of ignoring, the potential corruption of the reliability of a text by the necessity to engage memory. Indeed, the Churchills seem to consider it is perfectly acceptable to compose an account entirely from memory, without any written or pictorial *aide memoire* whatsoever, as is evinced by their endorsement of the account of one Sieur de Beauplan who was able to write *A Description of Ukraine*, even though his papers and Map were seized by the King of Poland.⁸³ Apparently, then, concerns about the reliability of memory as a factor almost always present in the construction of travel narratives and which might affect a writer's ability to relate things exactly, were minimised.

Some writers, however, did express a consciousness that retrospective narrative construction may affect the accuracy of their accounts. One writer makes the proviso that his account is accurate 'as far as my memory would help me' and admits to having jogged his memory on returning from his voyage by 'comparing it [his recollections]

⁸² Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 13

⁸³ Churchill and Churchill, *Voyages and Travels*, 'Publisher's Preface', vol I, p 111, Sieur de Beauplan was Guillaume Levasseur

with what was said touching the same by [other] authors'⁸⁴ In his letter to the Royal Society concerning his experiences in Virginia another traveller, John Clayton, acknowledges that his account, written on his return, was composed largely from memory, and considers that this may have had a detrimental effect upon the trustworthiness of his descriptions

I took very few Minutes down in Writing, and therefore, I have only my memory to rely on, which too has the Disadvantage of its own Weakness, and of the distance of two Years since now I left the Country⁸⁵

Doubtless, Hooke and Rooke would have expressed disapproval at this haphazard approach to constructing a travel narrative, though Clayton's comments here are surely an expression of modesty His account is in fact filled with masses of detailed observations from his travels including meticulous descriptions of botanical phenomena which were almost certainly composed with reference to detailed notes⁸⁶ Yet, despite the scrupulous detail of his own account, he remains concerned that 'Descriptions of things that depend on memory may be liable to Mistakes, and yet the sincerity of the Person that delivers them intire'⁸⁷

⁸⁴ Barbot, *Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels*, vol V, p 13

⁸⁵ John Clayton, 'A Letter from Mr *John Clayton*, Rector of Crofton at *Wakefield* in *Yorkshire*, to the Royal Society, May 12 1688, giving an Account of several Observations in Virginia' in *Misc Cur* (1707), vol III, p 281

⁸⁶ John Clayton, Attorney General at Virginia, was also the father of the famous eighteenth-century botanist of the same name Clayton's observations in Virginia were highly valued by the Royal Society and were reprinted early in the eighteenth century both in Lowthorp's abridgement of *Phil Trans* and in *Misc Cur* His first 'Account of several Observations in Virginia' was printed in *Phil Trans*, no 201 (1693), p 781, his 'Second Letter, containing his further Observations on Virginia' appeared six months later in no 206 (1693), p 990, reprinted in *Misc Cur*, vol III, pp 281-315

⁸⁷ Clayton, 'Account of several Observations in Virginia' in *Misc Cur*, vol III, p 281

Sir Thomas Roe's *Journal* is one of the accounts explicitly prized precisely because it represents a primary account, composed at the very time of travel, rather than being a retrospectively-constructed narrative. Roe's journal had appeared in print before in Purchas's *Pilgrimes* and in French in Thevenot's *Collection of Travels* but the Churchills claim their version of the text is the most accurate and complete. Although, by their own admission, the additions it provides to existing published accounts of Roe's voyage 'are not great in bulk', what supplements there are 'are valuable for the Subject'. They confidently assure their readership that this edition contains 'all that is valuable of *Sir Thomas Roe*, and nothing that may cloy the Reader'⁸⁸ It is, they claim, superior to that printed by Purchas due to its having been 'taken from his own Original Manuscript, which Purchas had not, but some imperfect copy of it'⁸⁹ Furthermore, they have chosen to include such things as 'His Sailing Table' to satisfy their Curiosity who have not seen the like' and charts which demonstrate his 'method of setting down those Observations at Sea'⁹⁰ This sort of information, which is omitted by Purchas earlier in the century is, in the later seventeenth century considered appropriate for inclusion since it offers not only statistical data which may be of use to others but illustrates the manner in which such details should be recorded⁹¹

⁸⁸ Roe, *Journal*, in Churchill and Churchill, *Voyages and Travels*, vol I, p [758]

⁸⁹ Roe, *Journal*, 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol I, p [758], Purchas's copy of the manuscript is, by the Churchills own admission, in some ways a more complete text. At the end of their publication of Roe's *Journal*, they suggest that their text is incomplete and, having previously referred derisively to Purchas's version, now cite him as an authority to confirm that none of the text now missing was of significant worth saying that although 'the rest [is] lost, Purchas in his Extract says, there was nothing more material in it' (Ibid, p [758]) The *DNB* entry for Purchas states, 'it may fairly be supposed that the originals of many of the journals entrusted to him, of which he published an imperfect abstract, were lost through his carelessness, so that the fact that the *Pilgrimes* contains the only extant account of some voyages is by his fault, not by his merit'. Further it inclines to agree with the Churchills saying 'A comparison of what he has printed with such originals as remain shows that he was neither a faithful editor or a judicious compiler'

⁹⁰ Roe, *Journal*, 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol I, p [758]

⁹¹ Purchas writes about his editing of Roe's letters in *Pilgrimes*, vol I, chap 16, 'Divers passages betweene the *Mogul* and Sir *Thomas Roe*', §9, p 578

(v)

Composite Narrative Construction.

Perhaps surprisingly, authorial coalescence was not necessarily seen as problematic, particularly if the original author of the text did not survive the duration of the voyage. Even in the case of the account by John Nieuhoff which, as has been noted, was advertised as being truthful on the very grounds of its presentation of primary experience, it transpires that his *Remarkable Voyages and Travels into Brasil, and the East-Indies* is actually in part amalgamated with someone else's journal. So the account of his last voyage to the Isle of Madagascar where Nieuhoff 'was lost' which is appended to the publication of his *Voyages* is 'taken partly out of his own Letters, partly out of the Journal of Captain *Reinard Clacson*'⁹²

Similarly, the documentary account of seven sailors dying of scurvy and exposure in Greenland printed by the Churchills has an unusual and composite narrative construction since the author of their journal dies leaving the text incomplete. It is finished by another unnamed traveller who arrived in Greenland subsequently and discovered the bodies of the dead men. The reason this journal, which, despite relating a voyage in 1632, had not previously been published, was valued by the Churchills in the later half of the seventeenth century is that they viewed it as documentation of a scientific experiment tracing the sailors' slow decline towards death. It records in detail the effects on the human body of poor diet and extreme cold. Certainly this is how the account is presented by them in their collection. They stress the fact that the sailors were not shipwrecked there but, rather, volunteered to go in full

⁹² Nieuhoff, *Remarkable Voyages and Travels into Brasil*, Henry Nieuhoff's 'Advertisement to the Reader' in Churchill and Churchill, *Voyages and Travels*, vol II, sig [a2], elsewhere throughout the text Capt Clacson's name is spelt Reiner Klacson

knowledge of the hardships they would endure, seeing it as a test of stamina. They offer the text to their readers as though the sailors were taking part in a deliberate investigation, conducted and recorded by themselves, 'during which time, they kept a Journal of all Remarkable Occurrences'⁹³ Indeed, the conclusion of the narrative by the traveller who found them adds to this sense that their plight is consistent with experimental philosophy. He describes in detail the circumstances in which the dead men were found:

'Near one of them stood some bread and cheese, upon which probably he had fed not long before his Death, another had a Box with Ointment by his Cabin-side, wherewith he had rubb'd his Teeth and Joints, his Arm being still extended to his Mouth, there also lay a Prayer-Book near him, wherein he had been Reading'⁹⁴

He attempts to draw conclusions from the sailors' predicament by viewing his own empirical findings in conjunction with the information they provide in the journal. He presents his deductions in the systematic and rational manner of scientific enquiry. For example, he seeks to explain their staggered degeneration by suggesting it is 'very probable, that some might grow sooner stiff, by the excessive cold than others, in proportion to the quantity of Natural Heat they had left'

it is beyond all question, that the source of their Distemper was the Scurvy, occasioned by their Salt Food, without any manner of Refreshment which having put the Cramp into their Limbs, and rendered them incapable of Exercise, they soon grew quite stiff, and were quite overcome by the Cold, it being

⁹³ *Journal kept by Seven Sailors*, in Churchill and Churchill, *Voyages and Travels*, vol II, p 425. The writer of the concluding section notices the irony of the fact that the deceased sailor's journal which is found lying alongside his corpse ends with the words 'Die Memorandum' so that 'the word DIE was the last, questionless, he writ, intending probably to set down afterwards his Observations according to his usual way', and praises the fact that 'he writ as long as he was able' in his commitment to documenting his plight.

⁹⁴ *Journal kept by Seven Sailors*, in Churchill and Churchill, *Voyages and Travels*, vol II, p 425.

certain, that without the Scurvy they needed not have dreaded the cold which was not so excessive' ⁹⁵

He distinguishes between their symptoms of exposure and other aspects of their ill health, suggesting that their poor diet, though not in itself fatal, contributed to their inability to withstand their environment. The additions to the text of the second narrator alter substantially its scope to make it more pertinent to the expectations of a Restoration audience.

The Churchills' collection of voyage narratives fulfilled Robert Hooke's ideal. It made available to a wide audience texts which may otherwise have remained largely unknown or even unpublished. It is significant that most of the texts printed in their collection were written prior to the establishment of the Royal Society. Yet, through their general introduction and specific prefaces to particular narratives the Churchills made these earlier texts appear consistent with the precepts put forward by Fellows of the Royal Society concerning this type of writing.

The increasing popularity of voyage narratives towards the end of the seventeenth century meant that new accounts had little difficulty appearing in print either in the *Philosophical Transactions* or individually. The particular contribution which the Churchills made was to revive interest in earlier accounts which had received little or no public attention since they were first written earlier in the century. Despite their claims that they have not edited or abridged the accounts, in fact they have in many instances altered narratives by omitting certain passages in order that they might appear to meet the new criteria which, by that time, had come to be generally accepted for this type of literature.

⁹⁵ *Journal kept by Seven Sailors*, in Churchill and Churchill, *Voyages and Travels*, vol II, p 425

Chapter V.

Imaginary Voyage Prose Fictions.

(i)

The Painter's Wife's Island.

The *Painter's Wife's Island* is mentioned by Sir Walter Raleigh in his *History of the World*. A Spanish Gentleman who being taken Prisoner by Sir Walter in his going home, was asked of him about some *Island* which the *Maps* presented in those *Streights* [of Magellan] and might have been of great use to him in his Undertaking. To which he merrily replied, that it was to be called the *Painter's Wife's Island*, saying that whilst the Painter drew that *Map*, his Wife sitting by desired him to put in one Country for her that she in her imagination might have an island of her own. His meaning was that there was no such *Island* as the *Map* presented. And I fear the *Painter's Wife* hath many *Islands* and some *Countries* too which are not really to be found on the strictest of search.¹

The popularity of voyage accounts in the later seventeenth century was matched by a flourishing of a type of prose fiction which described voyages which never took place, almost always to imagined locations.² An examination of the vogue for fictional voyage accounts in England at this time is, for several reasons, pertinent to this present study of the ways in which geographical regions were described. It is

¹ Peter Heylyn, *Cosmographie in Four Books, Containing the Chorographie and Historie of the Whole World* (1652, 1666), Appendix (1667), p. 1094. Heylyn refers to an anecdote from Raleigh's *History of the World* concerning a conversation between the explorer and 'Don Pedro de Sarmiento, a Spanish Gentleman employed by his King in planting some Colonies on the Streights of Magellan'. Note the spelling in Heylyn's text is 'wive's' rather than 'wife's'.

² Georges La Guilletiere [Guillet de Saint Georges, pseud.], *An Account of a late Voyage to Athens* (1676) is the only seventeenth-century imaginary voyage prose fiction which details a journey to a real location. See note 39 below concerning the location of the Isle of Pines.

interesting to notice the ways in which texts describing imagined voyages changed and developed throughout the seventeenth century, to assess the extent to which this type of writing was influenced by the changes which were taking place in the style and content of general geographical texts and real voyage accounts

Imaginary voyage accounts bear an obvious relationship to real voyage literature in as much as they ostensibly purport to do the same thing. However, I shall attempt to show that whilst the Royal Society's prescriptives for the writing of voyage accounts did have an obvious and significant effect upon the type and indeed quantity of imaginary voyage accounts which were published in the Restoration period compared to those which appeared earlier in the seventeenth century, these texts are also interesting because actually they do something quite different from simply imitating real voyage accounts. So, although they are apparently replicating the style and form of the genre from which they take their precedent, the type of information they contain is often drawn from precisely the sources of knowledge which, I have suggested earlier, the emphatic reliance on empiricism was beginning to eliminate from real voyage accounts

For the purpose of this study I am not concerned with discussing the utopian or satiric aims of seventeenth-century imaginary voyage accounts. The very limited amount of critical attention which has been afforded to these texts has been devoted to analysing them as manifestations of social and political criticism. Certainly, this is an important aspect of many of them, but the phrase *imaginary voyage* as a descriptive term might be used to encompass such a diverse group of texts from the period that this critical perspective alone cannot adequately deal with all of them. It is my intention to view all imaginary voyage narratives published in England in the seventeenth century as a group, rather than to evaluate them as individual examples

of social or political satire I will attempt to view these fictions in the context of contemporary overseas travel accounts I will refer to the latter as *real* voyage accounts in order to differentiate between them and the texts which describe a fabricated journey However, the distinction between the two is by no means polarised

The boundary between real voyage accounts and imaginary ones has never been fixed, with the former notorious for the incorporation of fictitious elements The seventeenth century, with its preoccupation with textual authentication based on direct experimental observation, should challenge^d real voyage literature to conform to its more stringent requirements for verification And so as the century progressed the 'general Proverb, that Travellers may tell Romances or untruths by authority', to which one traveller refers in its first decade, though never becoming entirely spurious, at least loses some of its resonance by the close of the century³ The Royal Society's directions to seamen and sponsorship of their accounts did much to remove the popularly received, and not ungrounded, belief that writers of voyage accounts translated their unique, authoritative position as a license to lie

Nahum Tate's poem 'To Mr J Ovington, on his Voyage to Suratt' which appeared as a preface to Ovington's account of his *A Voyage to Suratt in the year 1689* (1696) again demonstrates the later seventeenth-century acceptance that a good voyage account must be useful and that the representation of ordinary phenomena, simply as it has appeared to the primary observer who describes it, is more satisfying to the reader than a text which sets out to astound him through deliberate fabrication or embellishment By the final decade of the century, when this text first appeared, the expectations held by readers concerning what is appropriate to a good overseas

³ H T, *Two Journeys to Jerusalem* (1603, 1683), p 19

voyage narrative had changed to such an extent that the imaginative flights of fancy which had once entertained and amused readers were now regarded as an irritant

Hard is our Task to Read with Fruitless Pain
 The Dream of every Cloyster'd Writer's Brain,
 Who yet presume that Truth's firm Path they tread
 When all the while, through wild *Utopia's* led,
 With Faery- Feasts, instead of Science fed
 As dreaming Wizzards Midnight Journey's take,
 And Weary with Imagin'd Labour write,
 So vain *Speculations* fancy'd Flight
 But search of Nature gives sincere Delight,
 Through her vast Book the World, a curious Eye
 May Wonders in each pregnant Page descry,
 Make new Remarks, which Reason may reduce
 To Humane Benefit, and Publick Use ⁴

To the 'judicious' Restoration reader whose 'End in Reading is Information' straightforward descriptions of natural phenomena simultaneously satiate his appetite for entertainment and for information, for 'profit' as well as for 'pleasure' ⁵

Voyage accounts no longer had to be filled with wondrous things to guarantee a readership. On the contrary this challenged their authority. Of course it would be naive to suggest that real voyage accounts were always truthful, but the desire for plausibility together with the calls for narratives in a straightforward style, devoid of poetic description and rhetoric, meant that at the very least fictitious embellishments were constrained by realism and delivered with a degree of verisimilitude. Nevertheless, some who were critical of the idea of taking 'historys

⁴ Nahum Tate, 'To Mr J Ovington, on his Voyage to Suratt' in Ovington, *A Voyage to Suratt in the year 1689* (1696), p. 1x

⁵ Anthony Ashley Cooper, Third Earl of Shaftesbury, *Characteristicks of Men, Manners, Opinions, Times* (1711, 1734), vol. I, part III, sect. III, p. 347, Samuel Purchas, *Purchas His Pilgrimes* (1625), 'To the Reader', sig. [¶4]

written by Fryers and Missionarys, Pirates and Renegades, Sea-Captains and trusty Travellers' as 'authentick Records' maintained that fictitious elements still found their way all too readily into real accounts and that the appeal of the extraordinary endured Readers still seemed to gain 'far more Pleasure in hearing the monstrous Accounts of monstrous Men than the politest and best Narrations of the wisest and most polish'd People'

And thus, full of Desire and Hope, we accompany him, till he enters on his great Scene of Action, and begins by the Description of some *enormous Fish* or *Beast* From monstrous *Brutes* he proceeds to yet more *monstrous Men* For in this Race of Authors, *he* is ever compleatest, and of the first Rank, who is able to speak of things the most *unnatural* and monstrous ⁶

One writer of a later seventeenth-century fictitious voyage narrative actually blames the way in which travellers have recently been encouraged to compose accounts of their journeys for an increase in exaggerated or invented information. He claims such exhortations have persuaded them that they should have something worth reporting and have placed travellers in a position where, he suggests, the granting of authoritative status to their opinions tempts them to elaborate upon their humdrum experiences

if we may truly say, that those who make long Voyages may enlarge upon them to others, who only know the place of their Birth, 'tis yet more true to Assertion, that this liberty is stretcht too far, and often runs out into Fictions, the reason is it often happens that Men travail a great way without seeing any thing besides Ports or never rest themselves a Moment, and all the Mischievous incommodities which they suffer, give so much weariness, that they never think of taking any Recreation Nevertheless, as Travellers are perswaded that they ought to tell something new when they come from far, the more cunning they are, the more capable they are of Invention, and as there is no one which cannot contradict them, they are pleasantly received,

⁶ Cooper, *Characteristicks of Men*, vol I, part III, sect III, p 347

and there is as certain a debt to the labour of their inventions, as to truth itself⁷

Eager to share in the current popularity of travel literature generally, but in particular those detailing voyages beyond Europe, writers of travel fictions adapted their own accounts accordingly⁸ As the earth's surface became increasingly accurately mapped, the location of imaginary voyage fictions shifted their focus from supposed islands in the Atlantic Ocean to the only area which remained *incognita*, Terra Australis

However, the most significant changes were not of topic but rather of style and, most notably, a new-found preoccupation with verisimilitude which developed in response to the importance of realism in real voyage narratives One result of this is that the boundary between real and imagined voyage accounts remained blurred even in the later decades of the seventeenth century⁹ Even though real accounts were becoming less fictitious, fictitious accounts often imitated that genre so convincingly, not only in the general veracity of their presentation but in their detailed claims of authenticity, that they were accepted as being truthful¹⁰ For this

⁷ Denis Vairasse, [Capt Siden, pseud.] *History of the Sevarites or Sevarambi*, 2 parts (1675-79), p. 26

⁸ See Percy Adams, *Travel Literature and the Evolution of the Novel* (1983) for the influence of themes and ideas prevalent in real travel narratives on the novel as an emerging literary genre. Chap. II, 'Travel Literature before 1800 - Its History, its Types, its Influence' provides a general survey of the types of travel literature from the Middle Ages onwards. He does not focus upon voyage narratives, concentrating rather on pilgrimage and European land travel. It is interesting that he does not choose to investigate seventeenth-century imaginary voyage narratives in this book though he had to some extent in his earlier *Travellers and Travel Liars 1660-1800* (1962) in chap. V, 'Fireside Travellers Before Defoe'

⁹ Michael McKeon makes this point when he discusses the claims to historicity made by writers of voyage fiction. He refers to 'the "naturalization" of imaginary voyages during this period' and suggests that one effect of 'discrediting of the very idea of imaginary voyages' was 'to obscure rather than sharpen the distinction between narratives of "real" and of "imaginary" travels' (*The Origin of the English Novel* (1987), p. 105). Philip Gove comments on the difficulty of establishing which texts from this period are real and which are fictitious in his *The Imaginary Voyage in Prose Fiction* (1941), pp. 97-109. See note 11, below

¹⁰ On the capacity of apparently truthful voyage narratives to dupe readers, Adams

reason it is impossible to offer a definitive list of imaginary voyage accounts published in the seventeenth century ¹¹

(ii)

Feasting on Science not Fairies.

The general adoption of a prescribed empirical methodology by voyagers writing accounts of their experiences in the later seventeenth century was mimicked by contemporary writers of imaginary voyages, with the result that the blatant allegories and burlesques which were popular in the first half of the century were replaced by fictions that made considerable efforts at verisimilitude. At a time when writers of real voyage accounts were declaring their truthfulness and attempting to demonstrate their authority, imaginary voyage accounts became more realistic. One of the reasons these texts have received such little critical attention would seem to be that they have continued to be regarded as imitative of a genre whose value is dependent on its truthfulness. Hence, those which are not obviously satirical have been regarded as being of little importance ¹². They are also interesting, however, because they continue to deal with geographical myths, which they present as though they were the results of primary encounter. Just as pictorial illustrations of mythical

in his *Travellers and Travel Liars* (p. 97) notes that Marie-Catherine de la Motte, comtesse d'Aulnoy's, *Memoires de la Cour d'Espagne* (1690) and sequel *Relation du Voyage d'Espagne* (1691), both of which were extremely successful in England as well as France and cited as a reputable authority throughout the nineteenth century until exposed as fictitious in 1911 by Martin Hume who shows her account to be an amalgam of other contemporary narratives in his *Queens of Old Spain* (1911), p. 419. Further evidence proving this conclusively was offered by R. Foulche-Delbosc, in his introduction to *Madame d'Aulnoy's, Travels in Spain* (1930).

¹¹ See sect. (iii) of Primary Bibliography. Whilst I believe this bibliography of imaginary voyage narratives is the most comprehensive to have been compiled, I cannot claim it is absolutely exhaustive for the very reason that texts were so realistic. It is not inconceivable that future studies may expose further travel accounts as fictitious.

¹² See further comments in Conclusion concerning the lack of critical attention imaginary voyage literature of the seventeenth century has received.

beasts in cartography were pushed first to the centre of maps as coastlines became more accurately charted and from there to the decorated and stylised cartouche, so the myths that once were prevalent in real voyage accounts as a legitimate type of knowledge were pushed out with the prioritising of primary encounter. They endured, however, in imaginary voyage narratives.

As we have seen, an account could be rendered plausible by the very style in which it was written. Accounts of unusual oddities and extraordinary phenomena were not necessarily discounted as fictitious. Certainly, as has already been established, Fellows of the Royal Society were willing to consider extraordinary things on the grounds that the unlikely may prove to be true. This engendered criticism and satirical mockery, particularly in view of the sometimes incredible accounts which appeared in the *Philosophical Transactions*, inspiring Sprat to respond 'many things, which now seem *miraculous*, would not be so once we come to be fully acquainted with their *compositions*, and *operations*'¹³ However, as we shall go on to see, this proposition that the suspension of disbelief in the face of the unusual is conducive to the discovery of new truths about the natural world was, ironically, adopted by writers of imaginary voyage accounts as a convenient maxim to render plausible their unlikely stories.

This is precisely the argument used by one writer of an imaginary voyage who, in his preface 'To the Reader', prepares him for the incredible whilst advising against his regarding it as such by stating 'It is an idle humour in any of us to despise or reject strange Discoveries'

If all our wise Forefathers had been of the same temper, the Indies had
always been unknown to the *European* People, and we should again burn

¹³ Thomas Sprat, *History of the Royal Society* (1667, fac reprint 1959), sect XXXII, 'The Relation of Things of Nature and Art they have received', p. 214

such as dare affirm that there is a *Jamaica* or an *America* Our Nation lost the advantage through incredulity ¹⁴

Likewise, Joshua Barnes's fictitious *Gerania, A New Discovery of a Little Sort of People, Anciently Discovered called Pygmies* (1675) declares in its 'Preface to the Reader'

There is such an innate principle in the Hearts of most Men, that they are able to admit nothing for current, but what is obvious, nor reckon any thing credible, unless it be visible But seeing almost every climate doth peculiarly offer something rare and unusual, it stands with reason, that some Climate should in especial manner produce some more extraordinary Novelty, if not to others incredible, yet at least wonderful, and not easily digested for a truth ¹⁵

In this way, Barnes too prepares his reader for the relation of things which appear incredible by suggesting, significantly, that the vogue for empiricism is responsible for instilling in people a reliance upon the 'visible' or 'obvious' which can be misplaced and, he claims, result in obscuring the truth D'Allais Vairasse states in his address 'To the Reader' of his fictitious voyage account that those who have not experienced 'first hand' the place which he describes are not qualified to refute the accuracy of his relation

I know some will be carping and quarrelling of this Narration But these poor Souls that have seen nothing but the compass of their Cradle, and have confined their knowledge within the narrow limits of their own territory,

¹⁴ Vairasse, *Sevantes*, part II, 'To the Reader', sig [A3]^r v The protagonist, Captain Siden, assures the reader that 'If any thing is here related of this country or People seemingly beyond all possibility, we must know, that as this people have the advantage of living in the earthly Paradise, they have knowledge of nature and natural effects, which look like Miracles' ([A3]^v)

¹⁵ Joshua Barnes, *Gerania, A New Discovery of a Little Sort of People, Anciently Discovered called Pygmies* (1675), 'Preface to the Reader' sig A3^r v *Gerania* was reprinted in 1750 and may have inspired Swift's *Voyage to Lilliput* (Source Cox, *Reference Guide to the Literature of Travel* 3 vols (1948-50))

cannot well conceive nor imagine the glorious things, and the strange wonders that appear to travellers beyond the Seas in Foreign Nations ¹⁶

Such attempts to render plausible accounts of things incredible represent a marked change from fictitious voyage accounts written earlier in the century

In his *The Discovery of a New World* (1609), Joseph Hall makes no attempt to beguile the reader into believing the narrative is true. Describing obviously satiric locations, it is an example of an early seventeenth-century imaginary voyage text which did not try to pass itself off as a real account unlike many of those written later in the century following the Royal Society's influence and support of real voyage narratives. The *new world* which Hall describes is the antipodean continent, a comic inversion of European society playing on the prevailing popular witicism that the antipodes will be antithetical. Another contemporary literary manifestation of this jest is to be found in Richard Brome's comic play *The Antipodes*, first acted in 1638, which, like Hall's *New World*, represents the southern continent as an anti-utopia with a totally inverted moral order. No reader could seriously think Hall's text documented an actual discovery of a land in that hitherto unknown region. The very geography of his imagined world provides moral metaphors and is self-consciously unreal. Huntington Brown notes in his 'Introduction' to the 1937 reprint of John Healey's 1609 translation of the text that 'Tenter-belly is bounded on the East By Letcheritania and Shee-landt, For Gluttony is the induction unto lecherie', and to the South by Foolania the fatte, for 'A fat belly makes a leane braine' ¹⁷. With provinces of *Eat-allia*, *Drink-allia*, and *Theevingen*, his *new world* is a satire of

¹⁶ Varrasse, *Sev arites*, part II, 'To the Reader', sig. A2^r v

¹⁷ Joseph Hall, *The Discovery of a New World* (1609, ed. Huntington Brown, 1937), 'Introduction', p. xvii, *Ibid*, chap. I, 'Of the situation thereof' p. [18], the original Latin text *Mundus Alter et Idem* was first printed in 1605

Roman Catholicism, which, for Bishop Hall, was a synonym for gluttons and laggards¹⁸

Hall's text, an example of an early seventeenth-century imaginary voyage account, contrasts, very obviously, with those more realistic texts which proliferated subsequent to the establishment of the Royal Society¹⁹ *New World* is based entirely upon traditional rather than modern geographical ideas and deals, without apology, with the popular myths which prevailed about the possibility of an inhabited southern continent. Despite the discovery of indigenous American peoples, the possibility that a southern continent could be inhabited continued to be hotly debated²⁰. The paradox of how an *undiscovered* location could be populated by descendants of Adam continued to perplex those concerned with physico-theology throughout the century. Furthermore, its dissociation from the nourishing rivers supposed to flow from Eden provided, for many, a further disincentive to suppose that life might be found there. One myth which derived from this theological puzzle was that the River Nile extended to the Southern Antipodes. It has been suggested that this is why Hall represents his province of Eat-allia as being in the shape of a pyramid²¹. Brown

¹⁸ The principal cities of *Eat-allia* are 'Flesh-pasty-nople' and 'Fleshton' (Hall, *New World*, 'The description of Tenter-belly', pp. 24-25), *Drink-allia* is divided into three shires or counties, 'Wine-cester', 'Visque-bathe' and 'Hopper-Sack or Strong-biera' (Ibid., p. 46).

¹⁹ Hall's *New World* was not reprinted in the Restoration period although an almost identical text appeared in 1684 entitled *Travels through Terra Australis Incognita, discovering the laws, customs, manners, and fashions of the south Indians, a novel Originally in Spanish* and attributed to Francisco Gomez de Quevedo y Villegas. Another very similar text to Hall's *New World* which enlarges upon the second book was published anonymously in 1669 entitled *Psittacorum Regio The Land of Parrots Or the She-Lands With a description of other strange adjacent Countries, in the Dominions of Prince de L'Amour, not hitherto found in any Geographical Map By one of the most reputed Wits* (1669). G. G. Parry (cited in *DNB*) believes Hall's text may have inspired Swift to write *Gulliver's Travels*.

²⁰ See comments in Chap. I about the opinions of Matthew Hale and Thomas Burnet on this subject. Prior to the discovery of America it was believed that no peoples could exist outside Asia, Europe and Africa peopled respectively by Shem, Japheth and Ham after the Flood. Although the existence of indigenous American people demonstrated this belief to be fallacious, it continued to have currency in its application to the uncharted region of the southern antipodes.

²¹ Hall, *New World*, p. 19.

notes that this view 'expressed in many of the medieval encyclopedias' appeared in print at least as late as 1527 in a new edition of *Polychronicon* thirty-four years after Columbus first reached the fourth continent and five years after survivors of the fleet of Magellan had reported the probable existence of a fifth²² Magellan put Terra Australis on the map in 1520, suggesting by the very name attributed to it, 'Terra del Fuego', that it was inhabited by those who lit the camp fires there. In the tradition of medieval travel fictions, Hall's text is filled with references to myths²³. Another manifestation of traditional geographical ideas to be found in *New World* is that Hall makes his antipodean continent immense in its proportions, consistent with the belief that this land mass must be equal in size to the extent of land in the northern hemisphere if it is to act as an effective counterbalance and prevent the globe overturning and spinning off its axis.

New World has received little critical attention in the twentieth century in spite of the fascinating insight it offers into prevailing popular geographical ideas. It has suffered like other early imaginary voyage texts from the erroneous belief that since it does not develop the identity of a central protagonist it is not effective fiction²⁴. Its contemporary reception was mixed. Peter Heylyn apparently liked it, though sees the need to excuse the irreverence of its author. He describes the text as 'a witty and ingenious invention of a Learned *Prelate*, writ by him in his younger

²² Brown 'Introduction' to *New World*, p. xx1, Ralph Higden, *Polychronicon*, vol. I, p. vi.

²³ Brown traces these references with considerable thoroughness in his 'Introduction' to Hall's *New World* pp. xxiv-xxv. He shows the works of Mandeville, Cockaigne and Rabelais as being sources for the myths and ideas in Hall's text as well as the writings of Peter Martyr, Walter Raleigh and Frederick Dedekind in his *Grobianus*. See also S. M. Salyer, 'Renaissance Influences in Hall's *Mundus Alter et Idem*', *Philological Quarterly*, vi, p. 330 ff. (1927) for the source of myths and contemporary cultural ideas on this text.

²⁴ G. G. Parry describes Hall's text as having 'not enough of verisimilitude to make it an effective satire, and [that it] does not always avoid scurrility'. It is not clear why he should regard verisimilitude as a prerequisite of successful satire. Parry's comments on *New World* are cited in the *DNB* entry for Joseph Hall. See further comments in Conclusion.

days (but well enough becoming the austerity of the gravest head)' ²⁵ By contrast John Milton, whose views so often differed from those of Heylyn, was somewhat less enamoured with it. In *An Apology for Smectymnuus* he criticises both the text and the taste and morals of its author ²⁶ This was a response Hall had anticipated. William Knight's 'Preface' to the second edition of the text shows it was first published against his wishes fearing it might jeopardise his career ²⁷

Although some blatantly allegorical texts which make few concessions to verisimilitude were written subsequent to the Restoration, such as Richard Head's *The Floating Island* (1673) which describes the discovery of an island used as a haven by members of the Society of Owe-much, who seek a place where they may stay afloat, these are in the minority ²⁸ Indeed, Head's other imaginary voyage narrative makes many attempts at realism. *O Brasile* (1675) is one of the few imaginary voyage narratives of the seventeenth century to describe the discovery of

²⁵ Heylyn, *Cosmographie*, p. 1093. He goes on grandly to offer Hall 'that *Eulogise*, which the *historian* doth of *Homer*, *Nec ante illum quem ille imitatur, neque post illum qui eum imitari posset inventus est*'. See his description of what he perceives the allegory as achieving successfully in *Cosmographie*, 'An Appendix to the Former Work, endeavouring a Discovery of the Unknown Parts of the World Especially of Terra Australis Incognita, or the Southern Continent', pp. 1091-1093.

²⁶ John Milton, *An Apology for Smectymnuus* (1642, ed. K. M. Burton, 1958, 1974). This was Milton's second attack on Hall and was in direct response to *Modest Confutation*, probably written by Hall's son, which appeared a month earlier to answer Milton's first criticisms of 1641.

²⁷ Brown notes that on the advice of his friend Earl of Pembroke, Healey emigrated to Virginia in 1609 on account of having incurred animosity at the moral code of *New World*. The second edition of the English text (1614) contains a preface 'To the readers, Instructions for their Voyage into this new world' by William Knight in which he owns to have published his translation without the author's consent and refers to how the author and translator's characters were spurned by the public.

²⁸ Richard Head, *The Floating Island* (1673) published under the pseudonym Frank Careless. Richard Head died at sea on a voyage from Plymouth to his native Ireland (source, *DNB*). He is most famous for the picaresque prose fiction, *The English Rogue*. *The Floating Island* is a rather bawdy and scurrilous account of contemporary life in London. For an account of the many allegorical voyages through life and the popular accounts personifying ungodliness 'taking to sea' see John Navone, *Towards a Theology of Story* (1977).

the fabled 'Western Wonder' a mythical island in the Atlantic²⁹ The discovery of the Americas more than a century earlier had done much to dampen the interest in fictitious voyage narratives relating Atlantic voyages However, Richard Head's Irish upbringing would have meant he was familiar with the traditional *immrama* of Irish folklore These stories, the most famous being the legend of St Brendan, tell of Atlantic voyages in which magical lands are discovered The legend of Y Brasil, the enchanted island of the ever young was probably the inspiration of Head's *O Brasile*

In this text, Head goes to some effort to present his account as being plausible He adopts some of the devices employed by real travellers to demonstrate the reliability of their accounts William Hamilton, the first-person narrator of the letter telling of the disenchantment of O Brasile, recognises at the outset of his narration that this land is popularly conceived as being mythical Further, he states that he too thought this until the primary experience of a trustworthy informant taught him otherwise, explaining 'of those many stories which were common in every Man's mouth, concerning the Island of O-Brasile' that he 'look't upon it as a perfect Romance, and many times laugh't the Reporters to scorn' even 'Though many Sober, and Religious persons, would constantly affirm' the sightings of it to be true³⁰

The narrative construction of the text is significant. Though Hamilton is the author of the letter, it is based not upon his own observations but upon the primary experience of a third party However, again imitating real voyage narratives such as those related to the Royal Society in letters by Fellows conveying the primary

²⁹ See also I S , *A Discovery of Fonesca in a Voyage to Surranam* (1682) The full title of this text explains that its subject is '*the Island so long sought for in the Western Ocean*'

³⁰ Richard Head, [William Hamilton, pseud] *O Brasile or the Inchanted Island* (1675), p 4, 'in bright days, (especially in Summer-time) they could perfectly see a very large absolute island, but, after long looking at it, it would disappear' (Ibid , p 4)

experiences of merchants and sailors, he offers assertions of the veracity both of the account and its source

you need not be afraid to relate this for I assure you, beside the general discourse of the Gentleman in the Countrey, I had it from Captain *Nisbet* his own mouth, (whose the Vessel &c was) since which, several Gentlemen have sent an express, with the true Relation of it, under their Hands and Seals, to some eminent persons in *Dublin* ³¹

This, then, is presented as an account by a reliable informant which has been corroborated by other primary witnesses ³² However, Head employs yet another historicising tactic, once again imitative of later seventeenth-century real voyage narratives and one which we have already seen impressed the Fellows of the Royal Society. Recourse is made to specimens brought back from that place, evidence that can be scrutinised by disbelievers. When the crew came back and told their tale most people 'gave no extraordinary credit to their words at first, until the Master and the rest showed them many of the pieces of Gold and Silver which were given them there' So extraordinary and unusual were these samples that they were generally accepted as proof of the story. Furthermore, there is an assertion that the journey might be replicated 'the Master offering immediately to carry any Gentlemen to the said Island to prove whether it were true or no' ³³ What is interesting about this text is that it sustains an old myth but represents it in the guise of a modern, realistic

³¹ Head, *O Brasile*, p 11

³² An example of corroboration of other eyewitnesses being used to authenticate a real voyage account is to be found in Henry Hamel's *Account of the Shipwreck* (1652) who states

for those who only seek a reasonable Testimony and Probability to believe things, which in themselves are no way Irrational, it will suffice that when this Account was Printed, the eight Men mention'd at the end of the Journal, were all in *Holland* and Exam'n'd by several Persons of Reputation, concerning the particulars here deliver'd, and they all agree in them, which seems to render the Relation sufficiently Authentick (Translator's 'The Preface' in Churchill and Churchill, *Voyages and Travels*, vol IV, p 608)

³³ Head, *O Brasile*, p 10

voyage narrative. It is quite literally *disenchanted*, rendered plausible by the ordinary way in which it is described and the repeated assertions that the account is authoritative.

Evidence that Restoration accounts took on the guise of real narratives can clearly be seen. The travellers in Barnes's *Gerania* express their hunger not only for food but for knowledge about the natural phenomena to be found in the land which they have discovered and the customs and characteristics of its inhabitants, desirous to feed not only their stomachs but 'to feed [their] Eyes too'³⁴ Natural philosophy, with its perceived capacity to empower man, was considered of such importance that in an ideal community its study would surely be valued and promoted and so Gabriel de Foigny notes in his fictitious account of an idyllic antipodean community, that 'the study of Natural Knowledge was there very much cultivated'³⁵

A Fictitious Account of a Voyage to Athens, printed in 1676, refers explicitly to the influence of the Royal Society upon the way in which travellers came to regard themselves as having a duty to carry out systematic observations and record their overseas experiences. The following account of an experiment the fictitious travellers plan to conduct, bears witness not only to the way in which fictitious accounts imitated real voyage narratives but also shows the awareness of fiction writers of the Royal Society's campaign

(being full of their [the 'Virtuosi'] Learned Ideas, and trying as it were to catch for anything that might give new light to old Notions) proposed to themselves an Experiment about these two Dolphins, they resolved to take two or three of them with their *haiping-irons*, the design was to dissect the

³⁴ Barnes, *Gerania*, p. 31, earlier, the protagonist explains, 'we desired only to repair our lack of Provision and by observing their Custom to encrease our Knowledge' (Ibid, p. 22)

³⁵ Gabriel de Foigny, [Jacques Sadcur, pseud.] *New Discovery of Terra Incognita Australis or the Southern World* (1693), p. 39

Female and examine the form of her belly, her breast, the situation of her *Aspera arteria*, and the communication betwixt her lungs and her nostril, that if possible we might find out whether in the structure and fabrick of the fish, there might not be some secret analogie with the Inwards of a man, to which (for want of better reason) we might ascribe their kindness and strange inclination to our sex. But we discover'd that the inclination of Man was more powerful to them, for the *Italian* Mariners would not endure that we should do them any mischief, calling them the Companions of their voyage and the faithful Sentinels, who by their leaping and playing upon the Waters do give them constant notice of any tempest approaching, and by this means our Experiment was lost³⁶

There could not be a clearer example of a writer ~~an~~ of imaginary voyage prose fictions conforming to the new expectations of real voyage accounts. In accord with the Royal Society's requests that travellers should test traditional beliefs, this experiment is devised to investigate the theory that a tangible physical similitude might be traced which will account for the apparent affinity between dolphins and man. The dissection is abandoned due to the superstitious beliefs of the low-ranking sailors, though in fact their notion that the dolphins' behaviour might predict changes in weather systems is itself based upon empirical observation.

(iii)

Terra Australis Incognita.

The many speculative voyages in search of a southern continent which had been *lost* provided inspiration for fictions telling of successful European settlements subsequently discovered. Henry Nevile's popular voyage fiction, *The Isle of Pines or a Late Discovery of a Fourth Island in Terra Australis, Incognita* (1668), takes the form of a first-person narrative, allegedly written 'in the dayes of Queen *Elizabeth*', by the English traveller who discovered the island, George Pines. The purpose of his

³⁶ La Guilletiere, *Voyage to Athens*, p. 51

narrative is to explain to his descendents the origin of their community³⁷ He describes how they came to arrive on the land inadvertently when he and his crew were 'wracked upon the Island near to the Coast of *Terra Australis, Incognita*, and all drowned' apart from him and four women, one of them black The accounts of their adventure is not fantastic Nevile attempts to make his story seem real, as Philip Henderson, editor of a twentieth century reprint of the text points out

although the landing of four people in the middle of a storm on the ship's 'bowspright' is slightly incredible, all other circumstances are so in accordance with common sense that we cannot help believing him - at least, that is, as long as we are reading his story Upon landing, one of the party has sufficient presence of mind to light a fire, so that they may all dry themselves - a common action that at once gives reality to the scene, but something, nevertheless, that the Elizabethans wandering their arcadian lands of nowhere would never have dreamed of doing³⁸

The narrative is imitative of real imaginary voyage accounts It is very much a male fantasy in which the narrator explains that as the only surviving male he was obliged, in order to establish a community, repeatedly to 'lie with the women' who happily 'were all handsome'³⁹ The story then centres around how George Pines alone fathered a burgeoning community which, within two generations 'amounts to ten or

³⁷ Henry Nevile, [George Pine, pseud] *Isle of Pines* (1668) sig A1^r

³⁸ Philip Henderson, 'Introduction' to Nevile, *Isle of Pines* reprinted by *Everyman Library*, no 841, in *Shorter Novels*, vol 2 (1930), p xii

³⁹ Nevile, *Isle of Pines*, p 6 I am concerned principally with the extent to which this text imitated real voyage narratives and attempts inherent in its form and content at verisimilitude and authentication However, although it is not pertinent to my discussion it should be noted that the attitudes to race and gender in this popular text are of particular interest The protagonist who boasts of his voracious sexual appetite and unerring virility at first only sleeps with the white women though the Negro women 'longed also for her share' The narrator describes how one night as he slept 'my Negro got close to me, thinking it being dark to beguile me, but I feeling her, and perceiving who it was, yet willing to try the difference, satisfied myself with her, as well as one of the rest' He goes on to explain that he derived no pleasure from sexual intercourse with the black women and only did so for the sake of procreation, 'never touching her once she had conceived and then only ever in the night and not else, since my stomach would not serve me' (*Ibid* , p 6)

twelve thousand persons' ⁴⁰ Indeed, the reference to the population of this English-speaking community, eighty years subsequent to the arrival of its virile discoverer, is a key to understanding the way in which Neville sets about authenticating this text and his additional fictitious account of the Isle of Pines. An introductory paragraph to the text helps to validate the narrative by explaining how the text was brought back to Europe by a Dutch ship which, having been driven off course by foul weather in 1667, chanced upon the island and its English-speaking community. The relevance of this contextualisation was to become apparent later in 1668.

Three separate editions of identical versions of the *Isle of Pines* were published in 1668 ⁴¹ Significantly, however, in that same year another text entitled *A New and Further Discovery of the Isle of Pines* was printed in London of which the original *Isle of Pines* forms only part. This text takes the form of a letter by an explorer who rediscovers the island. Its prince is George Pines's grandson, William, who presents them with the original story written by his predecessor and provides them with additional information. In this way, the original narrative is made to seem more authentic. The community about whose inception George Pines writes has been seen to exist. Nothing in his relation is inconsistent with the supposedly eyewitness reports of this more recent discovery. Furthermore, its transportation to England is accounted for and, the reader is assured it is 'a credible person in Covent Garden who

⁴⁰ According to the text George Pines alone fathered an astonishing 1789 children. Neville, *Isle of Pines*, sig. A1^r, certainly Elizabethan English travellers journeyed to an Isle of Pines, though it was not near *terra australis*, the battle of the Isle of Pines (Isla de Pinos) was fought near Cuba in early 1596 and proved to be a victory for the English over the Spanish. In his fictitious travel narrative Francis Godwin writes that a Spanish count 'came home from the West Indies, in triumphant manner, boasting and sending out his declarations in print, of a great victory he had obtained against the *English*, near the *Isle of Pines*. Whereas the truth is, he got of the English nothing at all in that Voyage, but blowes and a great losse' (Godwin, *Man in the Moone* (1638), pp. 9-10).

⁴¹ Two in London for Allen Banks and Charles Harper and one in Dublin by Samuel Dancer (Source: Donald Wing, *Short-Title Catalogue, 1641-1700*, (1945, 1972)).

makes it publick'⁴² *A New and Further Discovery* imitates contemporary real voyage narratives. Its simple prose style and straightforward descriptions of what has been seen by the travellers and what they are told concerning the system of Government of that place is reminiscent of the letters sent by merchants and seamen to the Royal Society.⁴³ In this way the 'eye-evidence' of the contemporary travellers and their modern, empirical method of accumulating and verifying their account lends authority to the supposedly historical document which literally lay at its centre.⁴⁴

Another account which describes a recent discovery of a community already governed by a European in Terra Australis Incognita is *The Hairy Giants* (1671), an imaginary voyage text which also makes efforts at verisimilitude.⁴⁵ Again describing a journey to the southern antipodes, it is imitative of real voyage narratives of the period. It begins with a description of the voyage itself, offering an account of the weather and providing longitudinal and latitudinal readings. The community of indigenous people which populates the land at which they arrive is governed by a European who entertains them well in a European style with venison and wine. As with the *Isle of Pines*, *The Hairy Giants* uses the framework of a voyage narrative which appears to be real to lend authority to the central narrative section which refers to an earlier period, in this case 'The Adventures of Vasques de Pagna

⁴² Nevile, *A New and Further Discovery of the Isle of Pines* (1668), extract from the full title of text

⁴³ Again it is interesting to notice that the lack of indigenous people on the island does not mean that the narrative is devoid of racism against persons of colour. The Dutch travellers are told of the laws introduced by George Pine's eldest son, Henry, during his period of supremacy to suppress the crime which developed as further settlements were established elsewhere on the island. Interestingly the greatest offender found guilty of 'rape and wantonness' was the eldest son of the Negro woman, whilst all other offenders are pardoned, he is executed.

⁴⁴ *Isle of Pines* is reprinted by *Everyman Library* no. 841 in *Shorter Novels*, vol. 2, pp. 225-235. Henderson makes no reference to the existence of *New and Further Discovery* in his 'Introduction' (It is cited in the short title bibliography of Nevile's works, p. [226]).

⁴⁵ Its apparently humorous title would not necessarily have denoted a burlesque to seventeenth-century readers. *Phil Trans* are filled with accounts with descriptive titles, people of large stature are referred to as giants, children with physical abnormalities as monsters etc.

from 1640-1670' telling of his shipwreck there and how he came to be trusted and adored by the local people

However, the most significant thing about this text is its appendix which takes the form of a set of instructions and advice directed at those considering embarking on an overseas voyage. These are very similar, both in style and content, to the directions for seamen being printed at about this time in the *Philosophical Transactions* by Fellows of the Royal Society⁴⁶. Like them, they are concerned with stipulating what to observe and the importance of keeping a journal contemporaneously. They urge travellers to write about their experiences and offer navigational advice. They are also concerned with the matter of how travellers should behave towards the indigenous inhabitants of the lands they visit, recommending that European travellers should temper adulation proffered by native peoples without actually discouraging it. The inclusion of a set of directions which mimicked those which were at that time so influential in shaping the style and form of real voyage narratives had the effect of rendering the imaginary narrative to which they were appended more plausible⁴⁷.

Both the *Isle of Pines* and *The Hairy Giants* are about recent encounters with Europeans shipwrecked in the southern antipodean seas earlier in the century. Yet, interestingly the scenario of a shipwreck was never used in any imaginary voyage account written in the first half of the century⁴⁸. By contrast it was one of the most

⁴⁶ See Appendix IV

⁴⁷ *The Hairy Giants* is a very rare text today with only two copies known to be extant in Britain. Since no copies of the original Dutch texts exist I think it is probable that this is in fact an English text which presents itself as though it were in translation. Paul Salzman also suggests that Schooten is probably a pseudonym in his *English Prose Fiction, 1558-1700* (1985).

⁴⁸ The only fictitious voyage I have been able to find concerning shipwreck written in the first half of the seventeenth century is a poem by David Lloyd entitled 'The Legend of Captain Jones' which was published on its own in 1636. It has been suggested that it is a burlesque on a Welsh poem 'Aawell Richard John Grenlons' and that Captain Jones may have been an historical sea-faring figure.

popular forms of imaginary voyage in the Restoration period *A Discovery of Fonesca in a Voyage to Surranam* (1682), which claims to have been 'taken from the Mouth of a Person cast away on the Place in a Hurricane, with the Account of their being cast away' describes an island populated exclusively by women⁴⁹ It too makes efforts at authentication offering among other details 'the exact Longitude and Latitude of the place'⁵⁰ The narrator of Gabriel Foigny's *New Discovery of Terra Incognita Australis or the Southern World* (1693) is in a position to be reliably informed of that which he speaks 'Who being cast there by a shipwrack lived thirty five years in that country'⁵¹

Just as the writers of Restoration travel narratives boasted of their concise and simple style, so the author of the fictitious *Relation of the Country of Jansenia* (1668) explains the brevity of his account by claiming in his 'Preface' that he is writing to conform to the 'new style'

If I had further amplified my discourse, you would perhaps have laid it aside, either through contempt or irksomeness We may tell many things in seven

The view that he is not entirely fictitious is supported by the fact that Andrew Marvell says of the Legend 'I have heard that there was indeed such a Captain, an honest brave Fellow, but a wag that had a mind to be merry with him hath quite spoiled his history' (Source Maggs Brothers' Catalogue no 574)

⁴⁹ I S , *A Discovery of Fonesca in a Voyage to Surranam* (1682) See also an early eighteenth-century anonymous text based on this entitled, *A Voyage to the New Island Fonesca, near Barbadoes, with some Observations made in a Cruize among the Leeward Islands In letters from Two Captains driven thither in the Year 1707* (1708)

⁵⁰ Extract from full title of I S , *Fonesca*

⁵¹ Gabriel Foigny [Jacques Sadcur, pseud], *New Discovery of Terra Incognita Australis or the Southern World* (1693) The full title of this text which promises 'a particular description of the manners, customs, religions, laws, studies and wars of those Southern People, and of some animals peculiar to that Place' shows that is imitative of contemporary real accounts inasmuch as it is concerned with documenting ordinary phenomena and detailing the lifestyle of the inhabitants rather than concentrating on extraordinary events to astonish or amuse the reader, or being preoccupied with biblical and classical geographical myths John Dunton's English translation anglicises the name from Australis to Australia and its inhabitants to Australians

or eight leaves of paper, and I am mistaken if you find nothing in these that approach Colledge amplifications, or the style of Commentaries ⁵²

The author of another fictitious account, commenting on ways in which he might have chosen to amplify his discourse, claims to have omitted the most curious of his experiences on the grounds that they have been written about before and have, therefore, lost the air of incredibility which once made them worthy of recording. In this way he suggests that only that which is unusual and surprising has found a place in his account, and thereby prepares his reader for the inclusion of even more unbelievable descriptions in his ensuing narrative.

It is true, we saw several Sea Monsters, flying fishes, new Constellations &c. But because those things are usual, that they have been described by others, and have for many years lost the grace of Novelties, I purposely omit them, not being willing to increase the Bulk of this Book with unnecessary relations which would but tire the Reader's patience and my own ⁵³

Relation of the Country of Jansenia opens with a declaration of its own authenticity which mirrors that so often found in real voyage narratives in which the author claims to be qualified to describe a land on account of his residency there.

I will make the description of a Country, which to this day, the Geographers have never spoken of, and they must believe what I tell of it, because I have been there, I dwelt in it almost five years, and I will say nothing but upon the faith of my own eyes ⁵⁴

In a further attempt to make this imaginary voyage seem real, a map was printed depicting the land described so that 'in a moment the site of the Country is exposed to

⁵² Louis Fontaines, *Relation of the Country of Jansenia* (1668), 'Preface', sig. A3r

⁵³ Varrasse, *Sevarites*, part I, p. 5

⁵⁴ Fontaines, *Jansenia*, 'Preface', sig. A2r

the world's view'⁵⁵ This was clearly included in an effort to give an imagined location a tangible reality, it gives Jansenia a visible shape and the regions and geographical features described in the narrative are plotted on it We have already seen a writer of a real voyage account extolling the usefulness of maps and illustrative plates He suggests that their inclusion can serve to make an account seem more real and enliven what is described, considering 'it is certain, that the most accurate description cannot represent any thing to the reader so lively as a draught or cut'⁵⁶ It is no surprise, then, that writers of imaginary voyage accounts should adopt this device as a means of *realising* their fictitious locations

Just as the narrator of *Jansenia* claims he tells 'nothing but upon the faith of [his] own eyes', so the fictitious Captain Siden repeatedly punctuates his detailed description of the natural phenomena of his 'southern world' with claims that everything described in his narrative 'I saw with my own Eyes'⁵⁷ and assertions that the wonderful 'sights' 'dazzled our Eyes'⁵⁸ Yet, later in the narrative he hints that his reliability as an observer has been affected by the hallucinogenic stupor induced in him by a fruit which he has consumed The reliability of his 'eye-evidence' is jeopardised since he claims 'I was so affected that in looking upon all things about me I could see nothing distinctly'⁵⁹ This provides a challenge to the prevailing belief in the reliability of eyewitness accounts

D'Allais Vairasse's *History of the Sevarites or Sevarambia* (1675-9, 2 parts) is written as a first-person narrative under the pseudonym, Captain Denis Siden⁶⁰

⁵⁵ Fontaines, *Jansenia*, 'Preface', sig. A3^v

⁵⁶ John Barbot, *Description of the Coasts of Guinea*, 'The Introductory Discourse' in Churchill and Churchill, *Voyages and Travels* (1732), vol. V, p. 3

⁵⁷ Vairasse, *Sevarites*, part II, p. 23

⁵⁸ Vairasse, *Sevarites*, part II, p. 25

⁵⁹ Vairasse, *Sevarites*, part II, p. 41

⁶⁰ See Atkinson, *Extraordinary Voyage before 1700* (1920), for further comments on *Sevarites*. Its realistic detail and efforts at verisimilitude mean that it fits Atkinson's definition of an 'extraordinary voyage'. Nevertheless, it should be

Again mirroring real voyage accounts it contains a laudatory preface recommending the narrative as truthful and its author as authoritative. Interestingly, one of the means by which the text's truthfulness is asserted is through the implication that there has been a conspiracy to restrict its circulation and undermine the veracity of its contents.

What account he [Captain Siden] hath given of these rare People is not so publick, I confess, as could be wished, because the persons and the Nation, who have now a Correspondency in those Parts, have discouraged all others by declaring these things to be fabulous, because they intend to ingross all the Trade to themselves.⁶¹

Siden's narrative is very much in the vein of a later seventeenth-century travel writer. He takes every opportunity to test the efficacy of existing information and beliefs about the area to which he has travelled. His declaration that certain prevailing beliefs are in his experience erroneous implies that his description of what he saw is reliable.

I carefully endeavoured to inform my self where the Crocodiles were, which Historians place in such great Numbers in these Quarters, but the Inhabitants could not even divine what I talked of, which made me believe they were only Fables.⁶²

noted that it does contain some passages which obviously parody the encyclopaedic natural histories of Solinus, Polyhistor, such as the following description of the inhabitants of Sevarambia:

at the first entertainment of inordinate lust, such disorder happens in the blood and veins of men that their countenances are immediately changed and their skins are covered with Boils and Scabbs, chiefly their Noses, which have so great a correspondence with the Noble Members. For this case [they] abominate the least sign of all lasciviousness (*Sevarites*, part II, p. 3).

W. A. Eddy notes in *Gulliver's Travels: A critical study* (1923) that a translation of *Sevarites* was published as the third part of *Gulliver's Travels* in 1729. Atkinson, also, notes Swift's indebtedness to *Sevarites*.

⁶¹ Vairasse, *Sevarites*, part II, 'To the Reader', sig. A2^v.

⁶² Vairasse, *Sevarites*, part II, p. 26.

And

Most Historians place a great number of Monsters in these Quarters, but upon no other foundation than the recital of those who first invented it, all our enquiries could not serve us to discover the Original ⁶³

Yet, the *History of the Sevarites* is, in other respects, an example of an imaginary voyage account which perpetuates geographical myth. Despite its claims to be authoritative and true, it contains many fabulous accounts reminiscent of those to be found in Pliny's *Natural History* and Solinus's *Collectanea Rerum Memorabilium*. Captain Siden describes how he rode on the back of 'an Unicorn of a chestnut colour with many Black spots on the right side and white on the left'⁶⁴ and tells the following anecdote:

We were informed that a Native having taken a small She Tigres, became so familiar with the Beast that he loved her carnally, and committed that infamous Crime with her, whence came an Animal half Man, half Beast which gave the original to these Savages, which cannot be humanised ⁶⁵

Although this incredible story is presented as being a secondary report rather than something he himself witnessed, he goes on to suggest that his own experience corroborates the story:

a very probable proof of this relation is that their Heads and Feet are very like those of Tigers and even their Body is the same places markt with spots like those of these Animals ⁶⁶

Joshua Barnes also perpetuates classical myths in his *Gerania*, though he does not present them in the form of reported accounts but rather as truths he himself witnessed. We have already seen that he made detailed efforts to authenticate his

⁶³ Vairasse, *Sevarites*, part II, p. 30

⁶⁴ Vairasse, *Sevarites*, part II, p. 4

⁶⁵ Vairasse, *Sevarites*, part II, p. 30

⁶⁶ Vairasse, *Sevarites*, part II, p. 30

account and present it as though it were true. Yet his pygmies ride upon the backs of rams and many of them devote all their time to breaking the eggs of the cranes which plague their community. The notion that there is a race of extremely short people who are beleaguered by cranes is to be found in Pliny's *Natural History* and is among the 'vulgar errors' which Thomas Browne sets out to refute in his *Pseudodoxia Epidemica*.⁶⁷

The rediscovery of Paradise, which had been such an enduring and popular feature of early geographical texts, is also to be found in *History of the Sevarites*. Siden claims that 'the earthly Paradise, which, during the old World, was in Asia, was then transported hither and all those rare Trees, with the Jewels and Riches, were carried hither by Angels, and planted in this remote corner'⁶⁸ and tackles the prevailing puzzle of how descendants of Adam and Eve might have reached such a distant location. He accounts for the presence of inhabitants there

because there was no one there fit to inhabit so blessed a place, of the Sons of *Noah*, a new couple were formed, not out of the slimy Earth as the former, but out of a purer and more delicate substance, out of some metal mixed with Gold and silver, hence it is that their bodies are so clean, pure, glorious and splendid.⁶⁹

Other writers of fictitious voyage narratives overcome this difficulty by depicting the inhabitants of the southern continent as less than human. The travellers to Jansenia, clearly seeing themselves as experimental philosophers, dissect the indigenous inhabitants as though they were animals rather than people.

⁶⁷ Thomas Browne, *Pseudodoxia Epidemica* (1646, 1672, ed. Robin Robbins, 1981), book 4, chap. XI 'Of Pygmies' p. 207. He notes that 'some write they fight with Cranes – some say they ride on Partridges, and some on the backs of Rams, In book 3, chap. III he notes 'That Storkes will only live in Republicks and Free States' which explains references to them in Utopian fiction.

⁶⁸ Varasse, *Sevarites*, part II, p. 20.

⁶⁹ Varasse, *Sevarites*, part II, p. 20.

By the dissection that was made of them at several times, it hath been found that many of them have a double heart, and 'tis believed that this is the cause they are not sincere in their proceedings⁷⁰

Similarly, the travellers to Gerania describe meeting native people 'without those channels of Expression which we call Mouths' dressed in tree bark and 'the woolly Moss of Trees' with long talons that serve as weapons against wild beasts and as tools with which to turn the soil which has the effect of dehumanising them⁷¹

Towards the end of the century another type of prose fiction concerned with travel began to emerge which was to prove popular in the eighteenth century as a means of social criticism. Texts which took the form of espionage epistles supposedly written by non-Europeans sent to spy on European cities became popular. These texts invert the usual model of overseas voyage accounts, presenting instead an image of how travellers to northern Europe perceive the communities and governments they find there. Instead of presenting a satiric view of European society located in a fictitious island, these texts are explicitly about Europe but purport to represent the objective view of outsiders. What is particularly interesting about them in relation to this present study is that they use the same devices to authenticate themselves as real and imaginary voyage narratives, the Turkish Spy who sends reports back to Constantinople 'of the most remarkable Transactions of Europe, and several Intrigues and Secrets of the Christian Courts' is presented as a reliable informant having 'lived five and forty years undiscover'd at Paris' and, therefore, is capable of 'giving an impartial account' of what he has seen with his own eyes⁷²

⁷⁰ Fontaines, *Jansenia*, p. 5. See comments in Chap. III (11) concerning Stubbes's dissection of the turtle to establish whether they have two hearts and their inferred sensitivity in contrast to the pygmies who are supposed insincere.

⁷¹ Barnes, *Gerania*, pp. 4-6, Barnes's travellers are unsure whether or not they are human, conceding that though they are 'uncouth' they are nevertheless 'different from Brutes' (Ibid., p. 4) and suggesting that they want 'the Gentleman-Usher of all Knowledge, *Sermocination* to make them compleat Men' (Ibid., p. 5).

⁷² Extracts from the full title of Giovanni Paolo Marcina, *Letters Written by a Turkish Spy from the year 1637-1682* (1687-1694), 8 vols.

So, the prolificacy in the publication of real voyage narratives and the changes in style and content being adopted by this type of discourse in the Restoration period had a direct impact upon the type of prose fiction which took its precedent from this genre. Imaginary voyage accounts became far more popular in the latter half of the seventeenth century than they had been previously, with more than three times as many texts being printed in England between 1650 and 1700 than in the first half of the century.⁷³ Certainly, writers of imaginary voyage accounts were more concerned with making their accounts appear to be real than their predecessors had been. Just as the authors and publishers of real overseas travel narratives became preoccupied with authenticating their texts, so writers of fictions followed suit, dispensing with blatant allegory and attempting to make their fabrications appear realistic.

The Royal Society's campaign to promote voyage narratives based on the precept that they are capable of offering empirically-gathered truths which might be of use to others, highlighted the fact that their didactic significance was dependent on their truthfulness, so ^{imaginary} voyage writers had to overcome the long-standing stigma that travellers embellish and lie.⁷⁴ Not only do they make assertions in prefaces addressed directly to the reader that the ensuing narration is truthful and reported by an eyewitness of integrity, but the very way in which they were written changes. The highly allegorical texts such as Hall's *New World* were replaced by accounts which appeared to be real. Their treatment of their subject mimicked the new plain style and dispensed with the poetic imagery that had characterised not only earlier fictions but

⁷³ Approximately nineteen imaginary voyage narratives were printed in England between 1650 and 1700 compared to only about six in the first half of the century. I have included the English translations of Cyrano de Bergerac's two extraterrestrial imaginary voyage texts as publications of the later seventeenth century since that is when they were printed and enjoyed popularity in England. However, they were both printed in France prior to 1650.

⁷⁴ See Adams, *Travelers and Travel Liars* for a detailed study of the relationship between travel narratives and romance which concentrates on texts published in the eighteenth century.

real narratives too. Furthermore, they presented fiction as though it was empirically-gathered information with detailed, realistic descriptions of natural phenomena. The imaginary voyage prose fictions of the Restoration period were written in the language and style of seamen rather than poets.

Chapter VI.

A Plurality of New Worlds.

We have seen that writers of imaginary voyage narratives in the latter half of the seventeenth century adapted their accounts to make them seem more realistic in accordance with the changes that were being introduced to *real* voyage accounts during that period. Imaginary voyages came to be less fantastic, and though they continued to perpetuate certain myths, they presented this information as though it were founded upon primary encounter. They tended to express imaginative ideas in a plain style imitative of those accounts written by real travellers, with the result that the content, though fanciful, often appeared unsensational. However, there was another type of prose fiction that flourished during this period which also took the overseas voyage narrative as its prototype but carried the idea of long-distance travel to its extreme. Fictitious accounts of journeys to extraterrestrial locations became extremely popular. Space voyages, examples of which are to be found as early as the third decade of the seventeenth century, became increasingly prevalent in its latter decades and on into the eighteenth century.

The blatantly fictitious elements which were being eliminated from imaginary voyages found a place in accounts of imagined journeys to other planets. But these accounts were often more than merely frivolous in their intent. They too have received very little critical attention, and, as with terrestrial imaginary voyage narratives of this period, what has been written about them has tended to concentrate

on their satiric and utopian elements. It is my intention to show that these texts are also interesting because of their relationship to real voyage accounts which, as has been established, were perceived as having a role to play in the progress of experimental philosophy. I am also concerned to show the way in which this literary form was used to express or comment upon new, and sometimes controversial, scientific ideas. This fictitious scenario was often used as a means of popularising contemporary scientific ideas and, as such, these texts offer an insight into the conveyance to a wider audience of issues current within the movement of early-modern science.

(i)

Evidence of Life on the Moon.

Samuel Butler's satires of the Royal Society centre around the institution's acceptance of the reliability of 'eye-evidence' and his belief that this led to it being preoccupied with whimsical stories of the surprising and outlandish. Among the interests of the 'virtuosi' at which he pokes fun, both in his 'Ballad of Gresham College' and his unfinished 'Satire of the Royal Society', is that of the possibility of a world in the moon.¹ However, his greatest assault on the Royal Society is to be found in his poem 'The Elephant in the Moon' (c. 1676) which describes how the infiltration of a mouse into a telescope leads to a group of Fellows observing the moon to think they espy a fast-moving elephant there. Butler satirises the reliance upon visual perception in experimental philosophy, mocking the willingness of the Fellows to accept anything they have seen² and questions the reliability of accounts

¹ See comments concerning Samuel Butler's satirical assaults on the Royal Society in Chap. III (iv). He refers to the Fellows' interest in lunar speculation in his incomplete 'Satire of the Royal Society' published in *Poetical Works of Samuel Butler* (1893).

² There was a debate at this time as to whether or not scientific instruments designed to aid visual perception yet altering it so radically, such as telescopes and microscopes, should necessarily be regarded as reliable. When they see the

published in the *Philosophical Transactions* which are authenticated solely on the grounds that they are based on the reports of eyewitnesses³ In the poem Butler shows the Fellows observing the moon with the specific intention of assessing whether it is worthwhile attempting to go there It is their aim to 'make the proper'st observation/ For setting of new plantations,/ If the Society should incline/ T'attempt so glorious a design'⁴ We are about to see that at least one famous Fellow was genuinely interested in the feasibility of such a mission

Unquestionably, Butler's 'Elephant in the Moon' was not entirely without basis in truth Both Thomas Sprat and John Wilkins believed that since many truths have been derived from improbabilities, however extraordinary a thing may seem, it should not be rejected without investigation⁵ The Royal Society took the line that its Fellows should not restrict their contemplation to certainties but, rather, be willing to apply rational methods to speculative situations since 'as the minds of men do often mistake *falsehoods* for *Truths*, so they are often drawn by uncertain, and sometimes erroneous *reports*, to stumble on *truths*, and *realities*'⁶ Butler's suggestion that the Fellows of the Royal Society were willing to contemplate the possibility that the moon sustained life and, furthermore, that man might travel there was not groundless Certainly, Fellows of the Royal Society were interested in the principles

'elephant' encompass the globe of the moon in a second through their visual aid, the telescope, they will not disregard this vision even though it goes against reason

'Tis strange, I grant! but who can say

What cannot be, what can, and May?' (Butler, 'Elephant', ll 263-264)

³ Considering that what they have seen might contribute to the improvement of natural knowledge the Fellows taking part in the experiment agree to compose an account of their observation, 'And, for the general satisfaction/ to print it in the next "Transaction" (ll 242-244) It should be noted that the Fellows allude to Kepler's fictitious voyage narrative, *Somnium* (1634) describing an inhabited world in the moon as reputable evidence to suggest it not improbable that elephants should reside there

⁴ Butler, 'Elephant', ll 13-16

⁵ Thomas Sprat, *History of the Royal Society* (1667, fac reprint 1959), sect XXXII, 'The Relations of things of Nature and art, they have receiv'd', p 195, John Wilkins, *Discovery of a World in the Moon* (1638, 1684), p 1

⁶ Sprat, *History*, p 195

of flight and the possibility of the plurality of worlds, an idea which the astronomical developments of the early seventeenth century had initiated. It was an obsession which was to endure until at least 1683 when the publication of Newton's *Principia Mathematica* ended any serious scientific speculation that the moon might support life.

As early as 1609 telescopes showed that the moon's surface was not perfectly flat. Whilst Galileo did not believe the moon was inhabited he did consider that its appearance through the telescope indicated that the 'brighter parts are earth, the dusky, sea', according to Robert Burton.⁷ For the first time ever the moon was shown to be potentially another world. The discovery of the Americas, for which the phrase *New World* was a frequent synonym, together with speculation about a possible antipodean new world, were often cited as evidence to support the notion that the planets are individual worlds with atmospheres of their own and the capacity to sustain life.⁸ More significantly, the analogy with recent sea voyages of discovery was, with some seriousness, extended to suggest that these other worlds might in the future be *discovered* and that the possibility of establishing colonies there should not necessarily seem unreasonable. It is beyond doubt that in the seventeenth century interest in the moon as a world was a subject of serious concern to educated people.⁹ As a direct result of empirical observation as opposed to the unsubstantiated

⁷ Robert Burton, *Anatomy of Melancholy* (1610). Tommaso Campanella's interest in the possibility of extraterrestrial societies was more than satiric, Burton wrote to Galileo in 1611, enthusing that his observations revealed the truth of the biblical verse 'And I saw a new Heaven and a new Earth'. In fact even the earliest telescopic observations of the moon suggested it did not have an atmosphere (see note 22 below). Nevertheless, many men of science still believed in it, see the discussion below of Wilkins's *Discovery*.

⁸ ⁸ Even though the possibility that the moon might support life was put paid to by the close of the seventeenth century, John Carey notes that it has been calculated that there are nevertheless a probable ten million million planets in existence with atmospheric conditions similar to our own (*The Faber Book of Science* (1995), 'Introduction', p. xv).

⁹ See reference in Conclusion to John Ray's comments on the subject in his *Wisdom of God Manifest in the Works of Creation* (1691).

speculation which had previously existed, the seventeenth century developed an almost obsessive interest in both the possibility of extraterrestrial worlds and life forms and the possibility of space travel

Significantly, interest in the subject was fuelled still further in 1634 by the publication of the first English translation of an early imaginary lunar voyage narrative, Lucian's *True History*¹⁰ By no means was all the interest it inspired playful and the possibility of recreating Lucian's journey was given real consideration One important feature which differentiates Lucian's voyage from imagined and theoretical accounts of journeys to the moon written in the seventeenth century is that Lucian inadvertently embarks upon his trip, being carried upward 'on a sudden, and most violent whirlwind [which] carried the ship' in which he was sailing the seas 'above three thousand stadia'¹¹ By contrast the imaginary voyages concerning extraterrestrial travel written in the seventeenth century all describe journeys that were planned and intended Furthermore, both the fictions and those texts which consider the scientific and rational possibility of space travel were usually concerned with the voyage itself, just as navigational problems and observations were increasingly becoming an important feature of contemporary overseas voyage narratives

In his *Cosmographie* (1652), Peter Heylyn makes reference to recent interest in the moon which, significantly, he calls a world, citing Lucian's text as a contrast to contemporary speculation

But of late times, that World which he [Lucian] proposed but as a fancie, is become a matter of a more serious Debate, and some have laboured with

¹⁰ Francis Hicks's translation of Lucian's *True History* (1634) was the first time this text was available to an English readership

¹¹ Lucian, *True History in Trips to the Moon*, trans Thomas Francklin (1887), p 81

great paines to make it probable that there is another World in the Moon and ways proposed to consideration for maintaining an intercourse and commerce betwixt that and this ¹²

Although he does go on to suggest that this seems an unlikely focus of attention given that areas of the earth remain *incognita*, he is not derisive of this type of speculation

Certainly there are stronger hopes of finding a New World in this Terra Australis than in the body of that Planet But I am no discourager of Industry and Ingenuity I know great Truths have many times been staked upon less presumptions ¹³

The earliest of the seventeenth-century moon fictions uses precisely this argument to authenticate itself The preface 'To the Ingenious Reader' of Bishop Francis Godwin's *Man in the Moone* states

In substance thou hast here a new discovery of a new world, which perchance may find little better entertainment in thy opinion, than that of Columbus at first in the esteeme of all men yet his then but poore espiall of America, betray'd unto knowledge soe much as hath since encreast into a vaste plantation and the then unknowne, to be now of as large extent as all other the knowne world That there should be Antipodes was once thought as great a Paradox as now that the Moon should bee habitable But the knowledge of this may seeme more properly reserv'd for this our discovering age In which Galilaeusses, can by advantage of their spectacles gaze the Sunne into spots, & descry mountaines in the Moon ¹⁴

Man in the Moone first appeared in print in 1638, five years after the death

¹² Peter Heylyn, *Cosmographie in Four Books, Containing the Chorographie and Historie of the Whole World and all the Principal Kingdoms, Provinces, Seas and the Isles thereof* (1652, 1666), 'Appendix' (1667) 'The New World in the Moon', p 1095

¹³ Heylyn, *Cosmographie*, p 1095

¹⁴ Francis Godwin, *Man in the Moone* (1638, fac reprint 1969), p 2

of its author¹⁵ It is likely that this is a seventeenth-century text despite some suggestions that it was written prior to 1603, which are based entirely upon the internal evidence that its narrator claims to be an Elizabethan¹⁶ Since real interest in the possibility of a world in the moon only dates from 1609 when Galileo made his observations it is probable that it was written after this date, even though it is set in an earlier period Further evidence from within the text to support this notion of a later dating is to be found when Gonsales travels to China and meets a Jesuit missionary named Pantoja It is likely that Godwin came to hear about this real historical figure through his letter of 1602 to Luys de Guzman, Provincial in the Province of Toledo, which was translated into English and appeared in the third volume of *Purchas His Pilgrimes* in 1625¹⁷

The narrator, Domingo Gonsales, freely declares his allegiance to the Copernican system¹⁸ and believes the earth's attraction diminishes with distance Hence the geese which transport him find it easier to fly upwards as the journey progresses However, this is not an early pre-Newtonian theory of gravity, the theory of the magnetic attraction of the earth which he uses in place of gravitation is more akin to that put forward by William Gilbert in his *De Magnate* of 1600 Very little was known about the nature of gravity before Newton's *Principia Mathematica* (1683) Prior to that it was believed that the pull of the earth, itself a magnet

¹⁵ Godwin is most famous for his *Catalogue of the Bishop's of England* (1601), Godwin's *Man in the Moone* (1638) proved to be extremely popular throughout Europe It was translated into French in 1648 (2nd edn 1666) and it was this translation which served as the basis for the German edns of 1659 and 1660

¹⁶ Henry Lawton in his essay 'Bishop Godwin's *Man in the Moone*' (*Review of English Studies* (1931), vol 7, no 25, pp 23-53), provides a detailed exploration of possible terminus of its composition

¹⁷ Samuel Purchas, *Purchas His Pilgrimes* (1625), 'A Letter of Father *Diego De Pantoia* to *Luys de Guzman* written in *Paquin*, which is the Court of the King of China in 1602', vol III, p 350 Purchas notes in the margin that this text is a translation based on two previously published versions of the letter in Spanish (Valencia, 1606) and Latin (Mentz, 1607)

¹⁸ Nicolas Copernicus's *De Revolutionibus Orbium Caelestium* first appeared in 1543

according to Gilbert, gradually weakened as one rose from the earth before ceasing altogether above the level of the clouds¹⁹ Five years after the first appearance of this text the Italian physicist Evangelista Torricelli measured the pressure of the earth's atmosphere and calculated that it could not extend for more than five miles above the earth's surface Whilst his calculation was accurate according to the suppositions upon which he based it, his underlying assumption that the atmosphere remains at a density consistent with that at the earth's surface is, in fact, erroneous Instead it grows less dense as one progresses away from the earth's surface allowing the atmosphere to extend considerably further than Torricelli's estimate

(ii)

'The Possibility of a Passage Thither'.

In the same year in which Godwin's imaginary lunar voyage narrative appeared John Wilkins, a mathematician at Oxford who was later to become the first secretary of the Royal Society in 1662, published a text the full title of which best describes its concerns *The Discovery of a World in the Moone, or a discourse tending to prove that 'tis probable that there may be another habitable world in that Planet with a discourse concerning the possibility of a passage thither* (1638) Unlike Godwin's text this is not a satire or fancy Rather, it is a serious attempt to apply logic and prevailing scientific information to certain questions which persistently dogged lunar speculation His book takes the form of a detailed examination of thirteen 'propositions' In each instance he shows the prevailing arguments, refutes them and presents scientific evidence in support of his own position Significantly, the very first of these propositions is concerned with establishing the credence of this type of

¹⁹ John Wilkins shared this opinion Later in the same year he writes 'the Nature of Gravity does work but weakly far from the Earth, because the Appetite of Union in Dense Bodies must be more dull in respect of Distance' and he notes the difficulty birds have taking off but once up 'Soar about by the meer extension of their Wings' (*Discovery*, p 167)

speculation 'That the Strangeness of this Opinion is no Sufficient reason why it should be Rejected, because other certain Truths have been formerly esteemed ridiculous, and great Absurdities entertained by common consent'²⁰ This is a point which Wilkins asserts again in the introduction 'To the Reader' of *A Discourse concerning a New Planet* (1640) which was appended to the third edition of *Discovery*. He explains that the book is not intended to present a new and complete astronomical theory 'but rather to remove those Common Prejudices which usually deter men from taking any *argument* tending this way into their consideration'²¹ Wilkins wrote *New Planet* to show Copernican astronomy to be consistent with scriptural evidence. Hence, his argument is carefully framed to show that belief in the plurality of worlds and the habitability of the moon is consistent with secular reason and religious orthodoxy. He shows himself to be conscious of the problem that telescopic observation of the moon had already indicated it has no atmosphere²²

Following the publication of *The Discovery of a World in the Moone* in 1638, Wilkins read *Man in the Moone* which first appeared later that same year. Despite ~~its~~^{the} obvious fictitiousness of Godwin's text, which Wilkins explicitly recognised, it inspired him to add a further proposition to the his existing thirteen. 'That 'tis possible for some of our posteritie, to find out a conveyance to this other world, and if there be inhabitants there, to have commerce with them'²³ This appeared as an

²⁰ Wilkins, *Discovery*, p. 1

²¹ Wilkins, *A Discourse Concerning a New Planet* (1640), sig. A2^r

²² It had been noted that the boundary between the sunlit portion of the moon's surface and the night hidden portion is always sharp with no twilight zone and that stars about to be eclipsed by the moon did not dim as they approached its surface. To counteract this, Wilkins posits the fact that on observing the moon, the sunlit portion appears to be larger than the darkened portion, and, he suggests, this is an optical illusion which demonstrates that the moon has an atmosphere which is illuminated by the sun so that it appears larger than 'the solid body above'. In fact any light object will appear to be larger than an equivalent dark object.

²³ *Man in the Moone* was not published until five months after the publication of Wilkins's *Discovery*. His fourteenth proposition was added to the second edn. of

additional book to the third edition of *The Discovery of a World in the Moone* which was published in 1640 and is more speculative than the previous motions debated in his existing text²⁴ Although he affords some serious consideration to Godwin's engine designed so the geese should all get equal burden,²⁵ he concludes that it would be better to undertake the journey aboard a flying chariot rather than using artificial wings or relying on being pulled by birds like Godwin's character²⁶ Believing the distance to the moon to be 179,712 miles, Wilkins calculates that in a chariot travelling at one thousand miles a day the duration of the journey would be approximately half a year²⁷ Accordingly, he recommends that the chariot be large enough to accommodate several men, a good supply of food and commodities to trade with the lunar inhabitants But, still more extraordinary and disconcerting to the modern reader are Wilkins's comments on the subject of sustenance for the travellers during this half year journey Wilkins wonders whether the 'Æthereal Air, may be so agreeable to our Bodies, as to yield as sufficient nourishment' noting that '*Democritus*

Discovery in 1640 Evidence that this was in response to Godwin's text includes a reference in proposition seven to 'our bishop' which in later edns was replaced by the words 'Bishop Godwine' He also makes reference to Domingo Gonsales meeting locusts in mid-space It is worth noting that Godwin has the moon as the origin of these insects which plague the earth in destructive swarms This is an example of phenomena which cannot be explained as being of use to man being perceived as deriving their origin outside this created world See Keith Thomas's discussion about the 'anthropocentric' view of nature in his *Man and the Natural World, 1500-1800* (1983), chap I, 'Human Ascendancy', p 17

²⁴ Wilkins, *The Discovery of a World in the Moone with a Discourse concerning the probability of a Passage Thither* (1640, 1684) All references to Wilkins refer to the fourth edn (1684) See Appendix IV for a list of all fourteen propositions as they appeared in the fourth edn, the first to be attributed to Wilkins by name

²⁵ Wilkins, *Discovery*, p 186, Godwin's *Moone* contains an illustration of the contraption by which Gonsales is transported He sits erect upon a swing and is lifted by a complex pyramidal structure with the geese distributed at equal intervals See Appendix V

²⁶ Wilkins's *Mathematical Magick* (1648) deals still more fully with aspects of flight, an issue which clearly fascinated him Wilkins, who later became a founder member of the Royal Society, was not alone in that institution in his interest in flight See comments below concerning Hooke, Wren and Willughby

²⁷ Wilkins, *Discovery*, p 161 This mathematical calculation is an example of the serious intent of Wilkins's text which differentiates it from Lucian's *True History* in which they 'came in view of a great countree in the aire like a shining island' after only eight days airborne travel (*True History*, p 81)

was able for divers Days together to Feed himself with the meer smell of Hot Bread' ²⁸

Although this sort of debate may appear when seen in isolation as a burlesque, overall Wilkins certainly seems to be serious in the assertions he puts forward in this fourteenth proposition. Citing recent overseas discoveries as an incentive to progress he states 'our Conveyance to the Moon, can not seem more Incredible to us' than the possibility of finding other inhabitants in the new world 'and therefore we have no just Reason to be Discouraged in our Hopes of the like Success' ²⁹ Similarly, he later urges the reader to 'Consider the Pleasure and Profit, of these later Discoveries in *America*', believing that it follows that one 'must not needs Consider this to be Inconceivably beyond it' ³⁰ Confident that a way will one day be found to propel men in a given direction through the air he asserts that 'when ever that Art is Invented whereby a Man may be Conveyed some Twenty Miles high, or thereabouts, then 'tis not altogether Improbable that some or other may be successful in this Attempt' ³¹ Further on in his discourse he asserts

I do seriously, and upon good Grounds, affirm it possible to make a Flying Chariot in which a Man may sit, and give such a Motion unto it, as shall convey him through the Air. And this may perhaps be made large enough to carry divers Men at the same time, together with food for the *Viaticum*, and commodities for Traffique. It is not the bigness of any thing in this kind, that can hinder its Motion, if the Motive Faculty be answerable thereunto ³²

²⁸ Wilkins, *Discovery*, pp 172-173. Godwin's Domingo Gonsales says he neither felt hungry nor thirsty throughout the duration of the journey prompting Wilkins's discussion. The question of how travellers to the moon might be sustained with food and drink was a popular one. Not surprisingly Ben Jonson, famous for fondness of ale and alehouses, wonders 'whether there are inns and taverns there' in his masque *News from the New World Discovered in the Moon*, first performed in 1621.

²⁹ Wilkins, *Discovery*, p 158

³⁰ Wilkins, *Discovery*, p 187

³¹ Wilkins, *Discovery*, p 159

³² Wilkins, *Discovery*, p 184. He goes on to note that 'it would be also of inconceivable advantage for Travelling [to other places on earth] above any

Wilkins is interested and inspired by Godwin's text but accepts it as a fabrication, suggesting that writing fictitiously and obviously as a fancy he has stirred a serious interest in the possibility of space travel

Having thus finished this Discourse, I chanced upon a late fancy to this purpose under the famed Name of Domingo Gonsales In which (beside Sundry particulars wherein this Later Chapter did unwittingly agree with it) there is delivered a pleasant and well contrived Fancy concerning this other World ³³

Significantly, Wilkins hints at the didactic potential of this type of fiction to raise pertinent issues and suggests that although *Man in the Moone* is 'a strange Fancy' its author 'were better Able to set forth the great Benefit and Pleasure to be had by such a Journey' ³⁴

The highly comic satires written by Cyrano de Bergerac take the form of extraterrestrial imaginary voyages to the sun and moon ³⁵ His voyage to the moon,

other Convenience that is now in use' (Ibid , p 185) See comments below on Francesco Lana's 'Flying Chariot' published by the Royal Society in 1679

³³ Wilkins, *Discovery*, p 185

³⁴ Wilkins, *Discovery*, p 185, Both Wilkins's and Godwin's texts were regarded as controversial The possibility of man flying and their being a world outside the earth was considered an unseemly topic for bishops to engage with in the first half of the seventeenth century Furthermore, the suggestion of an inhabited 'other world' in the planets was even heretical If an inhabited antipodean continent posed theological difficulties then how could moon men fit into the scheme of creation? Accordingly, when it was first published *Man in the Moone* was attributed simply to 'a late reverend and learned bishop' The second edition, published in 1657 is simply attributed to F G Likewise, Wilkins was not named as the author of *Discovery of a World in the Moon*, until the fourth edition in 1684 The fourth of Wilkins's ten 'propositions' in *New Planet* sets out to show 'That divers learned Man have fallen into great Absurdities, whilst they have looked for the Grounds of Philosophy from the words of Scripture' (Ibid , p 56)

³⁵ Cyrano de Bergerac, the title character of Eduard Rostand's play of 1897 really existed His unusually large nose, on which Rostand places so much significance, was a true feature of this historical character In his utopian society then, a large nose is regarded as a sign of wit, courtesy, intelligence and generosity and in a comic inversion of the traditional analogy of nose size male

by far the most popular of the two, is significant here because of the references it makes to contemporary scientific and astronomical thought and also because Cyrano clearly used Godwin's text and probably also Wilkins's as sources. In 1656 Domingo Gonsales reappears in Cyrano de Bergerac's lunar voyage account proving the author's familiarity with Godwin's text. Cyrano's *Selenarchia* (1657) also contains references to leaves that are edible, an idea previously to be found in *Man in the Moon* and Cyrano's lunar inhabitants, like Godwin's, converse in a language based on tunes.³⁶ Although it is an obvious burlesque, his voyage to the moon offers more than just satirical glimpses of contemporary Parisian life. It is, to some extent, serious in its intent to put across new scientific ideas. It popularises new scientific *truths* through the medium of fiction, a function we will see extraterrestrial imaginary voyage accounts fulfilling again later in the seventeenth century.

The protagonist first lands elsewhere in France which he recognises as evidence of the rapid movement of the earth and affords the author the opportunity to expound the theories of Copernicus. Indeed, it is his acceptance of Copernican astronomy which is the cause of his departure from earth, for the elders of the region to which his first flight takes him think his views are those of a heretic and his appearance among them evidence that he is involved in witchcraft.³⁷ He invents a rocket that erupts in stages. Similar to a modern rocket, when the fireworks which provide the impetus for its initial launch are spent, the firing mechanism drops away. The force of ^{his} landing is broken by a parachute formed by the billowing skirts of his gown. Twenty-five years prior to the publication of Newton's *Principia*

babies' noses are measured at birth and those with short noses are castrated so that they do not pass on this miserable trait

³⁶ The first English translation of *Selenarchia* was in 1659 by Thomas St Serif though a more reliable version by A. Lovell appeared in 1687 from which it endured several reprints and was immensely popular in England.

³⁷ They believe the world turns because hell's fires are situated in the bowls of the earth and the inhabitants set the earth in motion by their frantic attempts to escape the flames.

Mathematica in 1683, Cyrano de Bergerac suggests the use of a rocket to maintain directed momentum through a vacuum. However, he goes on to abandon this as being too unwieldy a mode of transportation, preferring instead an ingenious, though more fanciful, method of repeatedly throwing a powerful magnet in the air whilst standing in an iron chariot which rises in response to the magnetic pull.

(iii)

Some will Believe a Man can Fly.

The possibility of creating a means by which man might be airborne had long been given serious consideration. Roger Bacon had been interested in devising a means by which man might fly.³⁸ William Dunbar's two satires upon 'the Fenzet Frier of Tungland' tell that John Damian, Abbot of Tungland and favourite of James IV, attempted to fly in 1507 from the battlements of Stirling Castle to France. John Lesley, Bishop of Ross, also refers to this historic event in his *History of Scotland* (1561) and states that Damian himself attributed the failure of his venture 'to that thair was sum hen fedders in the wings'.³⁹ Indeed, that there are even some birds incapable of flight might have alerted people to the fact that attaching wings to themselves would not prove the most efficient way to attain airborne propulsion. Yet, the idea of making men fly as individuals with wings, rather than within aircraft, continued to preoccupy man well into the period of the Royal Society's establishment.

John Wilkins was not the only highly-educated man to give serious credence to the possibility of man flying.⁴⁰ Other Fellows of the Royal Society were at least

³⁸ See comments below concerning Hooke's reference to Bacon's flying contraption.

³⁹ John Lesley, *History of Scotland from the death of King James I in the year 1436 to the year 1561* (1561, reprint 1830).

⁴⁰ Wilkins did not abandon his interest in this subject when he became involved

interested in these ideas and certainly took seriously the idea that a way might be found to make man fly. The 'Father's of *Salomon's House*', the academy of natural philosophy described by Bacon in his own imaginary voyage text, *New Atlantis* (1629), which served as a model for the Royal Society, proudly announce to their overseas guests 'We imitate also flights of birds, we have some degrees of flying in the air'⁴¹ Likewise, the Royal Society Fellows were, without doubt, very interested in the subject too.

Robert Hooke, the Royal Society's convenor of experiments, and one of only two full-time scientists of the period, was fascinated by the idea that a contraption might be designed to enable man to fly.⁴² He contemplates the possibility of man flying as an individual in his *Micrographia* (1665) though he concludes that it seems 'principally impracticable by reason of the want of strength in man's *Muscles*'⁴³ A debate between Hooke and Wren on whether or not man had sufficient muscle capacity in his arms to make flying a possibility is recorded in the minutes of the Royal Society as having taken place on 21 June 1665 and again on the 11 February 1675.⁴⁴ Another highly-respected Fellow of the Royal Society, Francis Willughby, contributed to this debate in his *Ornithologiæ Libri Tres* (1676) by expounding upon the principles of birds' flight and attempts to prove by reasoned calculation that the

with the formative Royal Society. His *Discovery* with its additional discourse and his *New Planet* was reprinted in the Restoration and enjoyed considerable popularity. Two separate editions of *Discovery* were printed in 1684 constituting the fourth and fifth editions of the text. Both name Wilkins as the author on the title page.

⁴¹ Francis Bacon, *New Atlantis* (1629) in *Works* (ed. Spedding, Ellis, Denon Heath, 1857), vol. 3, p. 163.

⁴² Of all the Fellows of the Royal Society, only Hooke and John Flamsteed, the Royal Astronomer at the Greenwich Observatory were employed full time in a scientific career. All the others either had another career or private means to support them and were effectively dedicated amateurs (Source: Michael Hunter, seminar paper).

⁴³ Hooke, *Micrographia* (1665, 1667), p. 18.

⁴⁴ Hooke writes that he had made 'many trials about the Art of Flying in the Air of which I shew'd several Designs to Dr. Wilkins'.

strength of bird's wings proportionate to their respective body mass is comparable to the strength in man's legs ⁴⁵

In 1679, Hooke personally ensured that an English translation of the Frenchman, Monsieur Besnier's account of 'The Art of Flying' appeared in the *Philosophical Collections* together with an illustrative plate showing his 'Engine for Flying' ⁴⁶ Besnier's contraption, which is comprised of wings operated by the traveller's arms and legs which beat the air, seems to have been approved of by Hooke suggesting his acceptance of Willughby's calculations Printed alongside Besnier's proposed design is an account of 'A Flying Chariot' by Francisco Lana to which Hooke appends an account showing it to be 'Impracticable' Lana advocates constructing a vessel which, once it has been rendered a vacuum, will be lighter than air 'and therefore would Swim in it and Ascend on High' Having outlined his proposal with relevant mathematical reckonings he concludes 'a kind of Ship may be made to Swim in the Air and to carry two or three Men in it' Hooke's objections are levelled not at the general concept of the design but rather at the specific computations on which Lana bases his proportions ⁴⁷

In the same edition is printed 'An Account of Flying by Dr Hook' in which he praises Roger Bacon as a modern-style experimental philosopher He derives encouragement in his pursuit of the subject from the fact that Bacon 'affirms the Art of *Flying* Possible, and that He himself knew how to make an *Engine*, in which a Man Sitting, might be able to carry himself through the *Air* like a *Bird*' ⁴⁸ He also

⁴⁵ Francis Willughby, *Ornithologiae Libri Tres* (1676), *The Ornithology* (1678)

⁴⁶ Besnier, 'The Art of Flying', in *Phil Coll*, no 1 (1679), p 15, see Appendix V Note between the years 1679-1682 publication of the *Phil Trans* was suspended and replaced by a comparable though less frequent journal the *Phil Coll*

⁴⁷ Francesco Lana, 'A Flying Chariot' in *Phil Coll*, no 1 (1679), p 18, Hooke's response, *Ibid*, p 27

⁴⁸ Hooke, 'An Account of Flying' in *Phil Coll*, no 1 (1679), p 14 Attempting to dispel the notion that Roger Bacon was 'a *Majician* or *Cunjurer*', Hooke instead proclaims him to have been 'a good *Mathematician*, a knowing *Mechanick*, a rare

states that he has an uncorroborated account 'that another Person actually Tried it with good success' However, as with his exhortations to travellers, Hooke urges contemporary 'Mechanicks' to document their experiments In this way the future attempts of those 'Ingenious Men' who are 'currently employing their Wits and Time about this Design' will avoid a repetition of what happened to one Mr Gasgoigne He tried to fly 'with good Effect' but having failed to make a record of the design of his engine, 'since Dying, the thing also Dyed with him' ⁴⁹

(iv)

Other Worlds.

Another type of fictitious voyage narrative to extraterrestrial locations which was to become popular in the Restoration used this scenario as a metaphorical framework upon which to impart 'useful knowledge' ⁵⁰ This sort of imaginary voyage narrative was not concerned with the probability of the journey itself which was usually a self-proclaimed dream These were blatant fictions, taking their precedent from Johann Kepler's imaginary *Somnium* ⁵¹

The Duchess of Newcastle, Margaret Cavendish's only prose fiction, *Discovery of a New World called the Blazing World* which, significantly, was appended to *Observations upon the Experimental Philosophy* (1666) was inspired by

Chemist, and a most Accomplish'd Experimental Philosopher' which, he considers 'was a Miracle for that Dark Age' (Ibid , p 14)

⁴⁹ Hooke, 'An Account of Flying' in *Phil Coll* , no 1 (1679), p 14 It is not enough for Hooke that they 'affirm that they have proved their designs by Experiment' In accordance with the new scientific methodology their results must be able to be replicated He regrets, then, that 'we have little or no account of the ways they have taken to Effect their Designs' (Ibid , p 14)

⁵⁰ See Francis Rarick Johnson, *The Progress of the Copernican astronomy among English Scientists to 1645 and its reflection in Literature from Spenser to Milton* (1937) for a study of the influence of new astronomical theories on literary texts

⁵¹ Johann Kepler's fictitious *Somnium* was published in 1634, four years after his death

her interest in the Royal Society⁵² Cavendish is not the only woman to write imaginary voyage literature in the seventeenth century, but she is the only person to centre her narrative around a female protagonist⁵³ Her 'young lady' is the sole survivor of a shipwreck which takes place as the vessel attempts to sail across the north pole, whereupon she flips into a parallel world, at once analogous to this world yet very different⁵⁴

Much of the text is concerned with the heroine's involvement with the experimental findings of an academy of natural philosophy, similar to the Royal Society, which she establishes on becoming Empress. Although the opinions of its Fellows are sought and taken seriously by the government, Cavendish's depiction of this scientific institution satirises experimental philosophy and especially the

⁵² The following year Cavendish attended a meeting of the Royal Society, to which, effectively, she invited herself, thereby causing some controversy. Both Samuel Pepys and John Evelyn give accounts of the incident in their diaries. Pepys describes finding 'much company, ended very much company, in expectation of the Duchess of Newcastle, who had desired to be invited to the Society, and was, after much debate pro and con, it seems many being against it, and wee do believe the town to be full of ballots of it'. He goes on to reveal that he did not 'hear her say anything that was worth hearing but that she was full of admiration, all admiration. Several fine experiments were shown her of Colours, Loadstones, Microscope, and of liquors among others. After they had shown her many experiments, and she cried still she was 'full of admiration', she departed' (*Diary* ed Robert Latham and William Matthews (1970-1974), 11 vols, vol VIII, p 243, 30th May, 1667). The editors note that 'the decision to invite the Duchess was made on 23rd May. Lord Berkely proposed it saying that she wished to be invited officially' (*Ibid*, p 243, n 3). Evelyn also refers to the incident (*Diary* ed E S De Beer (1955), 6 vols, vol III, pp 482-483, 9th May-7th June 1667). A poem, thought to be by Evelyn to Samuel Pepys, giving an account of the visit is to be found in Public Record Office, London, *Samuel Pepys*, Charles II, vol 450, no 102 (Source De Beer, *Ibid*, p 483, n 1). See also Thomas Birch, *History of the Royal Society of London (1756, 1757)*, 4 vols, vol II, pp 176-178 for the official account of her visit and a formal list of the experiments shown to her.

⁵³ See reference below to Aphra Behn's play *The Emperor of the Moon* (1687).

⁵⁴ This fascinating text is now in modern edition (ed Kate Lilley, 1992) and is currently receiving a significant amount of critical attention. Yet formerly its eclectic style and the fact it is not a straightforward satire has led to its being disregarded. Marjorie Hope Nicolson writes scathingly of Cavendish's text:

If you wish to journey to the celestial worlds of Margaret of Newcastle, you must go along with her in the pages of her ponderous tome. I have no intention of reading that book again in order to bring order out of their chaos (*Voyages to the Moon* (1948), p 224).

unquestioned acceptance of the reliability of visual perception. She is particularly suspicious of instruments designed to aid vision, repeatedly challenging the idea that the altered perspective they offer is necessarily superior to the naked eye.⁵⁵ In a satiric reference to the microscopical observations of the Royal Society she is shown a flea through the microscope which 'appear'd so terrible to her sight that they had almost put her into a swoon' and 'pitted much those that are molested with them'.⁵⁶ At first its incredible size leads her to think she observed an elephant offering a possible inspiration to Samuel Butler.⁵⁷ Cavendish highlights the limitations of simply showing things as the Baconian scheme for representation rather than interpretation in natural history advocates, empirical observation is only useful if it is acted upon. Accordingly, the Empress wants to know if these instruments can hinder the biting of fleas or show how to avoid them.

Other concerns which preoccupied the Royal Society but which Cavendish seems to regard as tangents to useful study are also satirised in the text, such as the frequently debated subject of spontaneous generation, accounts of which fill the *Philosophical Transactions*

there is some likeness between Maggots and Cheese, for cheese has no blood, and so neither have maggots, besides, they have almost the same taste which cheese has. This proves nothing 'for maggots have a visible, local, progressive motion, which cheese hath not'.⁵⁸

This parodic passage in which Academy members debate whether it is likely that maggots are derived from cheese is not dissimilar to accounts published in the Royal

⁵⁵ See note 2 above

⁵⁶ Margaret Cavendish, *Discovery of a New World called the Blazing World* (1666, 1992), p. 144

⁵⁷ Butler, writing later c. 1676, inverted this idea in his satire of the Royal Society so that a mouse viewed through a telescope misleads the virtuosi into believing they have seen an elephant, see above sect. (1)

⁵⁸ Cavendish, *Blazing World*, p. 142

Society's monthly journal, such as that by the naturalist John Ray 'Of Spontaneous Generation' and George Garden's account of 'The True Origine of Caterpillars' ⁵⁹

One example of a text which deals with popularising the idea that the planets are individual worlds is Bernard le Bovier Fontenelle's *A Plurality of Worlds* which was translated into English by Joseph Glanvill in 1688 ⁶⁰ Presented to an English-speaking audience by one of the Royal Society's most eminent Fellows, it was a text which was to become extremely popular in England and, according to M H Nicolson, especially so with ladies 'one of whom would read it aloud to others who were busily engaged in making strawberry jam' ⁶¹ Fontenelle's text does not imply a literal journey to other planetary worlds but takes the form of a conversation between a natural philosopher, with a particular interest in astronomy, and a Lady, the Marchioness Whilst out on an evening stroll together they begin to ponder the moon in the light of which they are bathed The philosopher's description of the plurality of worlds, made simple enough for the lady to comprehend, does not preclude the possibility that these worlds may be inhabited, though he suggests that physical interaction and communication between them and the earth's occupants would be inhibited, almost certainly to the extent of being impossible, by atmospheric

⁵⁹ John Ray, 'Of Spontaneous Generation' in *Phil Trans*, no 74 (1671), p 2219, George Garden, 'The True Origine of Caterpillars' in *Phil Trans*, no 237 (1698), p 54

⁶⁰ Bernard le Bovier de Fontenelle, *A Plurality of Worlds*, trans Joseph Glanvill (1688) enjoyed considerable success in England and was reprinted in 1695, 1702, and again in 1719, Aphra Behn translated the text in 1700

⁶¹ Cited in Nicolson, *Voyages to the Moon*, p 59 Unfortunately, Nicolson likewise designed her book for a 'popular audience' and offers no footnotes, making it hard to locate the source of this interesting anecdote Elsewhere, she notes that Wilkins's popular style for presenting scientific ideas rendered his ideas available to the 'meaner capabilities' of ladies though it appears she draws this phrase not from a specific reference to Wilkins's writing but rather from a popular astronomical text of the eighteenth century which boasts in its sub-title that it offers 'Science made clear to the Meanest Capabilities, even those of Women and Children' (*Ibid*, p 93)

differences. Thus he allays the fears of the Marchioness that 'some great shipwreck' in the sky might result in extraterrestrial inhabitants invading the earth.⁶²

Fontenelle's *A Plurality of Worlds* was not the only French text to be embraced in England which used the extraterrestrial imaginary voyage as a vehicle for expressing contemporary truths. In 1692 an English translation was printed of Gabriel Daniel's *Voyage to the World of Cartesius* which had first appeared in France two years earlier. It is another example of an invented fictitious imaginary voyage scenario used to debate contemporary ideas, in this case the philosophy of Descartes. Daniel's text, which describes a metaphorical journey to another world via the moon, makes no attempts at realism.⁶³ Although the text debates issues of truth, it is not concerned with establishing its own veracity as a voyage narrative, despite the author's ironic claim that he intends 'to set off [his] History with an Air of Truth'.⁶⁴ Instead, it is unashamedly a critique of Cartesian philosophy intended to show its inherent inconsistencies. The author states at the outset his desire to debunk

⁶² It is interesting that an analogy should be made here to terrestrial voyages of discovery and further that he should see an invasion as resulting from a shipwreck rather than an intention of the other-worldly inhabitants to land and colonise the planet.

⁶³ Gabriel Daniel, *Voyage to the World of Cartesius* (1692, 1694), En route to Descartes's world the travellers visit the moon which is described as 'a Mass of Matter much like that of which the Earth is compos'd. There you have Fields and Forests, Seas and Rivers' and further, the narrator considers that although there is no indigenous animal life there 'if some were transported they would thrive and probably multiply' (Ibid., part II, p. 97). The narrator goes on to explain that Cyrano's assertion that there are men there is false, though adds that 'twas undesignedly that he deceived us' since, the Souls which reside there took a bodily form when they saw the man on the moon so that they may ask him how he accomplished such a journey. He adds 'tis worth the knowing that some fopperies he has inserted, were only the fruits of a debauch'd Imagination and a Corrupt Mind' saying he may have taken this from Lucians who acted as a plan (Ibid., part II, p. 97). Indeed the travellers in *Cartesius* also meet the embodiment of the souls of ancient philosophers on the moon who proffer opinions on Descartes with whom they have been united in death. Socrates explains how he hates Descartes and Aristotle refers to him as 'that mad Blade that came here thirty Years ago' (Ibid., part II, p. 85).

⁶⁴ See comments in Chap. IV (ii) concerning an ill-defined 'air of truth' which supposedly emanated from real voyage literature.

Descartes's arrogant belief that 'he could give a reason for all that occurs in Nature' upon which he secured his reputation

I shall glory to have been the most mischievous Adversary Cartesius ever met with To show then his system to be full of Contradictions is to undertake him in his strongest hold, and to wound him in the part that is most sensible ⁶⁵

The opening line of the text proclaims 'It fares with the World of Monsieur Descartes as with other lately Discovered Lands, whereof such different Accounts are given, as often contradict one another' ⁶⁶ Interestingly, then, the contradictions of Descartes's world view are compared to the accounts of different travellers describing the same location which, when seen in conjunction with one another, reveal discrepancies which serve to undermine them all

The protagonists' journey is to a world 'of his [Descartes] own contrivance', a realisation of his world-view which will embody the contradictions of his theory ⁶⁷ This, then, is a metaphorical journey to a contrived location and never pretends to be any thing other than that ⁶⁸ Indeed, the very purpose of it is to demonstrate the irrationality of this supposedly rationalist world view The journey itself is in no way realistic The travellers leave their bodies behind and travel in spirit only ⁶⁹ Their journey is by way of a chemically-induced hallucination following the inhalation of special snuff which causes them to fall into a swoon ⁷⁰

⁶⁵ Daniel, *Cartesius*, 'A General View of the Whole Work', sig [A7]r v

⁶⁶ Daniel, *Cartesius*, part I, p 1

⁶⁷ Daniel, *Cartesius*, part I, p 36

⁶⁸ Daniel satirises the prefaces of real voyage accounts when he states in his introduction that 'after all the pains I have taken to appear credible, I am conscious notwithstanding I shall not be believed' (Ibid , sig [A6]r)

⁶⁹ Daniel, *Cartesius*, part II, p 56 ff

⁷⁰ Daniel, *Cartesius*, part I, pp 51-52 It is, of course, appropriate that travellers to Descartes's *world* should separate their minds from their bodies so as to elude the influence of the 'malicious deceiver' upon their senses Yet, in this satirical assault upon Cartesian philosophy, the separation is achieved by the

The use of fictitious literary forms to express truthful or serious sentiments is considered at length by Daniel in his introductory discourse, 'A General View of the Whole Work' He begins with a reference to Lucian's bold testament to the fictitiousness of his ironically titled *True History*

Lucian, in his Entry upon his true History, hath taken the most advantageous Method that possibly could be thought on He proclaims forth with to his Reader that whatsoever he shall say is false After which giving his imagination swing, he loads the Paper with all the Extravagances his Fancy can supply him with By this means he secures himself from the grand concern which attends all sorts of composition and consists in preserving probability in the Narration, an Obligation otherwise indispensable to every writer that pretends to give Relations ⁷¹

He goes on to state, however, that he hopes to achieve quite the opposite effect by his employment of a fictitious form 'I should be cautious of using the like preamble, and acquainting my readers that all they were to expect of me should be false I certify them therefore from this time forward that I have a quite contrary design' intending 'to persuade the most incredulous, did they lay by Prejudice in the reading of it, that what I say is most undoubtedly true' ⁷² By offering a text which is obviously a fiction, yet claiming it is ~~not only~~ true, Daniel inverts Lucian's trick to assert the serious intent of his satire

So, whilst the appearance of Newton's *Principia Mathematica* in 1683 served to quench the interest of the Fellows of the Royal Society in the possibility that the

consumption of an hallucinogen, see comments in Chap V (111), concerning the reliability of sensory perception being impaired by the imbibation of certain intoxicants in Denis Vairasse, *History of the Sevarites or Sevarambi* (1675-1679)

⁷¹ Daniel, *Cartesius*, 'A General View of the Whole Work', sig [A5]^r v, Daniel refers to Lucian's 'Preface' to *True History* in *Trips to the Moon*, pp 73-76

⁷² Daniel, *Cartesius*, 'A General View of the Whole Work', sig [A5]^v-[A6]^r

moon might support life, the vogue for fictitious voyage accounts describing lunar destinations persisted and, indeed, became ever more popular. As imaginary voyage accounts to locations on earth increasingly came to imitate real travel narratives, the vogue for blatantly fictitious texts set on other planets gathered momentum and continued to do so throughout the early decades of the eighteenth century. Not all of these took the form of prose fictions. As well as translating another of Fontenelle's texts popularising the doctrine of the plurality of worlds, *The Theory or System of several new Inhabited Worlds lately discover'd* (1700), Aphra Behn also wrote a play entitled *The Emperor on the Moon* (1687). Thomas D'Urfrey's comic opera, *Wonders in the Sun or the Kingdoms of the Birds* (1706), was based on Cyrano de Bergerac's voyage to the Sun which first appeared in English in 1662.

Among the prose fictions to deal with this subject at the beginning of the eighteenth century are John Daniel's *The Life and Astonishing Adventures of John Daniel Also a Description of a most surprising Engine, invented by his son Jacob, on which he flew to the moon, with some account of its inhabitants* (1703) and, published anonymously in the same year, *Iter Lunare, Or a Voyage to the Moon Containing some Considerations of the Nature of that Planet, The Possibility of getting thither With other pleasant conceits about the inhabitants, their manners and customs* (1703). This reached a second edition the following year when it was attributed to David Russen. Daniel Defoe used this form as a vehicle for his social satire, publishing *The Consolidator, or Memoirs of the World of the Moon, translated from the Lunar Language* (1705). This and another text comprised largely of extracts from *Consolidator* entitled *A Journey to the World in the Moon* (1705) were both published anonymously but are known to be by Defoe.⁷³ His fictitious lunar voyage probably

⁷³ The 1705 edition of *A Journey to the World in the Moon*, printed by James Watson, attributes the text to the 'Author of the *True Born Englishman*' that is Daniel Defoe, the authorship of *Journey* and *Consolidator* is also attributed to Defoe in *Eighteenth Century British Books: An Author Union Catalogue* (1981) ed. F. J. G. Robinson, G. Averley, W. R. Esslemont, P. J. Wallis.

also served as inspiration for Murtagh MacDermot, *A Trip to the Moon, Containing some Observations and Reflections made by him during his stay in that Planet and upon the Manners of the Inhabitants* (Dublin 1728) ⁷⁴

Lucian, then, declared his *True History* to be comprised of falsehoods, but in a further paradox readers in the seventeenth century embraced his text because, for the first time, its subject appeared potentially plausible. Telescopic observations of the moon in the first decade of the seventeenth century instigated the belief that the moon and planets might prove to be inhabitable worlds which, as the century progressed, developed into an obsessive interest in speculation that it might be possible to travel to them.

It may seem surprising that Fellows of the Royal Society were willing to contemplate this, but John Wilkins's contentions that once man could transport himself a short distance by air it would not be long before he would be capable of travelling to the moon and that flight would prove the most efficient means of travel in this world were, in many ways, prophetic. And so in a century which, more than any before, perceived the value of travel narratives as residing in their truthfulness, a vogue developed for fictitious accounts which described journeys to the moon. At a time when fictitious narratives describing voyages to earthly locations were becoming increasingly realistic in their presentation, this group of texts, like Lucian's *History*, did not pretend to be true. Yet, their relationship to the conveyance of

⁷⁴ Source *DNB*, It should be noted however that the text published anonymously in 1720 entitled *Miscellanea Aurea Or the Golden Medley Consisting of (1), A Voyage to the Mountains of the Moon* the short title of which has been erroneously described as a lunar voyage. In fact it is rather *A Voyage to the Mountains of the Moon under the Æquator*, as its full title reveals. Varasse explains the origin of this name for this range of mountains writing that Vasco da Gama in 1497 saw the moon appear as if it touched the top of them or as though their peaks reached the moon (*Sevarites*, part II, pp 29-30), the bookseller's note states that *Miscellanea Aurea* was written chiefly by Thomas Killigrew (Jr).

prevailing *truths* is an interesting one. This blatantly fictitious scenario was often used to express, in a popular form, contemporary astronomical and mathematical ideas and as such these texts were taken seriously. Wilkins recognised Godwin's *Man in the Moone* as a 'fancy' yet he confesses to having been intrigued by it and gave it serious consideration.

In some of the later texts the journey itself, which had formed such an important part of Godwin's text and so interested Wilkins, ceased to be a central focus and is more often metaphorical. But the model of the extraterrestrial journey was still used as a framework on which to hang contemporary philosophical and scientific debate. These were texts designed to appeal to a wide audience. A measure of the accessibility of Fontenelle's immensely popular *A Plurality of Worlds* is to be seen in the very form he adopts of a dialogue between a philosopher and a Lady. The Philosopher responding to questions posed by his companion not only allows the text to focus upon popular questions but makes it appropriate for the answers to be expressed in a manner understandable to those of 'the Meanest Capabilities, even those of Women and Children'.⁷⁵ Likewise, Wilkins's thirteen propositions deal with popular queries and objections to a subject capable of engendering widespread interest. *The World of Cartesius* sets about conjuring a concrete realisation of Descartes theories in order to expose their failings. In this way the extraterrestrial imaginary voyage narratives of the seventeenth century offer more than simply social and political satire. They are as well early examples of science fiction, concerned with the transmission of contemporary scientific ideas and speculation based on recent theoretical developments in astronomy and mathematics showing that 'mere *Lyes*, judiciously compos'd, can teach us the Truth of Things, beyond any other manner'.⁷⁶

⁷⁵ Cited in Nicolson, *Voyages to the Moon*, p. 93, see note 61 above.

⁷⁶ Anthony Ashley Cooper, Third Earl of Shaftesbury, *Characteristicks of Men, Manners, Opinions, Times* (1711, 1734), vol. I, part III, sect. III, p. 346.

Conclusion.

Samuel Purchas, for all his faults as a compiler and editor, saw in voyage narratives a potential usefulness which was later developed more fully by the Fellows of the Royal Society¹ The growing belief in the seventeenth century that primary evidence is more valuable than traditional book learning was matched by the belief that the observer may record his observations in an objective manner providing it is his intention to do so This resulted in an unprecedented confidence in the ability of travellers to transcribe their experiences into written accounts which represent a particular place and the natural phenomena found there as it really is rather than interpreting it through a heritage of existing cultural beliefs

The popularity of the general geographical textbook which had been considerable in the late sixteenth and early seventeenth centuries waned in the Restoration period. The general description offered by these texts was neither systematically recorded nor adequately attributed to named primary observers which resulted in their being regarded as inconsistent with the empirical methodology of the early-modern scientific movement

The particularity of regional geographical description presented a problem to those attempting to reconcile the subject of geography in its entirety with the mathematical sciences The Royal Society did not attempt to make regional geography scientific in itself but rather to make chorographical description the rightful concerns of scientists So, following Bacon's model the accounts of travellers were seen in the Restoration period as a branch of natural history rather than physical

¹ See comments earlier concerning criticisms of Purchas in Introduction, (ii) and Chap IV, (iv)

geography, a part of *mixed* mathematics rather than *pure* mathematics² The function of the chorographer was to present as clearly as possible all observed phenomena rather than to draw conclusion or analyse his experiences

Taken in conjunction, chapters two and three and appendixes one and two show how the Royal Society, which championed experimental philosophy and prioritised primary encounter above all else, steadily established a worldwide group of reporters supplying it with information which its Fellows incorporated into their own theories In this way the diversity of these accounts and their chronological distribution within this monthly periodical can be viewed in direct relation to the Royal Society's promotion of this literary genre, manifest in its directions, enquiries, reviews and praise of existing accounts It soon succeeded in establishing an international network of informants, a world of witnesses offering evidence It made the seminal move of welcoming the opinions of all travellers regardless of rank and qualifications Although in practise many of the accounts printed in the *Philosophical Transactions* were by Fellows, many accounts and letters by merchants and travellers were also included and many more of the narratives were based on the experiences of ordinary travellers

The most popular collection of seventeenth-century voyages took the ideal of embracing the opinions of all travellers still further Its publishers explicitly aligned themselves with the Royal Society's campaign and included the accounts of all sorts of people In the Churchills' *Collection of Voyages and Travels* (1704), the account by Edward Pellham, a 'Gunner's mate' has a rightful place, alongside the journal of Sir Thomas Roe The famous account of Christopher Columbus's discovery of the West Indies, composed by his son Ferdinand, shares a volume with a journal composed by

² Francis Bacon, *The Advancement of Learning* (1605, ed G W Kitchin, 1973) pp 99-100

scarcely-literate seamen. The Churchills' collection is the largest anthology of seventeenth-century, first-person voyage accounts and is markedly different from those of both Richard Hakluyt and Samuel Purchas even though many of the accounts printed by the Churchills were originally composed in the first half of the seventeenth century. Their intention was not to glorify English achievements overseas, nor was it to locate Paradise or the source of King Solomon's riches, nor for that matter, to demonstrate with specific detail the potential for overseas trade.³ The range of authors included, the use of translated texts and the emphasis placed on accounts detailing flora and fauna, all mark out the Churchills' collection as a distinctive product of Restoration values.

The large number of imaginary voyage prose fictions published during the second half of the seventeenth century is further testament to the popularity of real voyage literature at this time. Certainly, as real voyage literature came to be held in high esteem in the latter part of the seventeenth century, any fictional account which succeeded in persuading the reader that it was true had the potential to enjoy considerable popularity. Though studies have been made of utopian literature, no one has looked at the diverse group of texts which constitute the range of imaginary voyage narratives during this period as a whole. By no means all of them can be classed as utopian or social satire, some satirise the genre of voyage narratives, some satirise experimental philosophy, others simply imitate real accounts in the hope of being passed off as such with no obvious satiric intent. Most of the many imaginary voyage prose fictions which were popular in the seventeenth century have been ignored subsequently by literary critics.⁴

³ See the Churchills' comments concerning the omission of certain information from the journal of Sir Thomas Roe which concerned trade, Chap. IV, (11). They believed such data would not be of interest or use to their readers.

⁴ Even to this day the subject of imaginary voyage literature remains largely unexplored. The only studies specifically devoted to exploring the place of the imaginary voyage in English literature and discuss possible definitions of the term, is Philip Babcock Gove, though significantly he too chooses not to deal

The question why so little attention was paid to seventeenth-century imaginary voyage literature by early bibliographers is an extremely interesting one. All seventeenth-century imaginary voyage texts are consistently omitted from eighteenth and nineteenth century bibliographies including those which deal extensively with the imaginary voyage as a classification of prose fiction.⁵ Many prose fictions from the sixteenth and seventeenth centuries are included in these bibliographies. Most of these, however, are picaresque works centring around the exploits of an individual. Indeed, what distinguishes eighteenth-century imaginary voyage literature most from those texts published in the preceding century is the existence of a central protagonist. The seventeenth-century fictitious voyage account which takes as its precedent the real voyage account, puts a greater emphasis on the description of place and minimises the role of the protagonist, seeing him as an impartial observer. None of them revolves around the fortunes of a central character comparable in terms of complex characterisation to Lemuel Gulliver and Robinson Crusoe.

with texts written prior to 1700. In his book *The Imaginary Voyage in Prose Fiction*, he attempts to produce a definitive history of the use of the term imaginary voyage and Percy Adams in his *Travellers and Travel Liars* and other one though again neither is concerned with texts prior to the eighteenth century.

⁵ The earliest use of the term imaginary voyage to appear in print in English was by Henry Weber in his *Popular Romances*. Published in Edinburgh in 1812, it was a collection of five 'popular romances', four of them written in English in the eighteenth century, which Weber chose to describe as 'Imaginary Voyages and Travels' in the book's sub-title. However he makes no mention of there being a tradition of imaginary voyage narratives predating the eighteenth century despite writing an extensive introductory chapter on this literary genre. Two years later the Scottish bibliographer, John Colin Dunlop, includes Lucian's satirical *True History* and the *Travels* of Sir John Mandeville, which had long been exposed as being fictitious, as imaginary voyages in his two volume *History of Fiction* but entirely ignores the imaginary voyages which were so popular in the seventeenth century. Charles Garnier's massive *Voyage Imaginaires, Songes, Visions et Romans Cabalistiques*, (1787-1789) remains the most extensive bibliography to deal primarily with the imaginary voyage. Out of its thirty nine volumes in which texts from as early as the thirteenth century are catalogued into the classes indicated in its title, thirty are devoted to the primary category, the imaginary voyage. He includes only seven English texts under this category, significantly none of which was written earlier than the eighteenth century.

The vogue for imaginary voyage prose fictions to extraterrestrial locations during this period demonstrates an interest in the possibility of a plurality of inhabitable worlds. The Fellows of the Royal Society were, without doubt, interested in flight and space travel and were mocked contemporaneously for it by, among others, Samuel Butler. Having expressed his own belief that 'the *Moon* is a Body in all probability somewhat like the Earth we live upon' and, therefore, capable of sustaining life, John Ray recommends the works of Wilkins and Fontenelle to those interested in the finding out more:

this *luminary* I am perswaded maintain[s] the Creatures which in all likelihood breed and inhabit there, for which I refer you to the ingenious Treatises written by Bishop *Wilkins* and Monsieur *Fontenelle* on that subject⁶

The scenario of a journey to an other-worldly location was a popular one in a century in which for the first time both the surface of the moon could be scrutinised through the lens of a telescope and the possibility of it having an atmosphere was effectively disproved through mathematics.

The first-person voyage narratives of the late seventeenth century offer a fascinating insight into the ideas and beliefs of that period. I hope I have succeeded in demonstrating that this type of discourse had a significant impact contemporaneously on the development of ideas about the natural world. There is direct evidence of travel narratives being used and indeed commissioned by Isaac Newton, Edmund Halley, Robert Hooke and Robert Boyle and other influential figures in the establishment of a modern, scientific movement. In fact, the most common source of information used by the Royal Society at this time was that of

⁶ John Ray, *Wisdom of God Manifest in the Works of Creation* (1691), pp 75-76

travel narratives with more than a hundred being printed in the *Philosophical Transactions* up to 1700⁷

I consider this primary material would be of interest and use to researchers in a variety of subject areas including anyone concerned with developments of forms of literary discourse. The accounts of overseas travellers from the Restoration period which appear in the *Philosophical Transactions* might also be of interest to those studying all aspects of the progress of early modern science, experimental philosophy, natural history and physico-theology. Yet, these texts remain largely unexplored and unavailable to modern readers.⁸ No one has identified the accounts and assessed their impact. Indeed, the voyage literature of the seventeenth century generally remains neglected. Richard Hakluyt's *Principal Voyages* and Purchas's *Pilgrimes* were both reprinted in their entirety at the beginning of the twentieth century. However, none of the voyage collections of the Restoration period is available in a modern edition.⁹ I hope this thesis has highlighted many areas in which further research might profitably be made.

The discourse of science remains largely unrecognised as having a significant place within the English literary tradition. John Carey has just edited a collection of scientific writing, *The Faber Book of Science* (1995) which includes extracts from the texts of Leonardo da Vinci and Galileo Galilei to those written by contemporary

⁷ In the 34 years from the start of the Royal Society's campaign in 1666 to the close of the century, 106 accounts of the experiences of travellers were printed in *Phil Trans*. Of these 39 were printed in the first 17 years of that period (up to and including those in *Phil Coll* to 1683) and 67 were printed in the second 17 years. This gives some indication of the acceleration of the campaign's success. See Appendix I for the distribution of these accounts.

⁸ These texts are extremely rare and are not currently available to any reader who does not have access to a major research library. The *Phil Trans* dating from this period are only to be found in nine restricted access libraries in Britain.

⁹ Richard Hakluyt, *Principal Voyages of the English Nation* (1905-1907), 20 vols., Purchas, *Purchas His Pilgrimes* (1903-1905), 12 vols. Both these edns are published by James MacLehose & Sons, Glasgow.

scientists¹⁰ Carey is adamant in his introduction that scientific discourse is irreparably separated from other types of literary discourse and claims this separation took place suddenly, within a period of fifty years between the middle and the end of the seventeenth century. He makes a parenthetical reference to the establishment of the Royal Society during this period, implying its Fellows were responsible for the precipitation of scientific discourse as 'the hated alternative to poetry: barbaric, ugly, offensive to men of culture'.¹¹ According to Carey, then, the literature of science at that precise time came to be encoded in a secret and esoteric language which made it inaccessible to the non-initiated. This is a trend which he regards as having only very recently been challenged by the popular-science writers of the late twentieth century such as Stephen Hawking. It is true that the discourse of modern science is dependent upon specific terminologies and this tradition has its origins in the birth of the early-modern scientific movement. Nevertheless, the Royal Society's deliberate efforts to simplify prose style worked against the creation of an exclusive, scientific rhetoric. There is no doubt the accounts printed in the *Philosophical Transactions* are, almost without exception, readily penetrable.¹² Having read them myself, I can assert with confidence that the printed texts of eminent scientists of the late seventeenth century are easily understood by a lay person.

Of course, the travel narrative is not strictly a type of scientific writing and I have endeavoured to show that it was not perceived as such in the seventeenth century, despite the interest in it shown by scientists. The sponsorship of the travel

¹⁰ Significantly, he does not include any accounts from *Phil Trans* in his anthology. He includes extracts from the writings of Robert Hooke (in correspondence with John Evelyn), Henry Oldenburg and Thomas Shadwell, and the Dutch natural historian, Leeuwenhoek who contributed to the *Phil Trans*. Also included is Samuel Pepys's famous account of an experiment at a meeting of the Royal Society in which the blood of a dog is transfused to another.

¹¹ John Carey, *The Faber Book of Science* (1995), 'Introduction', p. xx1.

¹² Exceptions to this are accounts which deal extensively with mathematical formulae.

narrative by those involved in scientific activity in the Restoration period stemmed from a concern that regional description is akin to historiography 'in the manner of *Explication*' yet has the capacity to offer data useful to scientific pursuit¹³ Imaginary voyages, especially those to extraterrestrial locations, popularised science and were a seventeenth-century equivalent to *A Brief History of Time*, rendering prevailing scientific ideas available even to women¹⁴ Travel literature, both real and fictitious was regarded as potentially 'diverting and useful to all sorts of readers'¹⁵ It was consulted and taken seriously by scientists It was read by a wider audience for entertainment It was, indeed, perceived as the literature of 'profit' and of 'pleasure'¹⁶

¹³ Nathaniel Carpenter, *Geography Delineated Forth in Two Bookes* (1625, fac reprint, 1976), p 4, writers of natural history were named *historiographers* (1579) (Source *OED*)

¹⁴ Stephen Hawkins, *A Brief History of Time* (1988)

¹⁵ Awnsham Churchill and John Churchill, *Voyages and Travels*, vol I, 'Publisher's Preface', p vi

¹⁶ Purchas, *Purchas His Pilgrimes* (1625), vol I, 'To the Reader', sig ¶5'

Appendix I.

Accounts of Voyages and Travels printed in the *Philosophical Transactions*, 1665-1700.

This is a list of accounts of voyages and travels printed in the *Philosophical Transactions* of the Royal Society, from their beginning to the end of the seventeenth century. To this I have added the accounts published during this period which offer directions and instructions aimed at those embarking upon overseas travel, accounts of navigational instruments and how to use them effectively, enquiries concerning distant countries and other exhortations to travellers to compose accounts of their experiences. It shows the spread and nature of narratives derived from travellers' experiences throughout the appearance of this publication. A principal function of this list is to show the range of authors contributing to the *Philosophical Transactions*. It will be noticed that despite Sprat's assertions that the Royal Society sought to promote the opinions of merchants and ordinary seamen, in fact many of those published were by Fellows of the Royal Society. There is, however, also a large number of accounts by both named and unnamed merchants, as well as Sea Captains and Buccaneers and many named authors about whom biographical information is not readily available.

I have not rearranged them into subject categories but have retained a chronological order of appearance to give an indication of the diversity of accounts dealing with overseas travel and their chronological distribution within the *Philosophical Transactions*, in relation to the directions to seamen by Rooke, Moray,

Hooke and Boyle and specific propositions and inquiries aimed at travellers. It will be noticed that within a short period of time response to these early requests for information as well as response to enquiries requesting specific data, develops. It will also be noticed that later in the century there are a greater number of extracts and reviews advertising published books including those printed elsewhere in Europe. Another principal function of this list is to show how the Royal Society steadily established a network of reporters supplying it with information from around the world, a world of witnesses offering evidence.

In order to confine the list to a wieldy length, I have been selective in my inclusion of accounts from European countries, citing here only those which offer general description, and omitting the huge number of shorter specific accounts. I have omitted the numerous accounts giving longitudinal and latitudinal statistics. It should be noted that there are many other accounts, not cited here, which draw upon information supplied by overseas travellers in part to demonstrate certain hypotheses in the manner noted in Appendix II. I have also omitted further accounts of the same voyage if they are printed in the same numbered edition. Only those accounts cited specifically in the thesis are included individually in the bibliography. Following the name of the author of each account I have indicated if he is a Fellow of the Royal Society, (FRS) and where possible stated briefly his occupation and country of residence if outside Britain.

Note that between the years 1679-1682, the *Philosophical Transactions* were replaced by a less frequent publication, the *Philosophical Collections*, which reached seven issues, the last four of which were all published in 1682. Accordingly, accounts cited here, which were published by the Royal Society during this period, appear in the listing by their original number sequence, and hence are not at variance

with the chronological order of the *Philosophical Transactions* Where the Country from which the data is derived is not specified in the title of the account, I have endeavoured to indicate it in brackets afterwards

I have used the following symbols to categorise the accounts into four general groupings

1 Accounts based on information collected by overseas travellers are denoted by the symbol ☼

2 Navigational advise / Instruction to seafarers are indicated by the symbol ∞

3 Specific propositions / Enquiries for particular information pertaining to a geographical region are shown by the symbol ¶

4 Extracts from, or reviews of published books and accounts subsequently published individually as books are denoted by the symbol § and the date and title of the publication given, which may differ from the title under which it is printed in the *Philosophical Transactions* Place of publication is London unless otherwise stated

no 8 Jan 1666, p 140, ∞ Laurence Rooke (FRS, Professor of Astronomy at Gresham College), 'Directions for Seamen bound for far Voyages'

no 9 Feb 1666, p 147, ∞ Robert Hooke (FRS, Professor of Geometry at Gresham College), 'To Sound the Depth of the Sea without a Line' (an appendix to the above)

no 11 April 1666, p 186, ∞ Robert Boyle (FRS, Physicist), 'General Heads for the Natural History of a Country Great or Small' (published as a book with the same title in 1692 incorporating enquiries for specific locations printed elsewhere in the *Philosophical Transactions*)

no 13 June 1666, p 215, ∞ Nicholas Mercator (FRS, Mathematician), 'Certain Problems Touching some Points of Navigation'

no 14 July 1666, p 248, § (Paris 1666) Jean Thevenot, *Relation a divers Curious Voyages* (review of the third volume)

no 14 July 1666, p. 251, ☼ Monsieur de la Chambre, 'The Causes of Inundation of the Nile'

- no 17 Sept. 1666, p. 297, ¶ John Wallis (FRS Mathematician), 'Some Inquiries and Directions concerning *Tides*, proposed by Dr Wallis for the proving or disproving of his lately publish't Discourse concerning them'
- no 17 Sept. 1666, p 298, α Robert Moray (FRS, Courtier and Lord of Exchequer for Scotland), 'Considerations and Enquiries concerning *Tides*' (a set of directions for observing tides at Sea)
- no 18 Oct 1666, p 315, ¶ Robert Boyle (FRS, Physicist), 'Other Inquiries concerning the Sea'
- no 18 Oct 1666, p 315, α Edmund Halley (FRS, Astronomer and Mathematician), 'The differing *Gravitation* of *Sea-Water* according to the Climates'
- no 18 Oct. 1666, p 327, ✨ Monsieur du Bourges, 'Relation du Voyage de L'Evesque de *Beryte*, par le *Turque*, la *Perse*, les *Indes* &c jusques au Royaume de *Siam* et autres Lieux'
- no 19. Nov 1666, p 331, ¶ Robert Boyle (FRS, Physicist), 'Articles of Inquiries touching Mines'
- no 20 Dec 1666, p 360, ¶ 'Inquiries for *Turky*'
- no 21 Jan 1667, p 377, ✨ William Badily (Sea Captain), 'A relation of the Raining of Ashes in the Archipelago, upon the Eruption of *Mount Vesuvius*' (a letter written by Badily in 1631 published here for the first time)
- no 23 March 1667, p. 415, ¶ 'Inquiries for *Surratte* and other Parts of the *East-Indies*'
- no 23 March 1667, p 420, ¶ 'Inquiries for *Persia*'
- no. 23. March 1667, p 420, ¶ Robert Hooke (FRS, Professor of Geometry at Gresham College) and Robert Moray (FRS, Courtier and Lord of Exchequer for Scotland), 'Enquiries for *Virginia* and the *Bermudas*'
- no 23 March 1667, p 422, ¶ [Abraham Hill] (FRS, Treasurer of the Society in its inauguration and 'man of Science'), 'Enquiries for *Guaiana* and *Brasil*'
- no 24 April 1667, p 433, α Robert Moray (FRS, Courtier and Lord of Exchequer for Scotland) and Laurence Rooke (FRS, Astronomer), 'Directions for Observations and Experiments to be made by Masters of Ships, Pilots, and other fit Persons in their Sea-Voyages, Printed with Enlargements and Explications of what was formerly publisht of this kind, suggested partly by Sir Robert Moray, partly by Mr Rook' to which is added 'Certain Problems Touching some Points of Navigation'
- no 25 May 1667, p 467, ¶ 'Inquiries for *Hungary* and *Transylvania*'
- no. 25 May 1667, p 470, ¶ Thomas Henshaw (FRS, French secretary to James II and William III and scientific writer), 'Enquiries for *Ægypt*'

- no 25 May 1667, p 472, ¶ Abraham Hill (FRS, Treasurer of the Society in its inauguration and 'man of Science'), 'Enquiries for Guiny'
- no 27. July-Sept 1667, p 493, ✨ Henry Stubbe, 'Philosophical Observations made by a Curious and Learned Person sailing from England to the Caribe Islands' (the 'learned person' being Robert Moray)
- no 30 Dec. 1667, p 565, ✨ Richard Norwood (FRS, Mathematician), 'An Observation on *Bermudas*, Extract of a letter written from the *Bermudas* giving an account of *Whale-fishing*'
- no 33 March 1668, p 634, ¶ Robert Hooke (FRS, Professor of Geometry at Gresham College) and Robert Moray (FRS, Courtier and Lord of Exchequer for Scotland), 'Enquiries and Directions for the Ant-Isles or Caribee-Islands'
- no 36 June 1668, p 699, ✨ Henry Stubbe, 'Additional Observations made on a Voyage from England to the Caribee Islands' (an enlargement of the observations published in no 27)
- no 37 July 1668, p 717, ✨ Henry Stubbe, 'The Remainder of the Observations made in the Voyage to Jamaica' (previous observations printed in no 27 and no 36)
- no 40 Oct 1668, p. 794, ✨ Richard Stafford (Resident of Bermuda), 'Observations in *New Providence, Bermudas, and Virginia*' (extract of a letter by Stafford on behalf of Richard Norwood)
- no 40 Oct 1668, p 796, ✨ Martin Lister (FRS, Zoologist), 'Concerning *Cochineel*' (Bermudas and New England)
- no 41 Nov 1668, p 817, ✨ 'An Extract of a narrative made by an Ingenious *English* Gentleman residing at *Seville* concerning a voyage from *Spain* to *Mexico* and of the minerals of that Kingdom' (account includes a description of 'A Mineral like *Leaf-Gold* near *Mexico*')
- no 41. Nov. 1668, p 824, ✨ Richard Norwood (FRS, Mathematician), 'Of some particulars, referring to those of *Jamaica* no 27 and no 36, communicated by an Eye-Witness' (concerning the accounts printed previously of Henry Stubbe's *Observations*)
- no 43 Jan 1669, p. 863, ✨ Philibert Vernatti (President of Java Major), '*Observations* in the *East-Indies*, Answers To some of the *Queries* which were recommended by Sir Robert Moray to Sir Philibert Vernatti, concerning the Tydes there, as also Whales, *Sperma Ceti*, strange Spiders-Webbs, some rare Vegetables, and the Longevity of the Inhabitants'
- no 48 June 1669, p 972, § (Comimbra 1660) Balthasar Tellez (Provincial of the Jesuits in Portugal), *Historia General de Ethiopia a Alta* (review)
- no 49 July 1669, p 983, ✨ Philibert Vernatti (President of Java Major), '*Observations* concerning *Japan* English'd by the Publisher, who, some months agoe occasion'd this Accompt by some *Queries* sent to that Traveller'

- no 50 Aug 1669, p 1003, ✨ Richard Smithson (Traveller), '*Observations in two Voyages to the East-Indies, An Extract of a Letter written by Mr Joshua Childrey containing an Accompt of a passage by Sea to the Est-Indies, communicated to him by that Ingenious Travailer Mr Richard Smithson who made two Voyages into those parts*'
- no 51 Sept. 1669, p 1028, ✨ 'The *Eruption of Mount Ætna* communicated by some Inquisitive English Merchants' (an answer to some Inquiries' posited by the Royal Society)
- no 57. March 1670, p 1151, ✨ John Winthrop (Governor of Connecticut in New England), 'Some Natural Curiosities from [New England] Especially a very strange and very curiously contrived Fish, sent for the Repository of the R Society'
- no. 58 April 1670, p 1201, ✨ Francis Willughby (FRS, Naturalist), '*A Dwarf Oak from New England*'
- no 71 May 1671, p 2151, ✨ F Brothais, 'Observations lately made by certain Missionaries in *Upper Egypt*'
- no 71 May 1671, p 2160, § (Parigi 1670) Gio Michaele Vanslebïo, *Relatione dello Stato Presente dell' EGYPTO*
- no 77 Nov 1671, p 3002, ¶ Martin Lister (FRS, Zoologist), '*Quæries concerning Tarantulas*'
- no 80 Feb 1672, p 3088, § (Amsterdam 1672) Philippus Baldæus (Dutch Minister), *Beschrijving der Oost Indische Kusten Malabar, Coromandel, Ceylon, &c* (review)
- no 83 May 1672, p 4066, ✨ Thomas Cornelio (Neopolitan Philosopher and Physician), '*Observations made of persons pretending to be stung by Tarantulas*'
- no 83. May 1672, p. 4078, § (1672) William Hughes (Horticulturalist and Traveller), *The American Physician, or a Treatise of Roots, Plants Fruits, Herbs &c growing in the English Plantations in America Whereunto is annexed, a Discourse of the Coco Nut-Tree, and the use of its Fruit* (review)
- no 85 July 1672, p 5021, § (1672) John Jossellin [Josselyn] (Traveller), *New England's Rarities discover'd, together with the Remedies used by the Natives to cure their Diseases, Wounds, and Sores*
- no 89 Dec 1672, p 5128, § (Paris 1672) Jean Thevenot, *Relation of divers Curious Voyages* (review of the fourth volume)
- no 91 Feb. 1673, p 5170, § (1673) John Ray (FRS, Naturalist) and Francis Willughby (FRS Naturalist), *Observations Topographical, Moral, and Physiological, made in a Journey through part of the Low-Countries, Germany, Italy, and France by John Ray Whereunto is added a brief Account of Francis Willughby Esq , his Voyage through a great part of Spain* (review)

- no. 91 Feb 1673, p 5172, § (Cantabrigiæ 1672) Bernhardus Varenius, *Geographia Generalis* (review)
- no 93 April 1673, p 6007, ✨ 'An account of the *Cocoa-Tree*, and the way of its Curing and Husbandry given by an Intelligent person now residing in *Jamaica*'
- no 93 April 1673, p 6015, ✨ Benjamin Bullivant, 'The Advantages of *Virginia* for Building Ships communicated by an Observing Gentleman'
- no 94 May 1673, p 6049, § (1673) Edward Brown[e] (FRS, Physician), *A Brief Account of some Travels in Hungaria, Servia, Bulgaria, Macedonia, Thessaly, Austria, Styria, Carinthia, Carniola, Friuli &c* (review and abstract)
- no 101. March 1674, p 3, ✨ Nicholas Witsen (Principal Burgomaster of Amsterdam), 'A Letter by an Experienced Person containing a true *Description of Nova Zembla*'
- no 102 April 1674, p. 31, § (Frankfurt 1673) Johan Schefferus (Professor at University of Upsal, Sweden) *Lapponia &c* (review)
- no 104 June 1674, p 88, § (1674) John Evelyn (FRS, Government official and courtier) *Navigation and Commerce, their Original and Progress, containing a Succinct Account, of Traffick in General, it's Benefits and Improvements, of Discoveries, Wars and Conflicts at Sea, from the original of Navigation to this Day, with Special regard of the English Nation, the several Voyages and Expeditions to the beginning of our late Differences with Holland, In which his Majesty's Title to the Dominion of the Sea is Asserted against the Novel and Late Pretenders* (review)
- no 108 Nov 1674, p. 182, § (Hamburg 1673) Wilhelm Johann Muller, *Die Africanische Landschaft Fetu* (review)
- no 109 Dec. 1674, p 197, § (Amsterdam 1674) Dirick Rembrantz van Nierop, *A Narrative of some Observations made upon several Voyages, undertaken to find a way for sailing about the North to the East-Indies, and for returning the same way from thence Hither Together with Instructions given by the East India Company, for the Discovery of the Famous land of Jesso, near Japan To which is added a Relation of Sailing through the Northern America to the East Indies* (review and substantial extract, translated into English, from this Dutch publication)
- no 111 Feb 1675, p 253, ✨ Richard Waller (FRS, Gentleman and 'Virtuoso'), '*Observations in the Dissection of a Paroquet*' (History of Brasile)
- no 114 May, 1675, p 312, ✨ J L '*Poisonous Fish in one of the Bahama-Islands*'
- no 117 Aug -Sept 1675, p 399, ✨ Thomas Towns (Resident in Barbados), '*Observations made at the Barbadoes*' (personal correspondence sent to Martin Lister and submitted by him for publication by the Royal Society)
- no 118 Oct. 1675, p 417, ✨ Paul Biornomius (Resident in Iceland), '*A Summary Relation of what hath been hitherto discovered in the matter of the North-East Passage, communicated by a good hand*'

- no. 119 Nov. 1675, p 456, ✨ Lucas Jacobson Debes (Provost of the Church of Feroe), 'A Description of the Islands and Inhabitants of Feroe written in Danish English'd by JS, Dr of Physick' (abridged translation)
- no 124 April 1676, p 575, ✨ Francis Vernon (FRS, Traveller and Writer), 'Observations on a Voyage from Venice through *Istria Dalmatia* to *Smyrna* where this letter was written'
- no 126 June 1676, p 623, ✨ Thomas Glover (Surgeon in Virginia), 'An Account of *Virginia* its Inhabitants and their manner of planting and ordering *Tobacco*'
- no 126 June 1676, p 636, ∞ (1636) Richard Norwood (FRS, Mathematician), 'The Seaman's Practice' (extract from this book which was published forty years earlier)
- no 127 July, 1676, p 647, ✨ Mr Haward (Sea Captain), 'The Strange effect of thunder upon a Magnetick Sea-Card' (Haward is described here as 'the Master of several ships, and a man of good credit')
- no 127. July, 1676, p. 653, ✨ Richard Waller (FRS, Gentleman and 'Virtuoso') *The Musk quash'*
- no 129 Oct -Nov 1676, p 711, § (1678) John Tavernier (Baron of Aubonne), *The Six Voyages of John Baptista Tavernier, through Turkey into Persia and the East-Indies* (extracts from an account later published)
- no 130 Dec 1676, p 751, § (1678) John Tavernier (Baron of Aubonne), *The Six Voyages of John Baptista Tavernier, through Turkey into Persia and the East-Indies* (extracts from an account later published)
- no 130 Dec. 1676, p 758, ✨ James Wallace (FRS, MD, in service of the East India Company), 'Observations in Mexico concerning the Lake of Mexico' (extract from a larger narrative, 'Observations in Mexico')
- no 130 Dec 1676, p 767, § (1677) Edward Brown[e] (FRS, Physician) *An Account of several Travels through a great part of Germany in four Journeys* (abstract and excerpt from Browne's narrative published under the above title the following year)
- no 131 Jan 1677, p 795, § (1677) Andrew Yarranton (Engineer and Agriculturist) *England's Improvements by Sea and Land*
- no 137 Jan -Feb 1678 p 923, ✨ John Gr[e]aves (Savillian Professor of Astronomy at Oxford) and George Ent, 'The Manner of hatching *Chicklens* at *Cairo*' (communicated by George Ent on the observations of John Greaves)
- no 137. Jan -Feb 1678 p 927, ✨ Robert Moray (FRS, Courtier and Lord of Exchequer for Scotland), 'A Description of the Island *Hirta*' (preceded on p 925 by Moray's account 'concerning *Barnacles*' observed in the Western Isles)

- no 137 Jan -Feb 1678, p 942, § (1678) John Tavernier (Baron of Aubonne), *The Six Voyages of John Baptista Tavernier, through Turkey into Persia and the East-Indies* (review and abstract)
- no 139. June 1678, p 977, ✨ Michel Angelo de Guattini and Dionysius of Placenza (Missionaries), 'Observations of some Animals, and of a strange Plant made in a Voyage into the Kingdom of Congo'
- no 141. Sept -Nov. 1678, p 1030, § (1678) Thomas Trapham, *A Discourse of the State of Health in the Island of Jamaica, with the Provision calculated for the same, from the Air, the Place, and the Water, the Customs and manner of Living &c* (review)
- no 3 1681 [1682], p 65, ✨ M Hevelius, 'An Occultation of the *Bulls Eye* at Dantzick'
- no 5 1682, p 124, ✨ Edmund Halley, (FRS, Astronomer and Mathematician) 'The Longitude and Latitude of *Ballasore* in *India*' (based on the observations of Benjamin Harry)
- no 5 1682, p 125, ✨ Benjamin Harry (Master of the Ship Berkley-Castle), 'An Occultation of the *Bulls Eye* at *Ballasore* in *India*'
- no 5 1682, p 147, ✨ Edward Brown[e] (FRS, Physician), '*Observations* on the *Dissection* of an *Ostredge*'
- no 143. Jan 1683, p. 15, ✨ John Flamsteed (FRS, Mathematician and Astronomer Royal), 'An Observation of the Beginning of the *Lunar Eclipse* which happened *Aug 19, 1681* in the Morning, made on the *Island of St Lawrence* or *Madagascar*' (relating Thomas Heathcot's voyage of 1681)
- no 149 July 1683, p 268, § (1683) Johan Jacobo Wagnero, *Historia Naturalis Helvetiæ Curiosa* (review)
- no 152 Oct. 1683, p 335, ✨ Thomas Smith (FRS, Scholar and Divine), 'Historical Observations relating to *Constantinople*' (see also *Miscellanea Curiosa* vol III, p 1, 'A Voyage from *England* to *Constantinople*')
- no 153 Nov 1683, p. 359, ✨ Edward Tyson (MD, FRS, Physician), 'The *Anatomy* of a *Mexico Musk Hog* &c '
- no. 157 March 1684, p 520, ✨ Ralph Thoresby (FRS [1696], Merchant, collector and antiquary), 'A Relation of the Effect of a Thunder Clap on the Compass of a Ship on the Coast of *New England*'
- no 158 April 1684, p 578, ✨ Mr Heathcot 'Extract of a Letter of Mr *Heathcott* to Mr *Flamsteed* from *Cabo Cors Castle* on the Coast of *Guiney* the 14th *December* 1683 concerning the *Tide* on that Coast, *Variation* of the *Needle* &c '

- no 162. Aug 1684, p 667, ✨ Francis Davenport, 'An account of the course of the Tides at *Tonqueen*' (based on observations made in 1678)
- no 162 Aug 1684, p 685, ∞ ✨ Edmund Halley (FRS, Astronomer and Mathematician), 'A Theory of the Tides at the Bar of *Tunking*' (based on Davenport's preceding account)
- no 162 Aug 1684, p 688, ¶ 'Quæries about *Tides* in *China* and the *E Indies*' (part of Halley's above account, reprinted in isolation in Lowthorp's *Philosophical Transactions abridg'd*)
- no 165 Nov 1684, p 790, ✨ Martin Lister (FRS, Zoologist), 'A discourse concerning the rising and falling of the *Quicksilver* in the Barometer, and what may be gathered from its great rise in *Frosty weather* as to a healthy or sickly season' (a lecture presented to the Royal Society, March 20, 1683, it includes an account of 'Plague, Small-Pox, Exotic Diseases Propagated by Trade and Infection', p 793 It is this section of Lister's account which Lowthorp reprints in his *Philosophical Transactions abridg'd*)
- no 165 Nov 1684, p 795, § (Edinburgh, 1684) Robert Sibbald (Physician, Geographer to the King, and Fellow of the College of Physicians at Edinburgh) *Scotia Illustrata, sive Prodrromus Historiæ Naturalis &c*
- no 170 April 1685, p. 980, § (Paris, 1683) Louis Hennepin (Missionary) *Description de la Lovisiane, nouvellement Decouverte au Sud Ouest de la Nouvelle France*
- no 171 May 1685, p 988, ✨ Richard Buckley (Chief Surgeon at Fort St George in the East Indies), 'The *Juice* and a Sort of Sugar from *Maple*' (Canada)
- no 172 June 1685, p 1038, ✨ Tancred Robinson (FRS, Physician and Naturalist), 'Account of Boyling springs and other Fountains' (of geysers, with an account of the 'Lake of *Mexico*')
- no 175 Sept.-Oct 1685, p 1148, ✨ George Garden (Episcopal and Jacobite Minister), 'The Cause of *Winds* and the changes of *Weather*' (mainly concerning South America)
- no 183 July-Sept. 1686, p 153, ∞ ✨ Edmund Halley (FRS, Astronomer and Mathematician), 'The Cause of *Winds* and the changes of *Weather*' (based on observations noted in Drake's *Travels*)
- no 185 Nov -Dec 1686, p 249, § (Paris, 1686) *Voyage de Siam des Peres Jesuites, Envoyez par le Roy aux Indes et a la Chine*
- no 192 Jan -Feb 1691, p 462, ✨ Hans Sloane (FRS, Physician), 'A description of the *Pimenta* or *Jamaica* Pepper-tree and of the Tree that bears the *Cortex Winteranus*'
- no 192 Jan -Feb 1691, p 468, ✨ Edmund Halley (FRS, Astronomer and Mathematician), 'An Account of the Circulation of the wat'ry Vapours of the Sea' (information derived from Africa and the Americas)

- no 193 March-June 1691, p 492, ✨ Nicholas Witsen (Principal Burgomaster of Amsterdam), 'A Large and Curious *Map of Great Tartary*' (extract of a Letter to Robert Southwell, then President of the Royal Society)
- no 194 July-Sept 1691, p 532, ✨ Robert Southwell (FRS, Diplomat), 'The Method the *Indians* in *Virginia* and *Carolina* use to Dress *Buck* and *Doe-Skins*'
- no 195 Oct. 1692, p 563, α Edmund Halley (FRS, Astronomer and Mathematician), 'The Cause of the Change of the Variation of the Magnetical Needle with a Caution for Observing the Variation at Sea' (see also *Miscellanea Curiosa* vol I, p 43)
- no 197. Feb 1693, p 624, ✨ Allen Moulen (MD, FRS), 'Some Experiment on a *Black Shining Sand* brought from *Virginia* suppos'd to contain Iron'
- no 198 March 1693, p 657, α William Petty (FRS, Political Economist), 'What a compleat Treatise of *Navigation* should contain' ('Drawn up in the year 1685')
- no 198 March 1693, p. 667, ✨ John Banister (Naturalist), 'A Catalogue of several *Curiosities* found in *Virginia* and mention'd in some letters to Dr Lister'
- no 200 May 1693, p 760, ✨ Nehemiah Grew (FRS, Natural Historian), 'Description of the American *Tomineius* or *Humming Bird*' (America)
- no 200 May 1693, p 768, § (1693) John Ray,(FRS, Naturalist) *A Collection of Curious Travels and Voyages, in Two Tomes The First containing Dr Leonhart Rauwolff's Itinerary into the Eastern Countries, as Syria, Palastine, Armenia, Mesopotamia, Assyria, Chaldea, etc , trans by Nicholas Staphorst, the second taking in many parts of Greece, Asia Minor, Egypt, Ethiopia, the Red Sea, Arabia etc , from the Observations of Mr Belon, Mr Vernon, Dr Spon, Dr Smith, Dr Huntington, Mr Greaves, Thevenot's Collections and others, to whom are added Three Catalogues of such Trees, Scrubs, and Herbs, as grow in the Levant* (review and abstract)
- no 201 June 1693, p 781, ✨ John Clayton (Attorney General at Virginia), 'Several Observations and an *Account* of *Virginia* and of his Voyage thither' (see also *Miscellanea Curiosa* vol III, p 281)
- no 203 Sept 1693, p 871, ✨ Nicholas Witsen (Principal Burgomaster of Amsterdam) and Martin Lister (FRS, Zoologist), 'The Description of certain shells found in the *East Indies*' (Lister adds some remarks of his own to Witsen's observations)
- no 204 Oct 1693, p 922, ✨ Hans Sloane (FRS, Physician), 'An Account of the Tree *Cortex Winteranus*' (based on the observations of Captain Winter and Mr George Handyside)
- no 206 June 1693, p 978, ✨ John Clayton (Attorney General at Virginia), 'A Further *Account* of the Soil and other Observables of *Virginia*' (see also *Miscellanea Curiosa* vol III, p 312)

- no 208 Feb 1694, p 61, ✨ Hans Sloan[e] (FRS, Physician), 'An Account of the prodigiously large Feathers of the Bird *Cuntur* brought from *Chili*, and supposed to be a kind of Vulture, and of the *Coffee-Shrub*'
- no 209 March-April 1694, p 78, ✨ Hans Sloane (FRS, Physician), 'A Letter with several Accounts of the Earthquake in *Peru*, 1687 and *Jamaica*, 1688'
- no 211. June 1694, p 166, § (1694) *An Account of several late Voyages and Discoveries to the South and North, towards the Straits of Magellan, the South-Seas the vast Tracts of land beyond Hollanda Nova &c also toward Nova Zembla, Greenland or Spitsberg, Grynland or Engronland &c by Sir J Narborough, Capt Tasman Capt J Wood and Fred Marten of Hamburgh To which are annexed a large Introduction and Supplement* (review and abstract)
- no 216 March-May 1695, p 49, ✨ 'An Account of the sad Mischief befallen the Inhabitants of the Isle of *Sorea*, near the *Moluccos* and communicated to Dr *Martin Lister*' (Lowthorp's abridgement describes this as 'an account of several *Burning Mountains* in the *Molucca Islands* sent to Nicholas Witsen by some English Merchants', see below no 228 p 529)
- no 217 June-Oct 1695, p 83, ✨ Thomas Smith (FRS, Divine and scholar), 'A Relation of a Voyage from *Aleppo* to *Palmyra* in *Syria*, sent from the Reverend Mr *William Halifax* to Dr *Edward Bernard* late Professor of Astronomy in Oxford' (communicated to the Royal Society by Smith, see also *Miscellanea Curiosa* vol III, p 84)
- no 218 Nov-Dec 1695, p 129, ✨ Timothy Lanoy (Merchant) and Aaron Goodyear (Merchant), 'An Extract of the Travels of two several Voyages of the *English Merchants* of the Factory of *Aleppo*, to *Tadmor*, accurately call'd *Palmyra*'
- no 220 March-May 1696, p 225, ✨ William Beeston (Governor of Jamaica), 'A Letter to Mr *Charles Bernard* containing some Observations about the *Barometer* and of the *Hot Bath* in that Island' (Jamaica)
- no 220 March-May 1696, p 228, ✨ Edward Smith (FRS, Chaplain to the Smyrna Company), 'An Account of a strange kind of Earth, taken up near *Smyrna* of which is made *Soap* together with the way of making it'
- no 222 Sept-Oct 1696, p 398 [298], ✨ Hans Sloane (FRS, Physician), 'An Account of Four sorts of Strange Beans frequently cast on shoar on the *Orkney Isles* with some conjectures about the way of their being brought thither from *Jamaica*, where three sorts of them grow'
- no 225. Feb 1697, p 417, ✨ Martin Lister (FRS, Zoologist), 'Part of a Letter from Fort St George in the *East-Indies* giving an Account of the Long Worm which is troublesome to the Inhabitants of these Parts'
- no 225 Feb 1697, p 426, § (1697) William Dampier (Sea Captain) *An Account of a New Voyage Round the World* (review and abstract)

- no 225 Feb 1697, p 434, § (1696) Leonard Plukenet (Botanist) *Almagestum Botanicum Phytographiæ Plucnetianæ, Onomasticon* (a general index of plants from around the world brought back to Europe by travellers, a review and translated extract)
- no 226 March 1697, p 475, § (1696) William Cockburn (FRS, Physician to the Blew Squadron of His Majesty's Fleet) *An Account of the Nature, Causes, Symptoms, and Cure of the Distempers that are Incident to Sea-faring People, with Observations on the Diet of the Seamen in his Majesty's Navy Illustrated with some remarkable Instances of the Sickness of the Fleet*
- no 227 April 1697, p 489, ✧ Thomas Molineux (FRS, Physician), 'Several Things in Ireland in common with the West Indies, Part of a Discourse concerning the *Large Horns* frequently found under Ground in *Ireland* concluding from them that the great *American Deer* call'd a *Moose* was formerly common in that Island'
- no 228. May 1697, p. 529, ✧ 'Part of a Letter giving a Further Relation of the Horrible burning of some *Mountains* in the *Molucca Islands* (sent to Nicholas Witsen by some English Merchants, see also no 216 p 49)
- no 229 June 1697, p. 585, § (Amsterdam, 1697) Louis le Comte (S J, Mathematician du Roy) *Nouveux Memoires sur l'Etat Preset de la Chine* (review vol II trans into English, 1697)
- no 230 July 1697, p 625, ✧ William Molineux (FRS), 'A Demonstration of an Error committed by common Surveyors in comparing the Surveys taken at long Intervals of Time arising from the Variation of the Magnetick Needle' (see also *Miscellanea Curiosa*, vol II p 283)
- no 231 Aug 1697, p 666, § [1623] (1697) Philip Cluverius, *Introductio in Universalam Geographiam* (review of this new edition of an early seventeenth-century text which the reviewer still considers to be 'the most compleat and instructive Body of *Geography* yet extant')
- no 232 Sept 1697, p 674, ✧ Hans Sloane (FRS, Physician), 'The *Fossile Tongue* of a *Pastinaca Marina* frequent in the *Seas of Jamaica*, and lately dug up in *Mary-land* and *England*'
- no 232. Sept 1697, p 677, ✧ James Petiver (FRS, Botanist and Entomologist) and J Smith, 'A Catalogue of some *Guinea Plants* with their Nature, Names and Virtues, sent to Mr James Petiver from Mr J Smith from *Cabo Cors*, with Remarks on them by Mr James Petiver'
- no 232. 1697, p 687, ✧ J Hillier, 'Part of Two Letters from *Cape Corse* to the Reverend Dr *Bathhurst* giving an Account of the Customs of the Inhabitants, the Air &c of that Place, together with an Account of the Weather there from Nov 24, 1686 to the same Day 1687' (see also *Miscellanea Curiosa*, vol III, p 356)
- no 232. Sept 1697, p 711, ✧ Robert Tredway, 'Part of a Letter to Dr *Leonard Plunkenet* giving an account of a great piece of *Ambergriese* thrown on that Island, with the Opinion of some there about the way of its Production' (account concerns *Hot-Springs* and other *Mineral Waters* in *Jamaica*)

- no 233 Oct 1697, p 727, ✨ Martin Martin (Erroneously attributed FRS, Traveller and Factor to the Laird of Macleod), 'Several Observations in the North Isles of *Scotland*'
- no 235 Dec. 1697, p 781, ✨ William Byrd (FRS, Virginian Landowner and politician), 'An Account of a *Negro-Boy* that is dappl'd in several parts of his Body with *White Spots*'
- no. 235 Dec 1697, p 782, ✨ Robert Mawgridge (Kettle-Drummer to his Majesty, and Surgeon to the Trumbull Galley), 'A true and exact *Relation* of the dismal and surprising *Effects* of a terrible and unusual Clap of *Thunder* with *Lightening*, that fell upon the *Trumbull-Galley* at *Smyrna*' (communicated in a Letter to W Griffith)
- no 238 March 1698, p. 98, § (1697) Bernard Connor (FRS, Physician) *The History of Poland in several Letters to Persons of Quality giving an Account of the Ancient and Presente State of that Kingdom, Historical, Geographical, Physical, Political and Ecclesiastical To which is added a New Map of Poland* (review and abstract)
- no 239 April 1698, p 105, ✨ Edward Tyson (MD, FRS, Physician), 'The *Anatomy* of an *Opossum*' (an account of a dissection at Gresham College of a possum brought back from Virginia by William Byrd)
- no 240 May 1698, p 167, ✨ Benjamin Bullivant, 'Part of a Letter from *Boston* in *New England*, to Mr John Petiver Concerning some Natural Observations he had made in these Parts'
- no 240 May 1698, p 196, § (1698) *Voyages and Discoveries in South America The first up the River of Amazons to Quito in Peru, and Back again to Brazil, performed at the Command of the King of Spain, by Christ d'Acugna The Second up the River of Plate, and thence by Land to the Mines of Potosi, by M Acarete The third from Cayenne into Guaiana, in search of the Lake of Parima, reputed the Richest place in the World, by M Grillet and Bechamel Done into English being the only Accounts of those Parts hitherto extant, with Maps* (review)
- no 242 July 1698, p 268, ✨ Reolof Diodati (Supreme Director of the Council of Mauritius), 'Part of a Letter to Mr *Witsen*, dated Aug 8, 1697, concerning the extraordinary Inundation in that Island' (Mauritius)
- no 243 August 1698, p 273, ✨ Philibert Vernatti (President of Java Major), 'Some Observations sent from the *East-Indies*, being and answer to some Queries sent thither by *Richard Waller* FRS'
- no 244 Sept 1698, p 313, ✨ Samuel Brown (Physician in the East Indies) and James Petiver, 'An *Account* of some *East India Plants*, Collected at *Onanercoonda*, by Sam Brown, with their Names, Descriptions, and Virtues, by James Petiver'
- no 244 Sept 1698, p 338, § (1698) John Fry[e]r (FRS, Traveller) *A New Account of East-India and Persia in 8 letters being 9 Years Trayels, begun 1672 and finished 1681* ('An Abstract with some Reflections')

- no 245 Oct 1698, p 351, ✨ Aaron Goodyear (Merchant), 'A Relation of the Symptoms that attended the Death of Mr *Robert Burdett*, an English Merchant of *Aleppo*, who was kill'd by the Bite of a Serpent' (concerning the treatment, in 1678, of a venomous snake bite)
- no 245 Oct 1698, p 361, ✨ Nicholas Witsen (Principal Burgomaster of Amsterdam), 'Part of a Letter to *Martin Lister* concerning some late Observations in *Nova Hollandia*'
- no 246 Nov 1698, p 393, ✨ Hans Sloane (FRS, Physician), 'An Account of a *China* Cabinet, filled with several Instruments, Fruits, &c used in *China* sent to the Royal Society by Mr *Buckly*, chief Surgeon at *Fort St George*
- no 246 Nov 1698, p 393, ✨ Hugh Jones (MD, Clergyman in Maryland) and James Petiver (FRS, Botanist and Entomologist), 'Remarks by Mr *James Petiver* on some *Animals, Plants, &c* sent to him from *Maryland*, by the Reverend Mr *Hugh Jones*'
- no 246 Nov 1698, p 407, ✨ Capt Langford (Sea Captain), 'Observations of his own Experience upon Hurricanes and their Prognosticks communicated by Mr *Bonavert*' (Caribbee Islands)
- no 247 Dec 1698, p 461 ✨ Hans Sloane (FRS, Physician), 'A Further Account of the Contents of the *China* Cabinet mentioned in last Transaction'
- no 248 Jan 1699, p 2, ✨ George Camelli (Jesuit Missionary), 'A *Description* and *Figure* of the true *Amomum*, or *Tugus*, sent from the Reverend Father *George Camelli* at the *Philippine Isles*, to Mr *John Ray*, and Mr *James Petiver*'
- no 249 Feb 1699, p 44, ✨ Hans Sloane (FRS, Physician), 'A Further Account of the *China* Cabinet'
- no 250 March 1699, p 69 ✨ Hans Sloane (FRS, Physician), 'A Further Account of what was contain'd in the *Chinese* Cabinet'
- no 251 April 1699, p 113, ✨ Hans Sloane (FRS, Physician), 'Some *Observations* made at a Meeting of the *Royal Society*, Concerning some Wonderful Contrivances of Nature in a Family of Plants in *Jamaica*, to perfect the Individuum, and propagate the Species, with several Instances analogous to them in *European* Vegetables'
- no 254 July 1699, p 248, ✨ Jezreel Jones (Traveller, appointed clerk to the Royal Society, 1698, 'An Account of the *Moorish* Way of Dressing their Meat, with other Remarks in *West Barbary* from Cape *Spartel* to Cape *de Geer*' (see also *Miscellanea Curiosa* vol III, p 381, Jones's voyage to Barbary was under the patronage of the Royal Society)
- no 255 Aug 1699, p 295, ✨ James Cunningham (FRS, Botanist and Surgeon for the East India Company) and James Petiver (FRS, Botanist and Entomologist), 'A Catalogue of shells &c, gathered in the *Island of Ascension* by Mr *James Cunningham*, with what Plants he there observ'd, communicated to Mr *James Petiver*'

- no 256 Sept 1699, p 323, ✨ James Cunningham (FRS, Botanist and Surgeon for the East India Company), 'Some Observations of the Mercury's Altitude, with the changes of the weather at *Emuy in China*' (see also *Miscellanea Curiosa*, vol III, p 269)
- no 256. Sept 1699, p 335, § [1693] (1699) Patrick Gordon (FRS, Scottish Naval Chaplain and Geographer) 'Geography Anatomiz'd, or a Compleat *Geographical Grammar* Being a short and exact *Analysis* of the whole body of *Modern Geography*, after a new and curious Method' (a review of the 2nd edn)
- no 256 Sept. 1699, p 338, § (1699) Edward Tyson (MD, FRS, Physician) *Orang Outang sive Homo Sylvestris or the anatomy of a Pigmie, Compared with that of a Monkey, an Ape, and a Man, to which is added a Philological Essay concerning the Pigmies, the Cynocephali, the Satyrs and Sphinges, of the Antients &c* (review)
- no 257. Oct 1699, p 365, ✨ Peter Hotton (Professor of Botany at Leyden Physick Garden), 'Part of a Letter to *Dr Tancred Robinson* concerning the *Ahmelia* from *Ceylon*' (Latin)
- no 259 Dec 1699 [1700], p 436, ✨ Hugh Jones (MD, Clergyman in Maryland), 'Part of a Letter to *Benjamin Woodroose* concerning several observables in *Mary-land*'
- no 262 March 1700, p 536, ✨ James Wallace (FRS, MD, in service of the East India Company) 'Part of a Journal kept from *Scotland* to *New Caledonia*, in *Darien* with a short Account of that Country'
- no 262 March 1700, p 543, § (1700) James Wallace (FRS, MD, in service of the East India Company) *An Account of the Islands of Orkney* (This review pertains to an account published in this year by Dr James Wallace FRS, author of the previous account printed in the same edition of the *Philosophical Transactions* Yet he was not the author of the account being reviewed on Orkney In fact the same account was published under the same title in Edinburgh, 1693 by his father, also named James Wallace)
- no. 264 May-June 1700, p. 507 [577], ✨ James Cunningham (FRS, Botanist and Surgeon for the East India Company), 'Part of a Letter from the Cape of *Good Hope*, Ap 6, 1700, giving account of his observations on the *Thermometer* and *Magnetick Needle* in his Voyage thither'
- no 264 May-June 1700, p 579, ✨ Samuel Brown (Physician in the East Indies), 'An Account of part of a Collection of Curious Plants and Drugs, lately given to the Royal Society by the *East India* Company gathered by a Physician at Fort St George in the East Indies' (pp 579-581 is a preface by James Petiver, see also no 267, p 699)
- no 264 May-June 1700, p. 595, ✨ Tommagon Porbo Nata ('who hath been there'), 'A Relation of the bad condition of the Mountains about the [*Tungarouse*] and *Batavian* Rivers, having their source from hence, occasioned by the *Earthquake* between the 4th and 5th January, 1699 sent to the Burgomaster *Witsen*'

no 267 Nov -Dec. 1700, p 699, ✱ Samuel Brown (Physician in the East Indies),
'His Second Book of East India Plants, with their *Names, Vertues,*
Descriptions &c By James Petiver, Apothecary' (see also no 264, p 579)

Appendix II.

Accounts which derive information from overseas travellers in *Miscellanea Curiosa*.

This second appendix indicates the accounts published in the Royal Society's three volume *Miscellanea Curiosa*, (1705-1707) which use information derived from the experiences of overseas travellers, request particular data from them or are intended to aid Seamen in their expeditions. The *Miscellanea Curiosa* is advertised by the Royal Society as being a collection of the most pertinent accounts 'delivered in, or read to before the *Royal Society*' since its establishment which have been obscured 'amongst a multitude of less useful Matters' in the 'voluminous Journals of the *Royal Society*' and whilst some of the accounts cited here also appear in the *Philosophical Transactions*, others do not. For those which do, I have included a cross reference indicating their appearance in that publication.

A principal function of this list is to highlight the extent to which, in the last quarter of the seventeenth century, information provided by overseas travellers was afforded credence and used as evidence to support a wide range of scientific theories. This is shown here by citations taken from volumes one and two of accounts which use information derived from travellers rather than being primary accounts of voyages and travels. Accordingly, I have appended to those accounts listed, the titles of which do not convey the source or geographical location from which the information is drawn, a brief summary indicating these things as well as showing how the material is used by the writer of the account. Likewise, I have

indicated accounts which are aimed directly at those embarking upon overseas expeditions and set out to facilitate navigation I have not done this for accounts cited from volume three, the titles of which are, in each instance, self-explanatory

As with Appendix I, accounts from *Miscellanea Curiosa* referred to in this appendix but not cited elsewhere in the thesis are not included individually in the bibliography

Volumes I and II

**'Being a collection of some of the Principal Phænomena
in Nature' (1705-6).**

Volume I.

'An Estimate of the Quantity of *Vapours* raised out of the Sea, as derived from Experiment Together with an Account of the *Circulation* of the wat'ry Vapours of the Sea and of the Cause of *Springs* Presented to the Royal Society by Mr *E. Halley*', p 1.

discusses several regions 'in Asia *Atlas* and the *Montes Lunæ* in Africa whence came the *Nile*, the *Nigre*, and the *Zaire*, and in *America*, the *Andes* and the *Apalatean* Mountains' (p 8)

(See also, *Philosophical Transactions*, no 192, Jan - Feb 1691, p 468)

'The True Theory of the *Tides* extracted from that admired treatise of Mr *Isaac Newton*, Entitled, *Philosophiæ Naturalis Principia Mathematica*', p 13.

Among those travellers from whom Newton derives his information are 'Capt Sturmy' and 'Mr Colepresse', p 22 Also has recourse to includes an account of tides 'observ'd upon all the West-Coast of *Europe* and *Africa*, from *Ireland* to the *Cape of Good-Hope*', p 24 and two tides, 'one out of the great *South-sea* along the Coast of *China*, the other out of the *Indian-Sea*, along the Coast of *Malacca* and *Cambodia*' (p 25)

(See also, Halley, 'Mr Newton's Theory of the Tides Explain'd', in *Philosophical Transactions*, no 226, March 1697, p 445)

**'A Theory of the *Variation* of the *Magnetical Compass* by Mr E Halley'
p 27**

An account which deals with 'that great concernment in the Art of Navigation And for this cause all ships of Consequence (especially those bound beyond the Equator) to go off course' He also offers a table to assist 'those concern'd in Sea Affairs' (p 27)

(See also, *Philosophical Transactions*, no 195, Oct 1692, p 571)

'An Account of the Cause of the Change of the *Variation* of the *Magnetical Needle* as it was presented to the Royal Society in one of their late Meetings by Mr. E Halley', p 43

Among the sources used are 'the *Portuguese Routier* of *Aleixo de Motta* the Voyage of *Beaulieu*, both publish'd in Mr *Thevenot's* first Collection of curious voyages 1663 [and] the Journals of our *East India* Voyagers, (p 46)

(See also, *Philosophical Transactions*, no 195, Oct 1692, p 563)

'An Historical Account of the *Trade-Winds* and *Monsoons* observable in the Seas between and near the *Tropicks* by Mr E Halley', p. 61

Makes use of accounts 'by our seamen' (p 71) specifically 'accounts of *East-India* and *Guinea* Navigations' (p 65) and makes a request

It is not the work of one, nor of few, but of a multitude of Observers to bring together the experience requisite to compose a perfect and compleat History of these Winds (p 73)

'A Discourse of the Rule of the Decrease of the Height of the *Mercury* in the Barometer, according as Places are elevated above the Surface of the *Earth* by Mr. E Halley' p 81

Uses information of experiments commissioned for this purpose and carried out by travellers to '*Barbadoes* and *St Helena* the East Coast of *Africa*, and in *India*' (p 95)

(See also, *Philosophical Transactions*, no 181, May 1686, p 104)

'An Account of Dr *Robert Hook*'s Invention of the Marine Barometer, with its Description and Uses, published by order of the R Society. by E Halley', p 252.

He reports that on a 'late Southern Voyage it never failed to prognostick and give early note of all the bad weather we had' and therefore concludes 'that a more useful contrivance hath not for this long time been, offered for the benefit of Navigation' (p 256)

Volume II

'An Easie Demonstration of the Analogy of the Logarithmick Tangents to the Meridian Line or sum of the Secants, with various Methods for computing the same by E Halley', p 20

'It is now neer 100 Years since our Worthy Countryman, Mr *Edward Wright*, published his *Correction of Errors in Navigation*' 'the *Meridian Line*, tho' it generally be called *Mercator's*, was yet undoubtedly Mr *Wright's* Invention', p 20, adding 'The difficulty to prove the truth of this Proposition, [that the *Meridian Line* is analogous to the scale of logarithmic tangents of half the complements of the latitudes] seemed such to Mr

Mercator, the author of *Logarithmotechnia*, that he proposed to wager a good sum of Money, against whoso' would fairly undertake it, that he should not demonstrate either, that it was true or false' (p 21)

'A Demonstration of an Error committed by common Surveyors in comparing the Surveys taken at long Intervals of Time arising from the Variation of the Magnetick Needle, by Wilham Molyneux Esq F R S', p 283

'though the Variation be slow, yet in a long Course, or in times pretty distant, it may cause vast Errors, unless allowed for' (p 287)

Given 'its universal use, it was thought it would be very grateful to the curious to publish it here' (p 291)

(See also, *Philosophical Transactions*, no 230, July 1697, p 625)

Volume III

'Containing a Collection of Curious Travels, Voyages and Natural Histories of Countries, As they have been Delivered in to the Royal Society' (1707)

'A Journal of a Voyage from England to Constantinople, made in the Year, 1668, by T Smith, D D. and F R S', p 1

(See also, *Philosophical Transactions*, no 152, Oct 1683, p 335)

'A Relation of a Voyage from *Aleppo* in *Palmyra* in *Syria*, sent by the Reverend Mr *William Hallifax* to Dr *Edward Bernard* (late) *Savalian* Professor of Astronomy in Oxford, and by him communicated to Dr *Thomas Smith*', p 84

'An extract of the Journals of two several Voyages of the *English Merchants* of the factory of *Aleppo* to *Tadmor*, anciently call'd *Palmyra*', p. 120. [William Hallifax]

(See also, *Philosophical Transactions*, no 217, June- Oct 1695, p 83)

'Some Account of the Ancient State of the City of *Palmyra*, with short remarks upon the Inscriptions found there By E Halley', p 160

Appeals to travellers for further information saying 'if any curious Traveller, or Merchant residing there would pleas to Observe, with due care, the Phases of the Moon's Eclipses at *Bagdat*, *Aleppo* and *Alexandria*, thereby to determine their Longitudes, they could not do the Science of Astronomy a greater Service' (pp 177-178)

'A Voyage to the Emperor of *China* into the Eastern *Tartary* Anno 1682' Anon , p 179.

'A Voyage to the Emperor of *China* into the Western *Tartary* Anno 1683'. Anon , p 196

'A Letter from Monsieur N *Witsen* to Dr. Martin *Lister*, with two Draughts of the Famous *Persepolis*', p 236

'A Description of the Diamond-mines, as it was presented by the Right Honourable the Earl Marshal of *England* to the R Society', p 238

He has direct experience of that which he describes 'having visited several Mines' and therefore 'able to say something thereof Experimentally' (p 238)

'A Letter from the *East India* of Mr *John Marshal* to Dr. *Coga*, giving an Account of the Religions, Rites, Notions, Customs, Manners of the Heathen Priests commonly called *Bramines* communicated by the Reverend Mr *Abraham de la Pryne*', p 256.

'Part of two Letters to the Publisher from Mr *James Cunningham* F R S and Physician to the English at *Chusan* in *China*, giving an account of his Voyage thither, of this Island of *Chusan*, of the several sorts of Tea, of the Fishing, Agriculture of the *Chinese*, &c with several observations not hitherto taken notice of', p 269

(See also, *Philosophical Transactions*, no 256, Sept 1699, p 323)

'A Letter from Mr *John Clayton*, Rector of *Crofton* at *Wakefield* in *Yorkshire*, to the Royal Society, May 12 1688 giving an account of several Observables in *Virginia*, and in his voyage thither, more particularly concerning the Air', p 281

(See also, *Philosophical Transactions*, no 201, June 1693, p 781)

'Mr Clayton's Second Letter, containing his further Observations on *Virginia*', p 293

'Mr *John Clayton*, Rector of *Crofton* at *Wakefield*, his Letter to the Royal society giving a farther Account of the Observables of *Virginia*', p 312

(See also, *Philosophical Transactions*, no, 206, Dec 1693, p 990)

'Part of Two Letters from Mr *J Hillier*, dated Cape Corse, Jan 3. 1687/8 and Apr 25 1688 Wrote to the Reverend Dr *Bathhurst*, President of *Trinity College, Oxen*, giving an Account of the Customs of the Inhabitants, the Air, &c of that Place, together with an Account of the Weather there from Nov. 24 1686 to the same Day 1687', p 356

(See also, *Philosophical Transactions*, no, 232, Sept 1697, p 687)

'An Account of the *Moorish* Way of Dressing their Meat (with other Remarks) in *West Barbary* from Cape *Spartel* to Cape *de Geer* By Mr. *Jezreel Jones*', p 381

(See also, *Philosophical Transactions*, no, 254, July 1699, p 248)

Appendix III.

(i) Laurence Rooke's 'Directions for Seamen bound for far Voyages'.

Philosophical Transactions, no 8, January 1666, p 140

- 1 To observe the Declination of the Compass, or its Variation from the Meridian of the Place, frequently marking withal the Latitude of the place where such Observation is made as exactly as may be, and setting down the method by which they made them
- 2 To carry dipping dipping Needles with them, and observe the inclination of the Needle in the like Manner
- 3 To remark carefully the Ebbings and Flowings of the Sea in as many places as they can, together with all the Accidents ordinary and extraordinary of the Tides, and their precise time of Ebbing and Flowing in Rivers, at promontories or Capes, which way the Currents runs, what perpendicular distance there is between the highest Tide and lowest Ebb what day of the Moon's Age and what times of the year the highest and lowest Tides fall out And all other considerable Accidents they can observe in the Tides, chiefly near Ports and about Islands, as in St *Helena's* Island, and the three Rivers there, at the *Bermudas* &c
- 4 To make Plates and Draughts of Coasts and Ports and such other Places near the Shore, as they shall think fit
- 5 To sound and mark the depth of Coasts and Ports and such other Places near the shore, as they shall think fit
- 6 To take notice of the nature of the Ground at the bottom of the sea, in all soundings, whether it be Clay, Sand, Rock, &c

- 7 To keep a Register of all changes of Wind and Weather at all hours, by night and by day, showing the Point the Wind blows from, whether strong or weak The Rains, Hail, Snow, and the like the precise times of their beginnings and continuance, especially Hurricanes and Spouts, but above all to take exact care to observe the Trade-winds, about what degree of Latitude and Longitude they first began, when and where they cease or change, or grow stronger or weaker, and how much, as near and exact as may be
- 8 To observe and record all extraordinary Meteors, Lightenings, Thunders, *Ignes Fatui*, Comets &c marking still the places and times of their appearing, continuance, &c
- 9 To carry with them good Scales and Glass-Viols of a Pint, or so, with very narrow mouths which are to be fill'd with Sea-water in different degrees of Latitude, as often as they please, and the weight of the Viol full of water taken exactly at every time and recorded, making withal the degree of Latitude and the day of the month and that as well of Water near the top, as at a greater depth

(ii) An extract from Robert Boyle's *General Head's for the Natural History of a Country Great or Small and for the Use of Travellers and Navigators* (1692), pp 7-11

In the Earth may be observed,

I It self

II Its Inhabitants, and its Productions, and those internal or external

I As to it self What are its Dimensions, Situations, East, West, South or North, its Figure, its Plains, hills or Valleys, their Extent, the Hight of the Hills, either in respect of the neighbouring Valleys, or the level of the Sea, as to whether the Mountains lye scatter'd or in Ridges, What Promontories, Fiery or Smoaking Hills, &c the Country has or hath not, whether subject to Earthquakes or not Whether the Country is coherent or much broken into Islands What Declination the Magnet has in several Places at the same time and how much it varies in different Times at the same Place Whether before he *Tornados* or *Hurricanes*, the Magnetical Needle loses its Direction towards the North What kinds of Soyls are there, whether of Clay, Sand, Gravel, &c Moreover, how all these are or may be further improv'd for the Benefit of Man

II The Inhabitants themselves are to be consider'd, both Natives and Strangers, that have been long settled there, particularly their Stature, Shape, Features, Strength, Ingenuity, Dyet, inclination that can not be due to Education

The Products External are Plants, Trees, Fruits &c with the Peculiarities observable in them and what Soyles they thrive best in What Animals, Terrestrial or Volatile, or Insects of all Sorts, they produce, and to what Use applied by the Inhabitants, as to Meat, Physick, Surgery, or Dying, &c

By the Internal Production of the Earth are to be understood here, things procreated in the Bowels of the Earth, either for the Benefit or Hurt of Man, where notice is to be taken what way the one may be best found out, and the other most easily avoided or cured Under these are comprehended, Metals, Minerals, Stones Precious or Common, and how these Beds lye in reference to North or South &c What Clays and Earth it affords, e g Tobacco-pipe-clay, Marles, Boles, with their Physical or other uses, Fuller's Earth, Earth for Potters ware, Soap, earths, Axuagiæ, &c What coals, salts, or Salt-Mines, as Alum, Vitriols, Sulphur &c it yields As for Mines, you are to consider their Number, Situations, Depths, Signs, waters, Damps, Qualities of Ore, goodness of Ore, extraneous things, and ways of reducing their Ores into Metals, &c

Appendix IV

(i) 'Appendix for the Instruction of Mariners' in *The Hairy Giants*

Appended to the English translation of Hendrick van Schooten's *The Hairy Giants* is a set of instructions and advice directed at those considering embarking on an overseas voyage. The instructions are very similar, both in style and content, to the directions for seamen being printed at about this time in the *Philosophical Transactions* by Fellows of the Royal Society. Like them, they are concerned with stipulating what to observe and the importance of keeping a journal contemporaneously. They urge travellers to write about their experiences and offer navigational advice. Interestingly, they are also concerned with the matter of how travellers should behave towards the indigenous inhabitants of the lands they visit. This was not something mentioned by the Royal Society and the advice given here to temper adulation proffered by native peoples towards Europeans without actually discouraging it is extremely interesting.

The Hairy Giants is a very rare text today with only two copies known to exist in Britain. I have found no reference to this extensive list which clearly was inspired by the Royal Society's campaign to promote overseas travel. Its placing, as an adjunct to an imaginary voyage account, is particularly significant in view of the tendency at this time for imaginary voyage literature to assimilate the changes currently taking place in the genre from which it took its precedent. The inclusion of

a set of directions which mimicked those which were at that time so influential in shaping the style and form of real voyage narratives had the effect of rendering the imaginary narrative to which they were appended more plausible. It is likely that the named author of the text Hendrick van Schooten is a pseudonym and that it was originally conceived as an English language text. I have not been able to find any bibliographical details of a corresponding Dutch text from which this may have been translated.

'The Qualifications of such as *undertake* a Voyage for Discovery with several Precepts to be observed by them'

Section I.

Of their Qualifications

sig D1^{r-v}

- I First, It is requisite that they be men of middle age of a good healthy Constitution, all their Senses firm, and in their full vigour, that they may be able to go through any dangers or hazards that may happen to them in such uncertain Adventure
- II They must be well skill'd in the Arts of Arithmetick, Geometry, Gunnery and Fortification, Trigonometry, Astronomy, and Navigation

Section II

Precepts to be observed by such as undertake these Adventures sig D1^v-[D2]^v

- i First, let them be provided with a good strong Ship, store of Provision, Weapons defensive and offensive, with a sufficient quantity of Ammunition and convenient Instruments for prospection and observation
- ii Let the Seamen be healthy, stout, resolute Blades, such as are resolved against all dangers that may happen
- iii Let them be very curious in their Observations, and calculate the Longitude and Latitude of all places they touch at
- iv Let them keep their Journal-book exactly, truly and faithfully recording all the passages of the Voyage, as the several changings of the Wind, the rumb, and distance of sailing upon those rumb, the true founding of the Channels in those Harbours they enter, and what rocks or sands they meet with, giving some necessary rules and cautions for shunning those dangers
- v Let them carefully observe the variation of the Compass, with the Currents, and trade-Winds
- vi Let them use their utmost endeavour to understand the Religion, Customs, Manners, and Commodities, with the Inclinations of the Inhabitants, and commit it to writing, that they may give a true account of them when they return home
- vii Let them be curious in observing the Clouds, by the clearness of them whereof, they may know when they draw near to land, for by their passing over the land, wanting a supply of Vapours, the Clouds become more white and clear as *Columbus* observed and experienced

- viii When in the day-time they observe the Clouds gathering together in heaps near the Horizon, looking blew, and a section appear on that part of the Hemisphere, or by night discover fire, they may be certain they are approaching to land
- ix When they come near to the land, let them first coast along by it, and curiously observe the Creeks and Harbours, their manner of bearing, with their forms or figures
- x When they have coasted so long that they are sufficiently satisfied of the figure and situation of the place, and have found out a convenient River, either broad enough to secure them from any attempts the Natives may make upon them from shore, or else whose banks are distant from Woods or other Ambushcado's
- xi When they find an opportunity to venture ashore, let them go well armed, that they may awe the Natives, who when they see their store, or bonpointed arrows do not pierce them, as they do their own Country-men, will be ready to offer divine adoration to them, but let them be very prudent in this case, neither absolutely hindering it, yet modestly denying such adoration, by pointing to the heavens, letting them know there they ought to pay their devotion, for by absolutely hindering their Adoration, they thinking you to be men, will make other attempts upon you, as the *Indians* did upon the *Spaniards* at their first coming thither, by holding them so long under water till they were confirmed they were mortal
- xii Let them be very careful when they are permitted to traffick, and live quietly amongst the Natives, that they show good examples to them by their good lives and conversations, let them be just in all their dealings, punctual to their promise, and civil to the Natives in general

**(ii) John Wilkins's 'Thirteen Propositions' in
*The Discovery of a World in the Moon***

I have listed here the thirteen 'propositions' examined by John Wilkins in his *The Discovery of a World in the Moone, Or a Discourse Tending to prove that 'tis probable there may be another habitable World in that Planet* (1638) together with the fourteenth proposition added to the third edition of the above text published as a second volume entitled *A Discourse concerning the probability of a Passage Thither* (1640) Page references refer to the two volume, third edition of the text

I	That the moone may be a World	p 1
II	That a Plurality of Worlds does not Contradict any Principle of Reason or Faith	p 16
III	That the Heavens do not consist of any such pure matter which can Privilege them from the like charge and Corruption as these Inferior Bodies are liable to	p 31
IV	That the Moon is a Solid Compacted Opacous Body	p 44
V	That the Moon hath not any Light of her own	p 49
VI	That there is a World in the Moon, hath been the direct Opinion of many Ancient with some Modern Mathematicians, and may probably be deduced from the Tenets of others	p 60

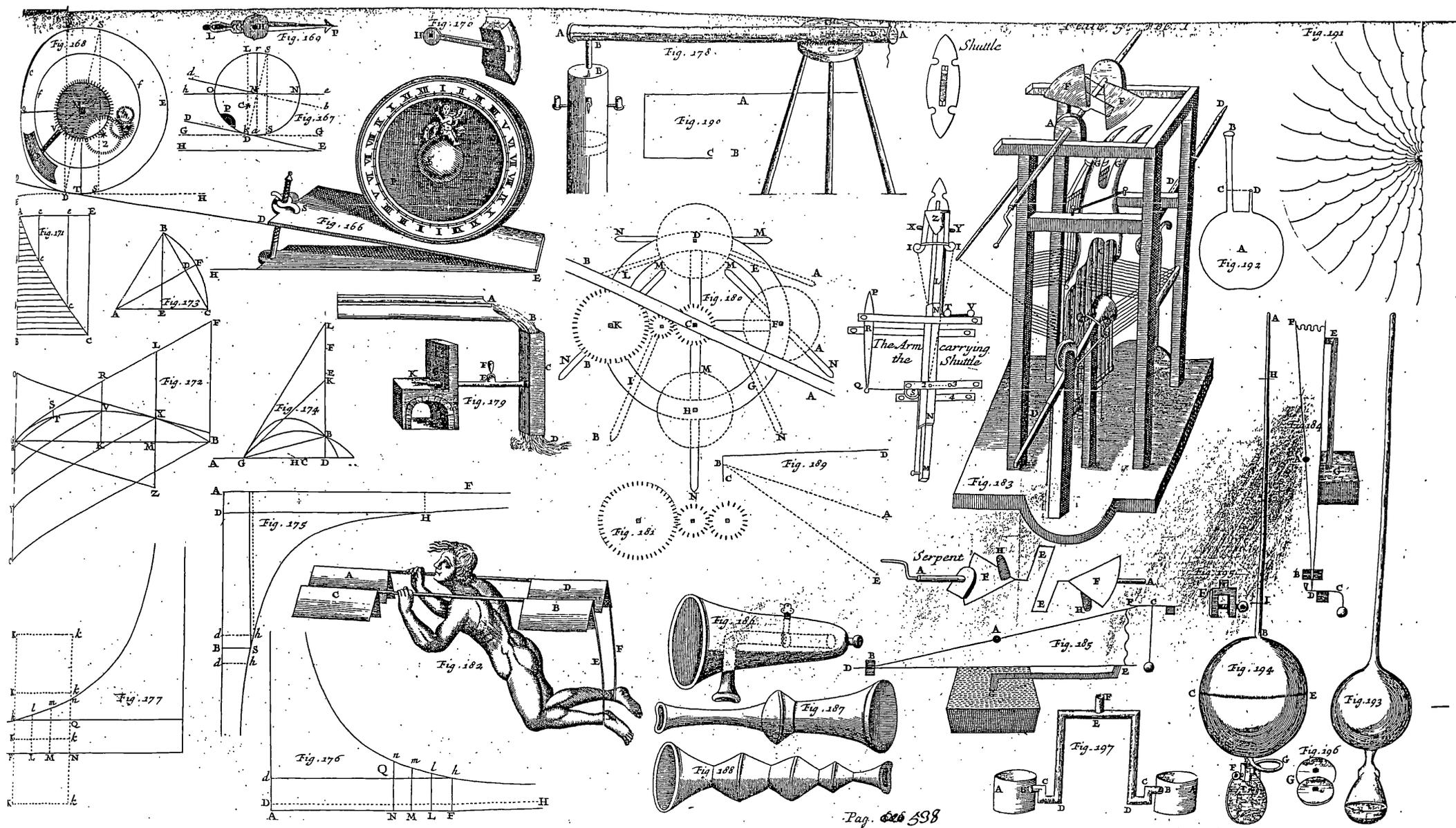
- VII** That those Spots and brighter Parts, which by our sight may be distinguished in the Moon do shew the difference betwixt the Sea and Land in that other World
p 71
- VIII** That the Spots represent the Sea, and the brighter Parts the Land
p 79
- IX** That there are high Mountains, deep Vallies and spacious plains in the Body of the Moon
p 90
- X** That there is an Atmo-sphæra, or an Orb of gross Vaporious Air, immediately encompassing the Body of the Moon
p 103
- XI** That as their World is our Moon, so our World is their Moon
p 109
- XII** That 'tis probable there may be such Meteors belonging to that World in the Moon, as there are with us
p 128
- XIII** That 'tis probable there may be Inhabitants in this other world, but of what kind they are is uncertain
p 142
- XIV** That 'tis possible for some of our Posterity to find out a conveyance to this other World, and if there be Inhabitants there to have Commerce with them
pp 156-187

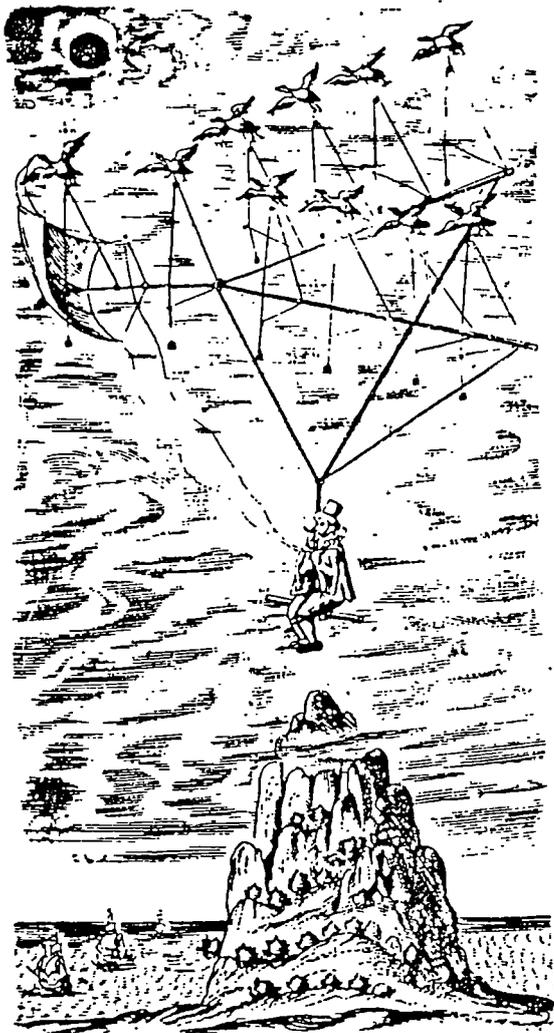
Appendix V.

Illustrations

- (a) Plate from the *Philosophical Transactions* showing an eclectic mix of illustrations pertaining to various accounts. Figure 182 shows Monsieur Besnier's flying contraption endorsed by Robert Hooke. It had been calculated by Christopher Wren, on the basis of data concerning the muscle strength of birds collated by Francis Willughby in his *Ornithologiae* (1676), that man's arms alone did not have sufficient muscular power to propel him through the air. Besnier's design which employs the stronger leg muscles did seem a proposition at least worthy of examination to the Royal Society's Convenor of Experiments. Hooke's account of Sieur Besnier's 'Engine for Flying' appeared in *Philosophical Collections* no. 1, p. 15 (1679). It was reprinted in John Lowthorp's *Philosophical Transactions* *adridg'd* (1705, 1716) vol. I, p. 500, from which this plate is taken.
- (b) Frontispiece of Bishop Francis Godwin's *Man in the Moone* (1638) showing the chariot drawn by geese which conveyed Domingo Gonsales to the moon. Bishop John Wilkins was interested by the design of this spacecraft and refers to it implicitly in the fourteenth proposition of his *Discovery of the World in the Moon* (1640).

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THE
MAN IN THE
MOONE:

OR
A DISCOURSE OF A
Voyage thither
BY

DOMINGO GONSALES

The speedy Messenger.



LONDON, 1711
Printed by JOHN NORTON, for
Joshua Kilton, and Thomas Curzon, 1678.

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- (iii) Other Geographical Texts
- (iv) General Texts

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