ABSTRACT

ASPECTS OF ENGLISH THOUGHT IN BAYLE'S
NOUVELLES DE LA REPUBLIQUE
DES LETTRES

By

Jean Gedeon Nicholas

This study analyzes the contents of the reviews of English works in the Nouvelles de la République des Lettres from March 1684 through February 1687 when Pierre Bayle was its editor. The Nouvelles, the first published of the French-language gazettes printed in Holland at the end of the seventeenth century, was an important agent in the transmission of English ideas to the Continent and helped effect the shift in interest from Latin countries to northern ones. Since very few educated Continentals knew English, they were largely dependent on publications like the Nouvelles for their knowledge of English trends. Bayle, a Huguenot and relaps exiled in Holland, not only influenced Continental opinion, but was in turn influenced by his editing of English material, which helped mold his thought in the years when he was gathering the information that would later be used in his great work, the Dictionnaire.

The articles from and about England, which occupied a steadily increasing number of pages, presented certain part of the English challenge to authority in questions of theology and natural philosophy. The English, with a long tradition of clashes with orthodox Roman Catholic thought, were publishing works that investigated the record of the early days of Christianity, the beliefs of the Church Fathers, the origins of the sacraments, and the Bible. Though the stated purpose of these books was to return to what their authors liked to call the pure core of belief of the primitive Church, it was clear that their real goal was more to discredit Rome and its claims. Though it is impossible to know Bayle's exact thoughts on the questions, he did devote many columns to reviews dealing with Christianity, its doctrines, and its record since one of his main interests was to establish the study of history on a factual basis.

In natural philosophy England had the Royal Society the members of which were in correspondence with their counterparts in all Europe. Scientists, realizing the power given them by mathematics and by experiment, observation, and measurement, were enthusiastically comparing results and planning to attack new problems as well as old ones. Though Bayle's lack of knowledge made his science reporting inadequate, he was an enthusiastic popularizer, eager to

publicize the names of scientific scholars and to give a general idea of what they were doing.

The review articles in the Nouvelles, and in other publications printed in Holland, represented for Europeans who knew no English the only readily available source of information about the island that was playing a growing role in the Republic of Letters. The next step should be to compare the original work with the review of it to see just how distorted a view was presented to Continental readers and to determine, if possible, the impact and consequences of that distortion.

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Comparative Literature Program

1973

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CHAPTER I

INTRODUCTION

Voltaire, Prévost, and the eighteenth century used to get credit for introducing English ideas into France and the Continent, but current thinking suggests that the intellectual discovery of England by Continental Europeans really took place in the last decades of the seventeenth century. One of the most notable and best documented trends of that period is the shift in interest from Latin countries to northern European nations,[1] especially to England, which enjoyed the reputation of being a country where serious scholars were adding to the general store of knowledge. Bayle noted admiringly as he printed a list of new titles he had recently received in a letter from London that England alone could provide each month material for a journal even bulkier than his own,[2] and a year later he

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[1]Paul Hazard, The European Mind (1680-1715) (Cleveland, Ohio: Meridian Books, 1963), pp. 53-79; and René Pintard, Le Libertinage érudit, Vol. I (Paris: Boivin, 1943), p. 570.

[2]Pierre Bayle, ed., Nouvelles de la République des Lettres, Vol. I (Geneva: Slatkine Reprints, 1966), juin, 1685, p. 666. Citations from this periodical in my text are to this edition, hereafter cited as NRL. The spelling and

reported that the English, not content merely to write books on philosophy, also reprinted works composed elsewhere (60, p. 1179). And in France, Father Rapin's judgment was reported by M. Baillet, librarian for M. l'Avocat Général de Lamoignon:

> . . . par cette profondeur de génie qui est ordinaire à leur nation, ils aiment les méthodes profondes, abstruses, recherchées. Il est certain qu'il n'y a point de Philosophes qui s'élevent autant que les Anglois vers la Région de la verité la plus abstraite, & qui aprofondissent comme eux les matiéres peu batuës qu'ils entreprennent de prouver.[3]

English thought was freer and more advanced than it was on the Continent in the three main areas of interest to seventeenth century readers: religion, science, and politics; English literature was also better and more abundant than in any other European country, as the Term Catalogs show.[4] The English, especially after 1660, acquired the reputation of being bold thinkers as well as profound ones, especially on theological questions, so that the label "published in England" often served to mark a work as daring

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punctuation of the text have been retained as they appear in that edition. Further references to articles in the Nouvelles give the number of the reference as found in the Appendix, where the articles from and about England are listed chronologically, and the page.

[3]NRL, Vol. 1, décembre, 1685, p. 1377.

[4]Hendrika Reesink, L'Angleterre et la littérature anglaise dans les trois plus anciens périodiques francais de Hollande de 1684 à 1709 (Zutphen and Paris: Thieme and Champion, 1931), pp. 34-35.

and to attract attention to it, just as the labels "translated from the English" and "printed in Holland" tended to increase interest in any work to which they were attached. For example, when Bayle's Commentaire philosophique was mentioned under the rubric Catalogue des Livres in the Nouvelles, it was described as "Traduit de l'Anglois du Sieur John Fox de Bruggs," and was said to have been published in Canterbury.[5] The English had, after all, proved their right to be regarded as leaders: Henry VIII had defied the authority of the Pope and had established the Anglican Church, without, however, becoming Protestant; the English had executed an anointed king, Charles I; they had experimented with a parliamentary government; scientific experimentation flourished there under the encouragement of the Royal Society, founded in 1660 and chartered in 1662.

Though there had been in France since the sixteenth century a great deal of curiosity about and interest in England and its culture,[6] the obstacles preventing any real knowledge of that country and its people were many. The French did not, for the most part, know the language, which was not considered proper for discussing cultural matters.[7]

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[5]NRL, Vol. II, août, 1686, pp. 960-963; and Reesink, L'Angleterre, p. 71.

[6]Pintard, op. cit., pp. 102-103.

[7]Elisabeth Labrousse, Pierre Bayle, Vol. I: Du pays de Foix à la cite d'Erasme (The Hague: Nijhoff, 1963), p. 169.

When French interest in England was at its height (1712-1747), the language barrier remained; at that late date Frenchmen were still dependent on the French journals published in Holland for their knowledge of English trends,[8] and in spite of the proximity of the two countries, there was little travel between them except for the Huguenot refugees and for exiles such as Voltaire and Prévost.

Unfortunately, then, the English language was one very real barrier preventing the free dissemination of English ideas abroad; the second one was the strict censorship of books by Catholic countries. The solution to both problems was found in Holland, where, near the end of the seventeenth century, appeared three notable international newspapers: the Nouvelles de la République des Lettres, the Bibliothèque universelle et historique, and the Histoire des ouvrages des savans, edited by Pierre Bayle, Jean LeClerc, and Henri Basnage de Beauval respectively.

The main reason for the influence of these newspapers was that they were published in Holland, the seventeenth century haven for all kinds of refugees--religious, intellectual, and political. The relative freedom of the Dutch press permitted open discussion of

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[8]Reesink, op. cit., pp. 38-39; and Gabriel Bonno, "La culture et la civilisation britanniques devant l'opinion française," in Transactions of the American Philosophical Society, N. S. (XXXVIII, Pt. 1) (1948), p. 16.

almost all topics. No one was persecuted for his religious beliefs--usually the object of the censor's scrutiny--as long as he did not meddle in Dutch political affairs. Admittedly, some censorship did exist, but it consisted in issuing and publishing decrees, more to set an example than to prosecute. The Dutch magistrates, knowing full well that the freedom of both conscience and press was one of the main sources of their prosperity, were not about to destroy that freedom.[9]

The second reason for the extraordinary role of these publications was that they were written in French, the language common to all educated men of the day (27, p. 1235).[10] In fact, during the late seventeenth century even more important than publications coming from France itself were those from the French press in Holland.[11] The latter enjoyed wide circulation among learned circles in Europe, especially in France, where free movement of books was not possible. In that country, for example, the Nouvelles, though it could not be sold in bookshops or displayed openly, passed freely from hand to hand as well as through the mails and served as a vehicle to introduce

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[9]Reesink, op. cit, p. 75.

[10]Ferdinand Brunot and Charles Bruneau, Précis de grammaire historique de la langue française (Paris, 1949), p. xxii.

[11]Georges Mongrédien, La Vie littéraire au XVII^{e} siècle (Paris, 1947), pp. 410-411.

to Louis XIV's subjects summaries of the contents of banned books. As might be expected, these restrictions did little to spoil the reputation of the paper or to hinder its circulation; they only increased its desirability.[12]

This study proposes to look at the Nouvelles de la Republique des Lettres during the years 1684-1687 when it was edited by Pierre Bayle to determine the main ideas from England that found their way into his newspaper and were, therefore, available to the educated Continental reader who knew French.[13] Because of the general ignorance of England by Continentals and because of the tremendous desire on their part to know what the English were thinking, the Nouvelles, along with the other French-language journals published in Holland, helped mold the thinking of the Republic of Letters. Thus, the Nouvelles served as one of the main lines of transmission of English thought to the Continent at a time when Continentals were most receptive to ideas from across the Channel. But even more important was the influence of English ideas on Bayle himself at a period when he was maturing intellectually. His thorough,

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[12]Mme. Labrousse points out that the NRL was very well received in France, but that after January, 1685, because the publication had become suspect, it could enter the country only by mail. Pierre Bayle, Vol. I, p. 190; and Instrument, pp. 31-32.

[13]Mongrédien, Vie littéraire, p. 410; Brunot and Bruneau, Précis, p. xviii; and Reesink, L'Angleterre, pp. 158-159.

first-hand knowledge of the Protestant-Catholic debates of the 1680's helped prepare him to compile his most enduring contribution to Western intellectual history, the Dictionnaire, and to conclude that no man can judge another's conscience. In other words, since God alone can know whether a man is following his own conscience, men here on earth should respect each other and stop quarreling about questions of faith and belief. Above all, no one should impose his beliefs on another.

Bayle established the journal and edited it from its first appearance in March 1684 through February 1687 when failing health forced him to give up directing it. He was well aware that space devoted to publicizing news from England was one of the main reasons for the success of his publication. Though he knew no English (or Dutch either, for that matter) and although his knowledge of England and English ideas was not really extensive until after 1687, he was nonetheless tremendously influential in his role as liaison agent between England and the Continent. In turn, he was molded, at a period when he was particularly receptive to new ideas, by what the English were thinking and writing. In particular, the problem of freedom of conscience in religious matters was of concern to him. As a young man, he, the son of a Protestant pastor in southern France, had gone to Toulouse for further studies in theology. There, in March 1669 he was converted by the Jesuits, with

whom he was studying, to Roman Catholicism, a faith he abjured in August 1670. Immediately, he had to flee to Geneva, since as a relaps he could no longer live safely in France because of the religious policies of Louis XIV. This fact, coupled with his intense life-long interest in theology, made him sensitive to the many arguments advanced by both sides, each purporting to prove the authenticity and veracity of its beliefs.

The English acceptance of change in official religious policy and of a multiplicity of sects gave Bayle a new perspective on the question of religious toleration in France; it strengthened his belief in the possibility of peaceful settlement of theological differences and convinced him of the essential rightness of freedom of conscience in religious matters. Most scholars of the time, both Protestant and Roman Catholic were busy clarifying questions of dogma and refining definitions; but Bayle's concern was quite different. He wanted to ground acceptance or rejection of religious belief in the individual conscience, a view best expressed in his Nouvelles lettres de l'auteur de la Critique générale de l'histoire du Calvinisme de M. Maimbourg (Oeuvres diverses, II, 334):

> En matière de Religion il ne faut point suspendre son consentement, jusques à ce que l'on ait acquis toute l'évidence que l'on attend dans la Philosophie de Monsieur Des-Cartes, avant que de prendre parti. Pour établir ce principe, il en faut poser un second, à peu près tel que celui-ci; qu'en matière de Religion, la regle de juger

> n'est point dans l'entendement, mais dans la conscience, c'est à dire, qu'il faut embrasser les objets non pas selon des idées claires et distinctes, acquises par un examen sévère, mais selon que la conscience nous dicte qu'en les embrassant nous ferons ce qui est agréable à Dieu.

With such a guiding principle, Bayle cannot possibly condone the sectarian mind eager to impose its views on dissenters. He never tires of championing the rights of the individual conscience which indicates that one's actions are pleasing to God.

Bayle's editorship of the Nouvelles is generally agreed to be important as a preparation for his later work, especially for his masterpiece, the Dictionnaire (1697). After an erratic career as an itinerant teacher, Bayle had settled in Rotterdam in 1681, had had time to establish himself in another of the Protestant, French-speaking milieux in which he always lived and worked, even in exile.[14] There he had published his Lettres sur la comète (1682), the second edition of that work with a new title, Pensées diverses sur la comète (1683), and the Critique générale (1682). For the first time in his life, established in the freest country in Europe, he found available a wide variety of reading material and, as editor of the Nouvelles, was deluged with books, articles, and reviews sent him by authors eager to have their ideas published and circulated.

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[14]Labrousse, Instrument, p. 28.

Bayle's wide circle of correspondents included his friends and collaborators in England, Justel, Desmaizeaux, and Larroque,[15] who wrote letters to keep him informed about ideas in vogue across the Channel, and, in addition, sent him résúmes and articles for publication in the Nouvelles. Fortunately, too, many of the serious works of the day, especially those dealing with the two main topics of interest to the Republic of Letters, science and theology, were published in Latin as well as in the vernacular, so that Bayle, who knew Latin well, could read and evaluate them himself.

Because of Bayle's language handicap and because of his resulting dependence on others, it is possible to raise objections about his importance as an intermediary between England and the Continent. In spite of his knowing neither English nor Dutch, he had compensating strengths: his knowledge of French and Latin and his general linguistic ability, coupled with his encyclopedic memory, made him a good critic, often able to decipher and comment an English text.[16] Madame Labrousse, after carefully weighing the charges and the evidence, considers the Nouvelles mainly

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[15]Labrousse, Pierre Bayle, Vol. I, pp. 218-219; and "Les Coulisses du journal de Bayle," in Pierre Bayle, le philosophe de Rotterdam, ed. by Paul Dibon (Amsterdam and Paris: Elsevier and Vrin, 1959), pp. 101-102.

[16]Georges Ascoli, La Grande Bretagne devant l'opinion française au XVII^{e} siècle (Paris: Gamber, 1930), p. 4.

the work of Bayle, whose personal stamp they bear.[17] His conception of the journal, his strong appeals for articles expressing all points of view, his insistence on keeping the paper free of the personal animosity that had marked other such publications, his catholic tastes--all these gave the Nouvelles his own special cachet.

Bayle's wide-ranging interests are reflected by the variety of articles and reviews on questions of dogma, such as transubstantiation; on the teachings of the early Church, such as the real nature of the Son; on Roman Catholic-Protestant differences; on natural philosophy, with special attention to mechanistic explanations of natural phenomena; on historical events, especially those like Henry VIII's break with Rome since that fitted with his general interest in theological questions. The one notable lack, at least for those who equate the Republic of Letters with literature, is the paucity of articles on and reviews of purely literary works. The great, in both volume and quality, literary production in France and England at the end of the seventeenth century receives scant attention. The Nouvelles is largely devoted to publicizing titles and authors; to raising questions, especially those involving historical accuracy; to reviewing in detail works that caught the editor's eye or were likely to provoke debate among the reading public.

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[17]Labrousse, "Les Coulisses," pp. 97-108.

Actually the journal is more like a technical or scientific journal than a literary one. All things considered, the publication is a remarkable reflection of a whole intellectual and social milieu consisting of both Roman Catholics and Protestants who were not disconcerted by an inquiring secular mind fascinated by ideas and interested in furthering knowledge of them.[18]

Although it is tempting to see in Bayle a philosophe avant la lettre, it is even more important to remember that, until after 1687, the main trends in his work are all Calvinist.[19] One of the commonest notions in literary history is that of Bayle (and here he is usually linked with Fontenelle) as a precursor of the Enlightenment who transmitted to the eighteenth century notions from the free thought of the Renaissance and from the libertin thinkers of the seventeenth century.[20] This view, expecially congenial to eighteenth century writers and thinkers, emphasizes his critical examination of historical evidence, his care in documentation, his tolerance for dissent, his stress on the disparity between Christian dogma and reason[21] and gives his

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[18] Ibid., p. 97.

[19] Walter Rex, Essays on Pierre Bayle (The Hague, 1965), p. xii.

[20] Ibid., p. xi.

[21] Karl Sandberg, At the Crossroads of Faith and Reason, An Essay on Pierre Bayle (University of Arizona, 1966), pp. 108-109.

thought a coherence, direction, and conviction that it does not really have. The aspects of his thought that are most prominent in the Nouvelles are his fair-mindedness; his interest in natural phenomena and in oddities, such as the horned girl said to have been born in Ireland; and, above all, his great concern with the theological questions of the times. Bayle, living in a century when theological matters occupied a large part of the attention and energies of the Republic of Letters, shared that concern and was much involved in the controversies of the day. Though much critical effort has been devoted to the attempt to determine whether Bayle was a sceptic or a believer, the answer to that question--an answer which, in any case, cannot be known--is not so important as the recognition of his passionate interest in theological questions. It is essential to stress Bayle's main interest here; otherwise he is read out of context so that he appears more modern than he ought to.

Bayle's decision to publish a newspaper was not a trail-blazing one[22] since there were earlier examples, the most famous of which was de Sallo's Journal des Sçavans, founded in Paris in January 1665. But the Nouvelles mark

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[22]Jean Delvolvé, Essai sur Pierre Bayle, religion critique et philosophie positive (Paris: Alcan, 1906), p. 67.

a new direction, indicated by the motto on the masthead: Non fumum ex fulgore, sed ex fumo dare lucem, etc. In the Préface to the first issue, Bayle explains what he proposes to do. After duly praising the liberty of the Dutch press, he goes on to hope for communications from "les personnes de ce Païs-ci, qui auront une connaissance exacte des nouvelles machines qu'on pourra inventer & des raretez qu'on y apportera des Indes."[23] At the same time he warns his readers that the Nouvelles will not malign people in the manner of the Mercure Sçavant. Works are to be judged "sans prévention, & sans aucune malignité & de telle sorte que l'on espère que ceux qui seront intéressez à ce jugement ne s'en irriteront point."[24]

To avoid any condemnation of his work, Bayle, who was as a relaps suspect, declares his intention to examine and report impartially on all topics without trying to seek or to avoid religious controversy. Then, having stated his policy, he does fairly much whatever he wants, with the result that many of his examinations, defenses, and apologies are really not very subtle undermining operations. In his role of detached, disinterested commentator, he sows the seeds of doubt by asking questions, the subversive conclusions of which cannot be avoided. Here lies the

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[23]NRL, Vol. I, mars, 1684, Préface.

[24]Ibid.

essence of the famous Bayle procedure: juxtapose "truth" and fact and let corrosion proceed.[25] But always Bayle insists on his impartiality, particularly in matters of religion. All illustrious dead, he writes, will receive in the Nouvelles consideration according to the following formula:

> Il ne s'agit point de Religion: il s'agit de Science: on doit donc mettre bas tous les termes qui divisent les hommes en differentes factions, considerer seulement le point dans lequel ils se reunissent, qui est la qualité d'Homme illustre dans la République des Lettres.[26]

Bayle was also aware of his two reader groups and of their quite different needs:

> On avertit seulement en particulier, que pour complaire à deux sortes de lecteurs de different goût, dont les uns se plaignent que le Journal leur donne trop en abregé l'idée d'un livre, les autres au contraire, qu'il ne leur parle pas d'un assez grand nombre d'Ouvrages à chaque fois, l'on a résolu de diviser chacune de ces Relations en deux parties. La première sera pour ceux qui veulent qu'on leur rende raison d'un Livre un peu amplement, & la seconde pour ceux qui ne demandent qu'une idée superficielle de beaucoup de Livres.[27]

Though the announced program is not strictly followed, Bayle does manage to mention an astonishing number of books and even to talk of them at some length.

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[25]Delvolvé, Essai, p. 98; and Rex, Essays, pp. x-xi.

[26]NRL, Vol. 1, mars, 1684, Préface.

[27]Ibid.

The intellectual news from England printed in the Nouvelles presents part of the English reaction to the question of authority in religion and science, a matter of great concern to seventeenth century thinkers. In religion, the Protestant-Roman Catholic quarrel divided the Christian world while the question of God and his power in the universe exercised scholars in both camps. The uneasy feeling of the times was that the new laws of mechanics, especially those of Descartes, had eliminated the Creator from his creation. In the medieval world, reason and logic had been used to account for human and natural phenomena; to relate them to theological concepts such as the Creation, the Fall, and the Incarnation; and to arrive at a coherent view of the universe as well as of man's place in it. Revelation had provided a supernatural explanation of the universe in which religion, buttressed by reason, furnished the means by which man might guide his steps and, possibly, partake of supernatural grace.[28] Nature, a unified whole of which man was an integral part, showed further evidence of divine purpose in the world; it was a second revealed truth that supported the first. In essence, the former conflict of reason versus faith took, in the seventeenth century, a new form, that of science versus religion.

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[28]Samuel Bethell, The Cultural Revolution of the Seventeenth Century (London, 1951), p. 54.

Where earlier centuries had seen the created universe both as a manifestation of the Creator and also as one source of revelation to man (the other being, of course, the Scriptures), the new trend was to see the universe as something to be measured and explained rationally. Reason was now asked to provide a different basis for living founded not on faith but on observation and experiment. It is a commonplace that the seventeenth century is the great dividing line that marks the beginning of what we call the modern world,[29] but it is nonetheless still very much a theologically oriented century. That meant that Christianity had once again to reformulate its doctrines in the language of the new philosophical principles.[30]

In the evolving dialogue between science and religion one of the most absorbing questions was that of the governing of the universe: How does God (on his existence there was agreement, often tacit, but still agreement) manifest his power in the world? This question arose naturally after the publications of Descartes, whose world seemed to function quite nicely after the initial flick

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[29]Douglas Bush, English Literature in the Earlier Seventeenth Century (New York: Oxford University Press, 1945), Ch. 1; Sir George Clark, The Seventeenth Century, 2nd ed., Galaxy Books (New York: Oxford University Press, 1961), Ch. 1; and Alfred North Whitehead, Science and the Modern World, Mentor Books (New York: The New American Library), Ch. 1.

[30]Richard Samuel Westfall, Science and Religion in Seventeenth Century England (New Haven, 1958), p. 10.

from the Creator that set it all in motion. If, after the creation, the world worked according to purely mechanical laws, how did one account for miracles, not only those in the Bible, but those that were still occurring or were to occur in the future? If all natural effects could be explained by the laws of motion, what happened to religion? The problem was particularly difficult since the observation and reasoning that constituted the most common intellectual activities of the day gave an adequate account of the phenomena observed; there was no need to invoke intervention on the part of God. Protestants especially tended to discount any miracles not related in the Bible, but still the possibility of their occurring had to be taken into consideration. And even though miracles, commonly thought to be signs of God's presence and power in the world, were more and more discredited, some sort of explanation was in order. The old belief that providence governed the world was becoming harder to accept in the face of new evidence that indicated a clear set of laws governing matter and motion.

In the new scheme, the world was made up of movements that could be seen and quantified,[31] an attitude fostered by Cartesianism, which, as it was usually understood, implied three things: that reason was to be prized

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[31]R. G. Collingwood, The Idea of Nature, Galaxy Books (New York: Oxford University Press), pp. 102-103.

above authority; that the laws of nature were assumed to be stable; and that rigorous proofs were to be searched for. The interest in science and its concomitant insistence on measurement led inexorably to the notion that what is real is what can be measured; what is true can be expressed mathematically. Quantitative distinctions became more absorbing than qualitative ones; how do things happen? became a more important question than why do things happen? The activities in the realm of natural philosophy were presumably designed to provide rational proofs for the existence of God and to give religion a firm intellectual support; actually this religion based on human reason and experience tended to replace, rather than supplement, Christianity. More and more, as the scientific spirit grew, scholars said less and less about Christian beliefs, which retreated steadily into the background.[32] The traditional notions of Christianity were, however, never denied; they were simply not mentioned as scholars emphasized what was reasonable and susceptible of proof. The result was a religion that was really a moral code based more on rational ways of thinking and behaving than on any sort of spiritual foundation.

In England, between 1640 and 1660, a wave of religious enthusiasm had resulted in a multiplicity of sects.

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[32]Westfall, Science and Religion, p. 161.

While the Anglican Church was the established one, at the same time there existed a tradition of non-conformity that prevented any one creed from monopolizing the spiritual life of the nation. The real roots of the English tradition go back even farther. In both England and Scotland, the Reformation saw a lay rebellion against the medieval clergy, but the revolt took quite different forms in the two countries. In England, where the laity could exercise control of the Church through the instruments of Parliament and the Crown, they preferred state control of the Church. In Scotland, where there was no Parliament and where the Crown (Mary Stuart) could not be trusted to safeguard the interests of her Protestant subjects, a group of laymen and ministers active in Church organization took over. Naturally enough, under such circumstances the Scottish Presbyterians opted for Church control of the State since it was the only way they could wield power. As Trevelyan and Trevor-Roper both point out,[33] The victory of the Independents over the Presbyterians meant the victory of the laity over the clergy and the final defeat of clerical ideas. English leaders holding Erastian views refused to set up in England "a 'presbytery' according to the word of God"[34] and England

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[33]G. M. Trevelyan, History of England, 3 vols. Doubleday Anchor Books (Garden City: Doubleday and Co., Inc., 1954), pp. 173-174; and H. R. Trevor-Roper, The Crisis of the Seventeenth Century (New York: Harper and Row, 1968), pp. 207-208.

[34]Trevor-Roper, Crisis, ibid.

accordingly escaped the fate of France, where Louis XIV had managed to impose and maintain Roman Catholicism as the official religion and to imprison or drive into exile dissenters, notably the Huguenots.

Not only was English life enriched--or cursed, depending on one's point of view--by a variety of paths to salvation but there was at the same time a pronounced trend toward rational theology that produced a view of religion more as moral attitude and conviction than as sacrament and dogma. Along with those ideas was the notion that believing Christians were obliged to espouse only a certain number of fundamental tenets. Since, according to such a view, the many differences in dogma did not constitute genuine religious quarrels, there was in England a general liberty of conscience along with a tradition of non-conformity.

To sum up: the English contributions to the Nouvelles have a basic theme, the challenge to authority in religion and science. In matters of faith, authority had been the voice of the Pope speaking as the head of the Roman Catholic Church until seriously questioned by the Reformers of the sixteenth century. In science, the natural philosophy of the Scholastics had been the official one until Copernicus, Galileo, and Tycho Brahe, among others, had begun to look at the world around them, make measurements and observations, and conclude that the old explanations would no longer do. Bayle does not deal with politics, the third main topic of

interest to seventeenth century readers, for doing so would have subjected the Nouvelles to censorship even by the tolerant Dutch. It was dangerous but possible to deal with aspects of religious politics such as the various ways of church government or the questions of papal authority but writing about civil government, about a reigning monarch, was not advisable if one wanted to keep on publishing. Too, Bayle himself was no revolutionary. Unlike his compatriot Jurieu, he did not advocate violence on the part of the Huguenots nor did he work to see Louis XIV overthrown. Occasionally Bayle mentions English politics, usually only to commend a sovereign for his tolerance of religious dissent, but he, and consequently the Nouvelles, carefully avoid meddling in current political affairs.

CHAPTER II

CHANGING PERSPECTIVES ON CHURCH HISTORY AND DOGMA

In their method of challenging authority the articles in the Nouvelles that deal with religious questions reflect accurately the main intellectual trend of the age: the application of the new scientific principles of reason and observation to the matter at hand, here Church history and dogma. Observation in the world of nature was revealing more design, order, and law than had been suspected, with the result that scholars began to look for the same qualities in religion. Instead of God's numerous interventions, by means of miracles, in the physical universe, perhaps there could be found rational explanations for otherwise mysterious happenings recounted in the Bible.

For years the Roman Catholic Church had proclaimed itself the purveyor of truth to the Christian world; the Church alone represented orthodoxy and had the means to show the believer the way to salvation. There had been, of course, attacks on the Roman Catholic Church, but it had managed to weather the storms by declaring the attackers heretics. But that was soon to change. Martin Luther's

protest against abuses in the Roman Catholic Church was the beginning of an important movement, not to be easily stemmed, that finally became a protest against the authority of the Church itself.[1] The new protest was, however, of necessity formed by the old orthodoxy; and the new certainty, at least as it is usually expressed in the Nouvelles, concerned itself with proofs, as had the Scholastics, and appealed to the human mind in attempting to explain the reasonableness of ideas such as the existence of God, the believability of miracles, and the Incarnation.[2]

The constant recourse to reason in the intellectual battles of the day caused scholars to speak less and less of essentially Christian beliefs as they framed their arguments. As Pelikan points out for Lutheranism,[3] and his remarks explain a notable trend in the Nouvelles, the special message of Christianity, the communication between God and man, the revelation through Christ of God's love for man, got lost in scholarly quarrels. In their efforts to make the Christian faith intellectually convincing, the disputants necessarily used arguments aimed at man's rationality; for, according to both Lutherans and Calvinists[4] the Holy Spirit,

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[1]Rex, Essays, p. xiii.

[2]Jaroslav Pelikan, From Luther to Kierkegaard (St. Louis, Missouri, 1950), p. 59.

[3]Ibid.

[4]Ibid., pp. 59-60; and Rex, Essays, p. 29.

working through the mind, convinced man of the truth of the Scriptures and enabled him to attain certainty.

Since the problem, then, was to win over the intellect, the means lay ready to hand. Because all those involved had had university training, they were familiar with philosophy no matter what their religious creed. The learned mind, formed by philosophy (and that meant medieval Scholastic philosophy), was best reached by arguments based on its developed taste for "symmetry, harmony, and comprehensiveness."[5] Therefore, the arguments on both sides were couched in terms that both sides understood, and the emotional component of the Christian faith was increasingly obscured as Roman Catholics and anti-Romans battled each other, largely over the formulations stated by the Council of Trent. The result was that the Bible and the message of the Scriptures, especially, receded into the background as philosophical-theological debates took the center of the stage and dogmatics became more important than exegesis. Both sides appealed to the reasoning faculties; only the mind would provide a sure basis for belief firmly built on an intellectually coherent system, based in turn on the Scriptures read and interpreted by men whose minds were illuminated by the Holy Spirit. However, the Scriptures were not the primary concern in the debates; they were

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[5]Pelikan, From Luther, p. 59.

overshadowed by the efforts to construct a satisfying philosophical-theological explanation of Christian dogma and this is the battle reflected in the Nouvelles.

The new protest took the form of questioning accepted notions such as transubstantiation and of carefully studying and analyzing accounts of the early days of the Christian Church and the text of the Bible. Later on, when scholars like Simon proved the Bible not to be the uniform divinely inspired work it was once thought to be, the anti-Roman Catholic attack lost some of its vigor, but in the early years of the debate Protestants usually championed Bible study as a tremendous weapon against the authority and the tradition of the Roman Catholic Church. Though the anti-Roman Catholics whose views are recorded in the Nouvelles belong to various sects, their differences are not so important as is their feeling of unity against Rome. The groups dissenting from the Roman Catholic Church felt themselves united by their stated aim: to return to what they called the true Church, that of the first centuries of Christianity. In the Nouvelles there is no emphasis on the doctrinal differences among the protesting sects; only their common stand against Roman Catholic orthodoxy is stressed. Accordingly, in this study the word Protestant means anti-Roman Catholic.

Mainly the Protestant efforts aimed to restore the early purity of the Church before it had got contaminated,

as they thought, with all sorts of extraneous attachments, many from pagan tradition; they wanted a Church free of the overburden of Roman Catholicism. Such an undertaking depended on going back to the early Church to discover just what was held to be essential by the early Christians. For Calvinists, of whom Bayle was one, and for anti-Romans as a group, this core of true belief was to be found in the study of the early Church "to the time when the Fourth Oecumenical Council issued the last of the series of definitions and decrees to which all the historic churches refer as the expression of the consent of the Church universal in antiquity."[6]

In Bayle's publication the attack on the Roman Catholic version of Christianity can mostly be found in articles dealing with Church history and with dogma. The usual techniques of assault are the dispassionate questioning of what had previously been taken for granted and the use of scientific evidence or of new historical methods to prove either that old ideas were false or at the very least to cast serious doubt on them--all this often in the guise of removing pagan error or false patristic traditions.[7] In the world view emerging at this time, the fantastic, the

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[6]Henry Bettenson, Documents of the Christian Church (2nd ed.; New York: Oxford Paperbacks, 1963), p. vi.

[7]Frank Manuel, The Eighteenth Century Confronts the Gods (Cambridge, Mass., 1959), p. 22.

miraculous have no place; the new world is a matter-of-fact one that prefers to see and concentrate on the ordinary rather than on the extraordinary.

As historical studies uncovered contradictions within the Roman Catholic Church itself, Protestants were quick to call attention to them. The English, whose relations with the papacy had grown steadily worse ever since the time of Wycliffe, were leaders in questioning the Roman Catholic claims. Once Henry VIII had openly defied papal authority, the way was clear to re-examine all aspects of belief. Bayle's journal was careful to point out differences in thinking and to suggest that the Roman Catholic way was not necessarily the only one nor the one in force since the earliest days of the faith.

One of the great differences between the two churches was the number of sacraments recognized. Since the Protestants refused to acknowledge the seven sacraments of the Roman Catholic Church, a fruitful line of inquiry was the one leading to an examination of the origins of these sacraments. In their effort to find rational, historically based proofs for their views, Protestants scrutinized Roman Catholic claims, which were found, needless to say, to rest on a shaky foundation. The Protestant goal was to show that the Roman Catholic Church was not a monolithic body instituted by Christ and maintained in its initial purity by its Catholic guardians. They wanted to portray it as they saw

it: a body that was the blending of several traditions and the result of more than a few compromises.

As the two main divisions of Christianity argued about the number and nature of the sacraments, the Nouvelles, true to its intention of clarifying the questions of the day, provided its readers with a running account of the quarrel. Because of its central importance in the Christian Church, the Eucharist was the sacrament that got the most attention from scholars. Though both sides agreed that the Eucharist was a sacrament, they could not agree on the nature of it. The Roman Catholic position was that the bread and wine, after proper consecration, actually became the body and blood of Christ, under the accidents of the bread and the wine. Though the anti-Roman Catholic rejected that view, they came to no general agreement on the question. Impanation, consubstantiation, real presence, spiritual presence--all these explanations were mentioned but without definition or elaboration. One of the several Protestant arguments was based on the discovery that the Roman Catholic view of the Eucharist was a fairly recent one: Archbishop John Tillotson's work (44) showed by presenting convincing passages, said the review in the Nouvelles, that the Fathers of the first six centuries had not believed in transubstantiation and there had not been unanimous consent to that view until quite late. After a clouded early history, transubstantiation had become an article of faith only after the Council

of Trent. In spite of the Roman Catholic assertion that the words Hoc est corpus meum meant exactly what they said; that is, that the bread became the body of Christ, Tillotson disagreed. Having studied the question and the reasons for belief in transubstantiation, he pointed out that there was absolutely no reason why the words had to mean what the Roman Catholics said they meant, and that there was ground to understand them in quite another sense. He found the whole idea of transubstantiation to be a late idea that had come into the West from the Greeks after the Second Nicene Council in 787, which had convened to discuss the question of the veneration of images, and to answer an earlier statement by the Council of Constantinople to the effect that the only image of himself that the Lord had left was the sacrament in which the substance of the bread is the image of his body. To the preceding statement, the Second Nicene Council replied that after the consecration the Host is not the image of Christ's body and blood but is properly his body and blood. The foregoing evidence presented by Tillotson strenghtened the arguments of those eager to cast doubt on Roman Catholic teachings in order to urge a return to the early doctrine of the Christian Church.

Tillotson's summary of the question prompted Bayle to add to the review article a long digression on the orthodoxy of Ratramnus, one of the heretical authors mentioned by Tillotson and also, Bayle reminded his readers, the subject

of a recent treatise by one Boileau (40, p. 682). Ratramnus had held that the elements of the Eucharist are spiritually efficacious without, however, undergoing any real or objective change. For his views he had been declared orthodox by a doctor of the Sorbonne; on the other hand, he had also been condemned by two popes (Pius IV and Clement VIII) and by other Roman Catholic theologians, unnamed in the review. Bayle's conclusion, after reviewing Tillotson's and Boileau's statements of the controversy, was that Church Fathers who believed in transubstantiation would have lost any judgment handed down in earlier days. He also reminded his readers that Roman Catholic apologists found a way out of their difficulty by saying that the Church Fathers had two languages, one for initiates and another, enigmatic, for everyone else. The same apologists, disregarding passages cited by Protestant theologians, continued to insist that the Fathers prove the Roman Catholic views correct.

Not content to rely only on historical argument, Tillotson adduced other reasons for not following Roman Catholic teachings and here Bayle stressed the attack that Tillotson emphasized most. Suppose, went Tillotson's argument, that the doctrine of transubstantiation were revealed in the Bible just as clearly as it had been stated by the Council of Trent. We could then see the doctrine clearly, but no more clearly than we see that the consecrated bread is bread; hence, Tillotson reasoned, there is no more reason

to believe one thing than the other. Once one is allowed to doubt that bread is bread, then all sorts of questions can creep into one's mind. If, his argument continued, the doctrine of transubstantiation is true, then God has really deprived Christianity of the strongest proof of that truth: transubstantiation is a miracle, but we do not see it. Unfortunately then, miracles, which are the most powerful proof of the gospel, no longer serve any purpose; they cannot convince those who do not witness them.

Tillotson's final argument was to point out that, even if the doctrine of transubstantiation should be true, there was an even graver risk than doubting it and that was the risk of idolatry. Because it is never sure that the many conditions necessary for consecration have been properly carried out, believers may venerate ordinary bread rather than the Host.

After presenting Tillotson's arguments against belief in transubstantiation, along with some of his own personal comment, Bayle made a final observation designed to put the quarrel in a more rational perspective: for enemies of Christianity the really amazing aspect of the controversy was not the dogma itself, but the fact that so many people who did not believe in it had been sacrificed.

Although Tillotson's book provided the most comprehensive English attack reported in the Nouvelles during the period under consideration, the discussion continued in

other articles of non-English origin. The emphasis was almost always on the recent inclusion of transubstantiation among the articles of faith and on the untrustworthiness of a church claiming an unbroken tradition that did not actually exist, as the evidence clearly showed. Historical research had made it very plain that the Church was at one time a fluid organization that had become more rigidly doctrinal with the passing years, especially after the Council of Trent. The publication of the results of such studies, along with the questioning of commonly accepted practices and ideas, aimed to destroy the credibility of the Church in the minds of the faithful, or at least to prod them into a more critical examination of its claims.

The critical examination of Roman Catholic sacraments continued in the review of John Goodman's work entitled A Discourse Concerning Auricular Confession (28). In his study, Goodman, after investigating the origins of the practice, rejected it as a sacrament and presented three theses: that auricular confession was not instituted by Christ; that it had not had either constant or universal use in the Roman Catholic Church; and that, as currently practiced, it was more harmful than conducive to piety and ecclesiastical discipline.

As Goodman, in his role as critic, looked into the historical background to see when and why the Roman Catholics had decreed auricular confession one of the sacraments,

he found that it had not been instituted by Christ. Moreover, even Roman Catholic experts did not agree on its origin. Some of those knowledgeable in canon law thought it was simply based on an old custom, while others cited a passage in St. John (not indicated in the review) which seemed to support both confession and penitence, a passage judged weak by the author of the Discourse.

Further exploration of the question uncovered the fact that there was no mention at all of auricular confession during the first two centuries of the Church. Tertullian did mention the practice, but it was clearly quite different from the current one. Saints Augustine and Chrysostom also talked of confession between men (d'homme à homme) but they were obviously far from considering it a sacrament. Goodman's conclusion was that the Fourth Lateran Council established the custom as law at the beginning of the thirteenth century and that the Council of Trent later prescribed it, but that it was certainly not a practice of the primitive Church. In fact, auricular confession had gained ground only slowly and not without opposition.

The third objection, that the practice as currently understood was more harmful than conducive to piety, was one that Protestants had made repeatedly. The reasons for that charge were not given in the article but were presumably that auricular confession gave priests so much power that they became arrogant and that such confession too often led

to debauchery and loose conduct on the part of priests and their women parishioners.

The review concluded that, to convince dissenters, Roman Catholics would have to make three points: that the primitive Church considered auricular confession a sacrament or part of one; that auricular confession was universally necessary; and that without such confession there was no salvation.

The controversies about the sacraments did not occupy all the energies of scholars; they also began to look at the Bible, where they found more challenges. Interest in the Bible implied, of course, study of the Old Testament, a pursuit that raised troubling questions. The Old Testament, as everyone knew, prefigured the New, but such a statement did not clear up the many confusing aspects of the Old Law. The chronology of the books was a problem, as was the correlation of events mentioned in both the Old and the New Testaments. Then, too, how could scholars explain away certain acts that did not appear to be in harmony with the accepted ideas of the nature of God. These acts had to have a meaning, for it was taken on faith that God behaved rationally rather than capriciously. The only difficulty lay in determining his meaning. One way out, though it seemed too easy, was to resort to the notion of his use of a language incomprehensible to man or comprehensible only to an initiated few. Two English scholars, Lightfoot and Spencer,

had worked on questions of interpretation and had found notably reasonable ways to account for puzzling events.

The plague of lice (Exodus 8) had provoked John Lightfoot (38) to find an intellectually satisfying explanation of it. The Egyptian magicians, explaining to Pharaoh the appearance of the lice, had said, "This is the finger of God," a statement that needed amplification. Why would a benevolent Creator so afflict his children? The common idea, according to the review article, was that these words showed the recognition by the Egyptian magicians of the superiority of the Jewish divinity Jehovah, whose deputy Moses claimed to be. However, such an act was hardly becoming to a protector of the Jews. According to Lightfoot, a careful reading of the text produced evidence leading to a new view of the event. In the case of the lice, Moses did not threaten in advance as he had with the other plagues, and the lice afflicted both the Israelites and their enemies alike. Therefore, Moses, a deputy with limited powers but in charge of the Jewish nation, could perform certain miracles, but nothing so impressive as the production of lice. Lightfoot's conclusions were that the insects must have come from the supreme divinity recognized by the Egyptians and that Jehovah was one of several subordinate divinities with circumscribed powers. The result of all his reasoning was to absolve the God of Moses of any base action and at the

same time to account for elements that might otherwise seem supernatural.

John Spencer, another English scholar, set out in his De legibus Hebraeorum to demonstrate the wisdom of the Creator. Spencer's work, of which the second edition corrected and revised is under review (39), had, according to the Nouvelles, as its main goal, the same one that Malebranche had in several works; that is, to show the libertins "que l'on peut résoudre leurs difficultez autrement que par cette raison générale, que tel a été le droit ou le bon plaisir de Dieu" (39, p. 431). Hence, Spencer's task was clear: he had to find a good reason for each ceremony of the Old Law, even, for example, wrote Bayle, going so far as to tell why a ram was preferred to a goat as a sacrificial animal. To whet the reader's appetite, the review listed briefly some of the topics treated by Spencer but gave extended treatment to only a few.

The common libertin notion that God did things just because he wanted to had to be dealt with since it did not fit the rational pattern scholars were trying to establish. Clearly God interfered in his universe much less often than he had previously, but still the Old Testament did present instances of God's direct intervention and these had, equally clearly, to be explained satisfactorily. Malebranche had claimed, according to the Nouvelles (39, p. 431), that God's wisdom and the exercise of his power must never be

separated; then it can be said that God does things because of his infinite sovereignty, which puts him above having to render any account of his actions. The same principle guided Spencer, said the review, in his study of the Mosaic laws, which presented some knotty problems. Although it was a commonplace that the Old Testament laws were a prefiguration of the New Testament, that explanation was not felt to be sufficient, since it was constantly bolstered with more readily understandable and more convincing arguments.

In his treatment of Jewish ceremonial law, Spencer began by stating that the Jews, after their stay in Egypt, had a tendency to idolatry. For that ill the establishment of a theocratic government, with all its accompanying laws, was the principal solution. But, said Bayle's review, some people--Origen, for example--had not been able to accept that explanation for the laws of the Jews; for Origen had found the laws of Greece and Rome to be more reasonable. Obviously, his understanding had been faulty. Spencer proceeded on the assumption that the literal sense of these Mosaic laws was necessarily reasonable; there was no need, he said, to invoke figurative language and to conclude that the laws did not really mean what they said. Spencer's elucidation of the sense of the laws always kept in mind that God's wisdom was to be demonstrated, not questioned. His examination of the laws showed that God had, as a matter of fact, been extraordinarily forethoughtful. The Chaldeans

and related tribes had two sorts of practices: criminal ones such as the sacrifice of children to Moloch and the prostitution of women to Venus and others such as various laws regulating ways of eating and dressing. In Spencer's view, God, of course, forbade the criminal practices but also the ones concerning relatively unimportant matters, too, for fear that dangerous habits would somehow be adopted and become custom under the protective cover of innocuous ways. In that way he provided an understandable reason for a host of otherwise unexplainable and confusing laws: God was protecting his chosen people from the wickedness surrounding them.

The second line of explanation used by Spencer (as well as by Malebranche) concerned God's occasional intervention in his universe to remedy the irregularity of second causes. Having done so when necessary, God then retired, allowing the universe to function according to the general laws of motion. Using that principle, then, Spencer had a basis for stating that God had intervened to give to the Jews laws which were adapted, by a sagacious combination of the moral (the laws about religious practices) and the physical (the laws concerning eating and dressing), to keep the Jewish nation from idolatry.

As for the Old Testament as a prefiguration of the New, Spencer held (and proved, said Bayle, by citing authorities and reasons which were not, however, mentioned in the

review article) that God modified certain ways that the Jews had inherited from their ancestors because he realized that those practices, once purified by his modifications, would lead the Jews away from idolatry and prepare them to receive the Gospel. As proof that the Jews inherited certain ways, Spencer showed similarities between Jewish and Egyptian rites (though the article gave no details), then pointed out that was easier to show that the Jews imitated the Egyptians than vice versa. It is clear, and a general principle as well, commented Bayle, that in passing from the old to the new (as from paganism to Judaism and as, in England, from Roman Catholicism to Anglicanism) many old customs are retained, a great precedent established when Judaic rites incorporated old, familiar elements rather than breaking completely with the past.

The conclusion of Spencer's investigation was that though many of the Jewish practices had a pagan background (the Feast of the New Moon, the Cherubim, the scapegoat), these could be justified because they were familiar bridges between the old and the new that tended to keep the Jews protected from the worship of false gods. Thus Spencer had managed to give a plausible, rational explanation for what could otherwise have seemed a whimsical and capricious set of laws.

In short, his aim was not to say that God established laws and ceremonies simply because the idolators had

contrary ones, or because such was his pleasure but to show that in his wisdom he set them up because the Jews already had the spirit of his laws and because the latter were an intermediate step between the Old Law and the New. The beauty of the account was that it proved God's sagacity: he presumably did not draw up a perfect plan but rather adapted his ideas to man's state of ignorance and corruption. We can see then, as contemporary readers were doubtless supposed to, that the allegorical interpretation of the Old Testament was clearly unnecessary, a useless complication once the light of reason had illuminated the matter.

As is obvious from the preceding descriptions, systematic, rigorous development of themes was not a feature of the Nouvelles; the very nature of the material used and the purpose of the journal made that impossible. The long, rambling discussions of Church-related topics prompted by the books under review served several purposes: to tell what the English were thinking and writing about; to investigate claims that Bayle found extravagant; to present for consideration problems (such as weighing evidence or evaluating the probable veracity of an author's account) that occurred as a conscientious historian pursued his studies; and to juxtapose fact and accepted ideas to see what would result.

No one sect was consistently quoted or represented; rather Bayle printed a selection of materials linked by one

common theme, anti-Roman Catholicism. However, if it was a question of making a case against a common enemy, Bayle and the anti-Romans might well adopt Roman Catholic arguments. Dodwell, interested in making clear the essential and real distinction between priests and laymen (not, however, spelled out in the review), joined forces with Father Petau, a Jesuit, to attack their common foe, Grotius, a Dutch Arminian (43). An Anglican priest, George Bull, defended the Church Fathers against the remarks of a Jesuit who was supporting the Arian (hence heretical) position. The case was surprising because Roman Catholics had customarily prided themselves on their respect for the Fathers while accusing Protestants (as the Anglicans were considered here) of paying scant attention to them (24). But religious politics made strange allies and the polemicists took their weapons and their supporters where they found them. As Bayle remarked of Dodwell,

> Il nous apprend une infinité de belles choses sur les antiquitez Ecclesiastiques: c'est avec raison qu'on cajolle les Anglois sur cette science, car dans les points où ils ont les mêmes Adversaires que Rome ils lui fournisent de grands secours; mais ils s'en dédommagent bien dans les autres circonstances (43).

The two consistent anti-Roman Caholic themes were the questions of the number of the sacraments and the general untrustworthiness of a church that had changed its teachings, while constantly proclaiming the continuity of

its tradition. Any arguments that could be used to destroy trust in the Roman Catholic teachings about the sacraments or about the authenticity of Roman tradition were brought out. Bayle's dislike was not, however, confined to Roman Catholicism; he also publicized Protestant excesses and shortcomings since his main target was the narrow mind, closed to all beliefs but its own. The multiplicity of sects, he wrote was regrettable, but there was no more chance of uniting them than there was of having a "Monarchie Universelle" (4, p. 309). Long-standing decisions honored by all, as well as personal ways of thinking, prevented unity in the Christian world. Thomas Pierce, however, according to an anonymous report from England, was trying to reduce the subjects of dispute by separating real issues from mere misunderstandings (4).

Instead of relying on facts and reason, some scholars were moved by sectarian feelings. Alexander Pitcairn, a Scottish minister, was forced to leave his country because of the dominant sect (Presbyterians), but in a fratricidal war, he himself accused LeBlanc, a pillar of the RPR in France, of being too Roman Catholic. Actually, LeBlanc, who was, said Bayle, far from resembling a Roman Catholic, had simply said that the two churches were not so far apart as was commonly supposed, at least not on the question of justification. Pitcairn's zeal was excused on the grounds

that he was really just solicitous to preserve the purity of the dogma of the first reformers (25).

Another example could be found in a work trying to prove by means of the Fathers and the Bible that Quakerism was the true religion. The author, Barclay, built his case as did other scholars, "sans oublier non plus qu'eux à dire du mal de toutes les autres sectes" (3, p. 221). He included in his attack "Catholiques, Réformés, Sociniens, Remontrans et ceux de la Confession d'Ausbourg" (3, p. 221). Bayle here presents the reader with a picture of warring groups, each out to condemn the others, the result being to make a mockery of the concept of Christian charity.

Differences of opinion often had surprising consequences. The Rainoldus brothers, Englishmen reared outside of England, in different faiths, met one day, argued so strongly with each other that they changed sides. John, who had been Roman Catholic, became a famous Presbyterian controvertist; William, who had been Protestant, developed such hatred for the Réformés that he wrote a book entitled Calvino-turcismus to prove that the Reformed religion was Turkish. So, concluded Bayle, disputes did not necessarily develop stubborness (18, pp. 757-758).

In England, during the period of the struggles between the Anglicans and the Roman Catholics when the latter were under severe restrictions, negotiations were arranged to give Catholics the right to practice their

religion. Here, Father Walsh showed that unfortunately, the Jesuits botched everything by recommending an intransigeant Roman Catholic as delegate to the discussions (5, p. 327).

The picture was not, however, all black; for in Tudor England, in spite of the animosity between the warring sects, Bayle reported that Cardinal Pole urged moeration on his fellow Roman Catholics and advocated kind treatment of heretics. The Protestant side showed equal consideration when the Marquis of Winchester, a Roman Catholic, kept his post as treasurer under Elizabeth (27, pp. 1251-1253).

Bayle's greatest praise was reserved for the English solution, discussed by Gilbert Burnet (27), to religious differences. The English break with Rome was really a series of revolutions, but, in this case, the changes were effected without the civil war that usually accompanied such upheavals: "La plus grande regueur exercée sur les Catholiques fut que l'on emprisonna, et que l'on déposa quelque peu d'Evêques . . ." (27, p. 1243).

The important lesson to be gleaned from the preceding examples, which showed exemplary behavior in religious matters as well as instances of extreme intolerance, was the variety of ways to handle the problem of sectarian views. In particular, the Nouvelles, in covering the English scene, carefully related details that showed the pacific solutions found across the Channel for religious problems similar to

those that had set Frenchman against Frenchman and torn the country apart. Bayle never tired of saying that solutions to such problems were possible; that a plurality of sects could exist together in a single country; that the people of one nation did not have to have one religion. Bayle's attack on human credulity and blind obedience to authority, his most enduring contribution to the intellectual world, was the result of his fair-mindedness, his willingness to look carefully at all claims before making any judgment, his readiness to revise his thinking in the face of new evidence.

While studies of the Bible provided rational explanations for certain otherwise mysterious happenings, the study of Church history shed light on the development of the Christian faith and revealed changes in the Church over the years. All in all, history was the most powerful weapon available in the struggles to clear away misconceptions about the Church, its past, and its teachings. Bayle's marshalling of historical evidence to show his readers the difference between tradition and truth represented a tremendous change in historical studies. As Cassirer[8] showed, Bayle's view was no longer that of a scholar like Bossuet,

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[8]Ernst Cassirer, The Philosophy of the Enlightenment, trans. by Fritz C. A. Koelln and James P. Pettegrove, Beacon Paperbacks (Boston, Beacon Press, 1955), Ch. 5, "The Conquest of the Historical World."

whose Discours sur l'histoire universelle presented a view of history based firmly on the authority of the Bible, which, in turn, derived its authority from tradition. According to such an interpretation, historical certainty rested on tradition but tradition could be evaluated only in the light of evidence from history--circular reasoning pointed out and criticized by Bayle, whose great service was to see history, not as the unveiling of a divine plan for the world, but as a discipline by which one could accumulate known facts and use them in order to root out error.[9] In fact, Bayle's original aim in writing his Dictionnaire was to correct the many errors in Moréri's dictionary rather than to compile his own independent work; he was quite content to amass facts and corrections without worrying about fitting them into a larger scheme or without trying to impose his personal vision on his findings.

Quite in keeping with Bayle's notions of history, the anti-Roman Catholic attitudes abstracted from English publications to appear consequently in the Nouvelles constantly emphasized the differences between history and theology. Accordingly, many of the reviews in the Nouvelles, like the one on Dodwell's Dissertationes Cyprianicae (41), took great care to point out traditional views and commonly accepted notions, then to present historical evidence that

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[9] Ibid., p. 207.

refuted those views or at least nuanced them. The whole effort was one of clearing out the accumulated false ideas of centuries to make room for a new perspective of history in which its truth was no longer guaranteed by the Bible and tradition.

A common idea was that pagan emperors had killed tremendous numbers of Christians, hence the high numbers of martyrs in the early days of the Church. Henry Dodwell's work (41, pp. 538-539) reported that popes and Roman Catholic sovereigns had, for religious reasons, caused the death of more people than had the pagan emperors. In fact, in the light of historical evidence, the pagans seemed amazingly mild; neither thy nor their provincial governors had been devils incarnate. A detailed review of the persecutions of the early Church by the Roman emperors revealed far fewer martyrs than had been commonly supposed; for even during the worst of the persecutions, orders went out not to torture Christians so badly that they died (41, p. 545). Of course, the action was not, as the review was careful to specify, completely altruistic; though it did prove clemency, it also prevented many of the persecuted Christians from attaining the condition to which they aspired, martyrdom. Still, whatever their reasons, pagan rulers had refrained from wholesale slaughter.

The question of martyrs to the faith brought another matter to the fore, the explanation of their courage. Of

course, the review admitted that the spirit of God working within the individual was the main reason for their bravery but there might well be others. Again, the reader could see the concern to advance a rational explanation for such extraordinary resolve. Dodwell, addressing himself to the question, discovered other reasons for the exemplary behavior of the early Christian martyrs. The austere life they led hardened them to bodily suffering just as the Lacedaemonians' difficult life made death seem preferable to existence; the thirst for glory might well be a factor, though not a major one; the prevalent notion that martyrs went straight to heaven and did not have to pass through the fire that was presumed to consume the world also helped strengthen their determination; martyrdom also conferred on those who attained it one of the privileges granted to saints, that of being able to shorten, by their prayers, the time during which the Church would have to suffer; and, finally, martyrdom was thought to be a second baptism (41, p. 549).

Such an account stressed the readily understandable reasons that might have led Christians to want martyrdom rather than emphasize explanations depending on notions such as revelation or supernatural grace. As a result of Dodwell's work, the Church appeared to the seventeenth century reader more as an organization of practical, reasonable, ordinary people whose conduct was not so mystical

or far removed from contemporary experience as one might think.

History was also used as a weapon by the Protestant camp, which never tired of announcing its intention to go back to the early days of Christianity, to the Church Fathers, for an untainted view of that faith. Actually Protestants were far more interested in unearthing items that might prove useful in demolishing Roman Catholic claims than in doing anything else. Since both sides shared a common history, at least up to the Reformation, their similarities, which got little publicity, were greater than their differences, which were usually stressed more than might be called for by a less biased judge.

The publication of a new edition of Origen's treatise on prayer gave the Nouvelles an occasion (45) to point out some of the difficulties in the Church when that work was written. Dealing with the treatise was a delicate problem, for Origen, in spite of his important role in the early Church, had been condemned for his heretical views. Now, the Protestants liked to appeal to the Fathers, of whom Origen was one, because the latter represented an early, pure strain of Christianity. For that reason they had to defend Origen, to put his work in the most favorable light possible, without appearing to foster heresy. According to the review, a survey of the early Church showed a

wide range of beliefs: the Gnostics had made prayers into magical incantations; Marcion had said that Christians must not pray to the Old Testament God; others recognized some kinds of providence, but yet condemned the use of prayer. To refute the latter group, Origen wrote his work, which was primarily a study of the Lord's Prayer with special attention to the words "who art in Heaven," a phrase which does not mean that God is in only that spot. He attacked those who, by analogy with the human body, saw the Deity in material form. All in all, the review concluded, Origen's work was a mixture of false thought and reasoning (some explanation had to be given for his condemnation) along with certain good and correct ideas. Deserving of blame was his notion that the stars are creations endowed with liberty, which they use to praise the Creator. Proof, for Origen, was the command given to the sun and the moon to praise God; from that he concluded that it was all right to pray for sunrise. That idea was bad, said the editor of the Nouvelles, but it was not so serious as his statement that one must not invoke God the Father, an opinion even worse than the Socinian heresy. The reader, then, forewarned and guided by selected examples of good and bad thinking, could read the treatise as he would. The essential point of the article was to show the adaptations and choices made in earlier days before the Church had assumed its modern form.

Going back to the first three centuries of the Christian faith meant reviving old questions that had been the subject of early Councils; for example, the Arian heresy. The purpose of such articles was to remind readers once again that the Church had not had a fixed form since its beginnings, but had evolved through the years as quarrels were settled by means of compromise. And, naturally, if going back to the early years revealed what the Protestants considered Roman Catholic error, so much the better.

One of the early important controversies aired in the Nouvelles was the condemnation of the views of Arius at Nicaea in 325 when the Council discussed the sense in which the words Son of God were to be understood. If the Son was begotten of the Father, said the Arians, who reasoned by analogy with human biology, the necessary implication was that the Father existed before the Son. The orthodox view, the one that prevailed finally, was that the word son was to be taken as meaning of the same nature, the essence of sonship being, for those of this persuasion, that the son be of the same nature as the father.

An article, reviewing a book by George Bull, an Anglican priest, had as its main purpose not so much rethinking what had already been decided as reaffirming the trend to return to the primitive Church and casting doubt on Roman Catholic claims (36). The discussion was fairly

confusing and had many digressions, but its aim was to give firm support to the Fathers, in particular to Origen, who had taught that Christ's human nature, as well as his divine, existed before the Incarnation. Upholding the orthodox view would prevent the Socinians from doing what had been done on other occasions: taking one passage supporting a favored view and holding that it should outweigh any number of passages expressing a contrary opinion. In the particular case under consideration, the Socinians, along with the Arian heretics, could take a passage where Christ was spoken of as a mere creature and count it more important than a hundred passages where the Son was spoken of as God. Actually the answer to that problem, as the review was careful to point out, was easy: since Christ has two natures, he can be spoken of as human or divine. One can deny in one passage what one affirms in another without any fear of contradiction. Thus the Fathers and orthodoxy triumph.

The second goal was to show Roman Catholic error. First, the Jesuit Father Petau had encouraged the current enemy, the Socinians, by saying that the early Fathers agreed with Arius (hence they would be considered heretical by current Roman Catholic thinking) and that Arius's opponents spoke figuratively or oratorically when they made their claims. Father Petau had also made it very difficult to reconcile his position with the tradition of his Church.

How was it possible--this was a favorite charge--to hold to the idea of the perpetuity of the faith when Father Petau admitted that in the fourth century Christians adopted a new article of faith unknown to those holy men who had led the Church in its finest days? If Father Petau was representative of his faith, then being a good Roman Catholic meant being concerned only with the decisions of a council while neglecting the teachings of the Fathers. Father Petau's thinking could be stated as follows, according to the Nouvelles: although people did not believe in the Trinity before Nicaea, they had to believe it after that Council; therefore, people had to believe everything the Council of Trent decided, no matter what their previous beliefs (if any) on a given subject. Readers sympathetic to the Protestant position were to understand that it is better to stick with the teaching of the first centuries rather than follow later Council decisions that depart from the pure early traditions.

The final irony was that an Anglican priest had come forth to defend the orthodox point of view, a reversal of roles since Roman Catholics liked to boast of their profound respect for the Fathers and to accuse Protestants, as Anglicans were considered here, of disrespect.

As the anti-Roman Catholic side constantly proclaimed its fidelity to the teachings of the early Church

and its intention to return to that primitive faith, its efforts brought attack from another quarter. According to the Nouvelles (34, pp. 105-106), the freethinkers (esprits forts), eager to belittle orthodox religion, noted, in their own study of early books against Christianity, the paucity of such works. From that fact, they hinted first, that many books containing unanswerable arguments against the Christian faith must have been destroyed by the early Fathers and second, that the only objections those Fathers raised and then answered were those for which they already had replies. Cave's work (38) gave the real explanation for the shortage of books: the temporal powers, the early Christian emperors, in their zeal to protect the new faith, had so many anti-Christian tracts burned that there is no record of them or even of the names of the authors. Once again, the reader was to understand that the Fathers were not at fault, a predictable conclusion that was part of the constant effort to present them and the early Church in the best possible light and to contrast their purity with the contemporary Roman Catholic Church, which did not hesitate to suppress evidence (44, pp. 685-686; 68).

Continued research into the early days of the Church afforded Bayle a chance to show his fascination with odd and little-known facts; in this case, it was his interest, often severely criticized by commentators, in sexual matters. The

only instance in the articles under review here came in his long review of Dodwell (41) whose Dissertationes Cyprianicae discussed in some detail the case of certain nuns who slept with young boys, while insisting on the innocence of the arrangement, which Bayle dubbed "la plaisante coûtume." Although St. Cyprian won his campaign against their sleeping together, he did not prevent their living together in a commune-like group. The proof of his lack of success was that the Church found it necessary to have rules against such behavior, which had been introduced into the Church by Paul of Samosatos, who was always accompanied by two beautiful girls. The Council of Nicaea banned such conduct only for the clergy, said the Nouvelles, because only the clergy behaved that way. But still chastity was not always the rule of those communities, the proof being St. Athanasius's comment that Leontius, forbidden to see his friend Eustolia, had himself castrated in order to be able to continue the relationship without being accused of impropriety: "Il se fit mettre en état par de bonnes mutilations de coucher avec cette amie sans qu'on le soupconnât d'impudicité" (41, p. 535).

As the preceding accounts show, Bayle's Nouvelles reflected the effort of the times to clarify accounts of earlier centuries and to make a clear distinction between history and theology, which were no longer used to authenticate each other. All through the reviews, Bayle's

comments revealed a constant and rigorous attempt to establish historical accuracy. To do that, he had first to find historical facts that could be proved absolutely, then set such facts next to falsehoods and half-truths, after which the obvious truth would dissolve prejudice. The most difficult part of the task, the most essential as well, was to find the historical facts that could be proved absolutely. Statements, even though universally accepted, were not sufficient, since universal acceptance was no guarantee against error. Facts, in order to be convincing, had to be uncontested in the sense that they offered no possible ground for objection. Once such an item was found, it was a bit of knowledge even more real than the abstract truths of mathematics.[10] Unfortunately, much of what passed for fact was simply not so; much "knowledge" had never been questioned or investigated. Bayle was more than quite willing to look into commonly accepted ideas; he welcomed the challenge, being at the same time aware of the problems confronting any determined seeker of facts.

Bayle's contribution to the attack on idées reçues was not a sustained, closely reasoned one. The method he

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[10]Delvolvé, Essai, Conclusion; Paul Dibon, "Re-découverte de Bayle," in Pierre Bayle, le philosophe de Rotterdam, ed. by Paul Dibon (Amsterdam and Paris: Elsevier and Vrin, 1959), pp. ix-x; and Emile Bréhier, The History of Philosophy, Vol. IV: The Seventeenth Century, trans. by Wade Baskin, Phoenix Books (Chicago: University of Chicago Press), pp. 291-294.

adopted with outstanding success was to drop, almost as if inadvertently, a series of comments designed to catch the attention of his readers and to shock them into examining cherished beliefs. For example, recoutning in his review of O'Flaherty's book on Ireland the legend that the stone on which pagan Irish kings sat to learn whether or not they were to rule (A noise from the stone was a favorable sign.), Bayle noted the report that the stone was silent in the time of our Lord: "Au temps de notre Seigneur elle eut le sort des Oracles, c'est à dire, quelle [sic] fut condamné à se taire" (55, p. 901). His constant reading and his encyclopedic memory enabled him to undermine the narrow-minded thinking he deplored by presenting other points of view on the important questions of the day.

One other important by-product of his life work was a series of comments on the difficulties of writing history and on the personal blind spots of historians. Although most of his remarks were made in connection with the work of older scholars, they were pertinent in the seventeenth century and remain so today.

First the historian needed good sources of information; without those, he had no hope of being able to present an accurate account of the past. As scholars realized the lack of certain indispensable aids, other investigators began to fill the need so that on publishers'

lists began to appear the essential works: accurate dictionaries, grammars, texts, and handbooks of various sorts. Since the English were active in the production and publication of such helps, the Nouvelles carefully listed, and briefly described these works, indicated their good points and their shortcomings.

Continental readers learned that a good edition of Origen had been published at a price that made it available even to impecunious scholars. It was a model of scholarship, with the text put into Latin to make it more easily readable; moreover, the Scriptural passages referred to were printed along with Origen's text. Conjectural words and passages were indicated by brackets so that readers could distinguish the editor's contributions from Origen's words. The Nouvelles further noted that such a book, now inexpensive, would formerly have been difficult to get even if one had the money (45).

Although St. Cyprian's work had been very well edited in 1682 by Fell, Bishop of Oxford and Pearson, Bishop of Chester, Bayle announced that Dodwell's thirteen dissertations on the saint's writings proved that further comments were still possible (41, pp. 532-533). Commentaries on Lactantius and on his treatise De Mortibus persecutorum were plentiful. Baluze and Sparck had already written on the subject; another commentary from Sweden was expected and so was a second (to follow his Variorum Lactantius)

from M. Galet, a minister of the Walloon Church at Haerlem (17). A brief sentence mentioned that Mr. Gale, one of the greatest Greek scholars in Europe, had produced "un si beau Jamblique" and had helped with the edition of Origen so highly praised (45, p. 690).

The Protestant emphasis on Bible study and on individual interpretation of it encouraged the study of ancient languages, especially Hebrew, so that the faithful could read the sacred text in the original. The Nouvelles called attention to a Thesaurus Linguae Sanctae, a Hebrew-Latin dictionary that was really a combination lexicon-concordance-Hebrew grammar and a necessary help for those who wanted to perfect their knowledge of Hebrew (48). A book by Robertson provided a table of irregular words in the Bible and a summary of rules for Hebrew accents in both prose and verse as well as a grammatical explanation of Hebrew verbs (49). Also mentioned but not described were Robertson's Trésor de la langue grecque (50) and Lloyd's enlarged version of Etienne's Dictionnaire historique, & géographique, et poetique (51).

As the number of books in print increased, it became more and more necessary to have bibliographic aids. Though Bayle himself seems to have had an excellent memory, he realized that others were less fortunate:

> Tout le monde doit convenir que si la mémoire n'est pas la principale piéce d'un habile Docteur, elle est du moins ce qui contribuë le plus à le rendre fort sçavant. Mais comme c'est un talent de fort difficile garde, il importe beaucoup qu'il y ait de bons gros livres qui soient destinez à la soulager, & à nous épargner la perte incroiable de temps que nous ferions à chercher dans une Bibliotheque les choses que nous voudrions éclaircir. Et parce que les livres & les Auteurs qui ne dévroient être originairement qu'un moyen d'acquerir les sciences sont devenus enfin eux-mêmes l'objet d'une science pour la quelle il faut une prodigieuse mémoire, il importe de venir au secours des gens d'étude dans ce genre là par plusieurs sortes de Lexicons (36).

Hyde's Oxford Catalog was a dictionary of authors and their published works (36). Smith, publisher of Boyle's De Specificorum remediorum, also published a catalog of all Boyle's other writings, along with their dates of publication. In case the reader did not grasp the importance of the date of publication, Bayle explained that because the Geneva edition of Boyle did not give such information, many readers would not realize that Boyle had been the first to mention "cent choses" and would not give him credit for his originality (60, pp. 1178-1179).

Cave, even more ambitious, had undertaken a monumental task, the writing of Scriptorum Ecclesiasticorum Historia Literaria, which the Nouvelles described as follows:

> . . . un Ouvrage . . . où l'on voit d'abord l'état de la République des lettres en chaque siècle, l'érection des Bibliotheques, la fondation des Académies des Ordres Religieux, l'origine & le progrés des Schismes & des Hérésies. L'on

> voit en suite la vie de chaque Ecrivain par rapport à ses Ouvrages, & ce qui concerne ses Ecrits vrais ou supposez, perdus ou non perdus, leur sujet, leur fin, le stile, le génie, la Secte, & les defauts de leur Auteur, le jugement que les grands hommes en ont fait, & enfin leurs meilleurs éditions (34, pp. 104-105).

The reader was warned that the history stopped with Luther; all information after that would have to be supplied. Such a work was a formidable challenge and Cave, fearing that he might possibly not have time to finish his great work, had begun another compilation. Actually he was revising his Tables Ecclesiastiques (first published in England in 1674), in which he undertook to characterize each century by some notable religious event. That work, considerably revised, corrected, and augmented, had been published with the title Chartophylax Ecclesiasticus, and was the ostensible subject of the preceding review (34, p. 105).

The compilation of scholarly works and the proliferation of books brought certain difficulties. One plea for brevity has a most contemporary sound: commentators with one point to make should do so without writing a whole book. Many people, complained Bayle, reluctant to publish their single idea in ephemeral form, padded out the message and published it in book form (72, pp. 120-121).

Printing the text was only part of the task; next came interpretation. Reading old text is often difficult because, as Bayle realized, men often change their ideas

much faster than they change their language. Both Aristotelians and Cartesians, he pointed out, used terms such as vie, âme, qualité, chaleur, but in quite different senses. On the surface, if one simply read the words uncritically, it would seem easy to prove that Descartes really agreed with the Peripaticians since they used a common vocabulary. However, while old authors might seem to be talking about the same subjects as the moderns, we must realize that only our faulty understanding of semantic change made the ancients seem up-to-date (28, p. 1270).

History was a controversial subject in which accusations flew back and forth; people made baseless statements; hearsay was repeated and passed off as truth. To combat such ills, documentation was indispensable. In his review of Burnet's Histoire de la Réformation de l'Eglise d'Angleterre, Bayle carefully noted two characteristics of the good historian: he knows that all his readers will demand proof, and that his duty is to tell things as they are without trying to present a pleasant picture. In writing his book, Burnet used public registers, parliamentary records, the records of two ecclesiastical courts (London and Canterbury). Much was available because, as Bayle dryly remarked, Mary Tudor's commissioners forgot to destroy all the pertinent documents, some of them

damaging to her cause. Documents are especially valuable, he was concerned to add, because the written word is more reliable than the memory of witnesses, who are subject to bias (27, pp. 1237-1238).

Another possible source of error is the distance of the historian from his subject matter. Often those living long after the event are those who spoil everything with their careless reporting while those living at the moment, even though they are affected by events, are the most faithful chroniclers. To back up such a claim, Bayle mentioned that Dodwell, for example, did not value very highly the life of St. Gregory Thaumaturgus because it was written on the basis of hearsay more than a hundred years after the saint lived (41, p. 544). The same principle applied to one of the commonplaces of Church history, the great numbers of martyrs. The figures were exaggerated, however, not by men living at the time of the persecutions, but by later writers. In reviewing Dodwell's work on St. Cyprian, the Nouvelles asked a pertinent question: If there were really so many who died for the faith in the early years of Christianity, why did not a writer such as Lactantius know about them? Bayle, discussing Dodwell's account of the early years of the Church, made the amusing comment that what is true of the stars (as astronomers discovered when they began to count the heavenly bodies)

is also true of the early martyrs: they seem innumerable, but exact counting greatly reduces their numbers (41, p. 538). Rather than read later (less reliable is to be understood) accounts, students should read those writers like Origen who were closer to the events described. Origen stated flatly, in refuting a pagan, that few died for the Christian faith and Eusebius, in his accounts, listed few. If so few martyrs were mentioned (and since martyrdom was a glorious death, there was every reason to mention it), these authors must be telling the truth. Not only that, but early Christians were very careful to find out and to list those who died for the faith (41, pp. 539-540).

The review continued the attack by pointing out that all the factual proof offered would not impress people who were used to their comfortable notions about the huge numbers of martyrs. Dodwell, too, knew that, so he did a review of the Roman persecutions, beginning with Nero. The whole tendency of his study was to show the reductions necessary in the ranks of the martyrs and to explain the probable reasons for the inflated statistics. Certainly, he wrote, Tacitus counted many dead but his figures applied only to Rome, the center of persecutions, so that the total number could not be as great as one might like to think. There were other explanations given to suggest that not all the names of the martyrs' names were on the lists--just to

balance the presentation. Dodwell said that the custom of anniversaires had not yet been established; and some thought that the ranks of the martyrs should not be swelled by the names of those who were formally accused, not of having died for the faith, but of having set fire to Rome (41, p. 542).

Trying to illustrate the importance he attached to factual accounts, Bayle gave a little example: There was the prediction, widely attributed to a scientist of Leyden and to an astronomer, of an extremely cold February 2--a prediction that came true. But people neglected to note that the following day was even colder. Later, both men involved--or said to have been involved--denied having made any such statement and were offended to think that anyone would consider them so deficient in judgment as to have done so. The point of the story, said Bayle, was to get people used to not judging by hearsay, which is "la chose du monde la plus sujette à caution & la plus fertile en fables & en Hyperboles" (1, pp. 64-66).

Historians themselves, being human, have failings that color their written accounts. Before praising Burnet for his objectivity, the Nouvelles did a rapid survey of faults to avoid and gave personal examples where possible. Some writers might be like Sanderus, making outrageous statements based on no proof at all and without realizing that they might be contradicted by authentic evidence. Others followed the pattern of Fra Paolo, who condemned

people by calmly putting down detrimental information about them. Others might write for reader groups who mistake strength of feelings for truth and who are willing to believe statements that harmonize with their prejudices (27, pp. 1238-1240).

The bad examples just given made readers aware of the pitfalls awaiting the unwary student of history. But the Nouvelles reported two cases even worse since they involved an attempt to suppress evidence. The distingished French churchman Bossuet had published a book falsely labeled a first edition. Unfortunately for him, he was caught out when an Englishman, having discovered the real first edition (which Bossuet had suppressed because of censorship in France), went on to publish his findings. In spite of French protests claiming that the changes were made only for reasons of style and word order, the English author's reply was eloquent: he put in parallel columns Bossuet's version of the Roman Catholic Church and that of past centuries so that readers could see the deceit practiced by Bossuet as he tried to reconcile two very different views (68, p. 1428). A similar case involved a controversial letter on the subject of transubstantiation written by St. Chrysostom to the monk Cesarius. The problem, one of interpreting the language of a passage, had caused the Roman Catholic Church to forbid publication of the letter. However, since the text had already been public for over a

century, some Roman Catholics felt that it would be better to publish the passage along with an explanation of the problems involved than to try to censor it (44, pp. 685-686).

Still other historians, following the earlier tradition of their profession, presumed to read divine intentions into history. Thus some Roman Catholics read in the English loss of Calais a sign of God's disapproval of Mary Tudor for not having banished all heresy from England. On the other hand, some Reformers were equally guilty since they saw the same loss as God's way of showing disapproval of the Roman Catholic persecution of Protestants. "C'est ainsi que les hommes s'ingerent de juger des desseins de Dieu," was Bayle's comment (27, p. 1249).

The worst historical account reviewed in the Nouvelles was O'Flaherty's Ogygia (55), a work purporting to give the history of Ireland from before the Flood to the year 435! The whole fantastic history, presented with only a few historical comments, made such extraordinary claims that no editorial nudge was needed to make the reader see how ridiculous its claims were. First of all, Bayle set the tone by noting that it was indeed remarkable that so clever a people as the Greeks could not leave a chronology but that a race barbare, the Irish, did. After the mild statement that the Irish claim was hard to believe but not impossible, he turned to a straightforward examination of the work itself.

O'Flaherty's history was so complete that he knew the names of the three Spanish fisherman driven to Ireland before the Flood, as well as the names of the three women and the three men who, with fifty other women, landed on the island exactly forty days before the Flood. The proportion of men to women was especially suitable for populating the island, but, because of the Flood, nothing came of that fortunate arrangement. But 312 years after the deluge, on a Tuesday the 14th of the month, Partholan and several others landed in Ireland.

Ogygia also provided the information that the house of the current King of England (probably James II) had been on the throne for 2700 years. But the Spanish had reached a new high: the Archbishop of Pampeluna, after studying the House of Austria, came up with 118 successions from Adam to Philip II; Contreras found 121 successions from Adam to the Duke of Lerma, but neither of these had a series of 76 royal generations such as O'Flaherty had found in the genealogy of the English king (55, p. 904).

To add to the wonders, there was a parallel chronology for the history of Ireland and of other nations from the Flood to 428 A.D. O'Flaherty disputed knowledgeably Father Bollandus, who had claimed that the Irish were illiterate before their conversion. The review also added that Ogygia contained good observations on the inventors of letters and

on the instability of languages. Scotia and Hibernia had once been synonymous. Since the eleventh century Scotia had been applied to Scotland but some continued to call Ireland by that name even up to the fifteenth century. The question was not without importance: a long series of kings and a certain glory would be given to or taken away from Scotland, depending on whether it could be proved that Scotia and Scoti, Hibernia and Hiberni were not synonyms. The review added a bit of gratuitous information: the three nations under the English king, being jealous of each other, watch each other closely and refute claims vigorously, just as do (the review added slyly) the German and Northern writers.

The Nouvelles announced that the second volume of the work was going to talk about the 48 Christian Irish kings; the 136 monarchs treated in the first volume were not Christian (55, p. 908).

From the remarks scattered throughout the Nouvelles, it was clear that the study of history was difficult but important. Truth was hard to find, partly because the tools of the scholar were not what they ought to be, and partly because the scholars themselves were often too prejudiced. However, by dint of work and willingness to study other points of view, men could, if they would only try, discover the pertinent facts and make judgments on them. Though the portrait of Bayle's ideal historian can be inferred from his

observations in the Nouvelles, he was more precise in the Dictionnaire. In Remarque F under the entry Usson, Bayle gives the qualities of the ideal historian who is interested only in truth, and remains unmoved by partisan feelings be they for country, church, friends, or family. If he is to fulfill his duty as a chronicler of events, he must subordinate his personal feelings to serve the greater end that is the study of history.

Because of the times in which he lived, Bayle was much occupied with questions that originated in the Reformation, which was really an intellectual, theological, and political rebellion. The Nouvelles did not much hesitate to cope with the intellectual and theological aspects of the revolt, but the political question was more difficult to treat and more dangerous since most European governments did not welcome dissident political views. However, in the review of Burnet's history of the English Reformation, the reader could get some idea of Bayle's stand on political questions, even though his views were expressed indirectly.

Bayle gave Burnet full praise for his balanced, documented report of a difficult period in English history (the changes in religion and government in that country from Henry VIII to Elizabeth I). Burnet's work told of the abolition of papal authority during the reign of Henry VIII, the continuation of the same policy under Edward VI, then of the restitution of Roman Catholicism under Mary and finally

of Elizabeth's return to Anglicanism (27, p. 1236). The points emphasized were the challenge to Roman Catholicism and the resulting changes, which were mostly peaceful ones. During the period in question, the review pointed out, three great revolutions actually took place, with less turmoil than such upsets usually entail. Though the review made no clear statement about the differences between England and France, the comparison was obvious.

In conformity with the prevailing tone of the Nouvelles, Henry's break with Rome was described as a reformation of the Church to make it resemble the early tradition: having dared to examine the question of papal authority, the English then looked at the decisions of the Councils, keeping only those they judged in agreement with the Scriptures and with the traditions of the first two or three centuries of the Christian Church.

As the Nouvelles carefully emphasized, the English religious revolutions were notable because of the comparatively short time involved (twelve years) and because of the lack of stress. Each side had treated the other with consideration and all actions were legally taken (27).

In discussing Burnet's account, Bayle and the Nouvelles skirted one of the important political issues of the day, one not explicitly treated in the journal, and that was the right of the monarch to rule. Involved was

the notion of the divine right of kings and the closely allied question of the loyalty of subjects to the ruler. When in his will Edward VI banned his sister Mary from succeeding to the throne, he was on dangerous ground. His action could be explained, said the Nouvelles, by zeal; he wanted to protect the new religion. But his action could hardly be considered right unless one were to judge the utility of the measure by its usefulness in Church policy and by what it brought to the Church. Since Protestants often accused their enemies of using precisely that standard, they would do well, opined Bayle, to abandon it (27, p. 1244).

On the subject of loyalty, opinion was divided. One camp held that a subject, no matter what his religious beliefs, owed allegiance to his sovereign first of all; another side felt that a subject should hold his religious faith paramount. On this subject Bayle's views were clear; he was no revolutionary. No matter what his sufferings under Louis XIV, he did not advocate violent overthrow of the French government. At the same time, he respected the rights of the individual conscience and could not accept the idea of forced conversions as practiced in France. The Nouvelles did not labor the subject of loyalty but did give two examples of political behavior.

One of the common charges levelled against Roman Catholics was that their allegiance was first to Rome rather

than to any temporal power. But there was proof that the Roman Catholic Church was not a monolithic body controlled by Rome, not at least in the British Isles. When Father Walsh, an Irish monk, presented, on behalf of the Irish clergy, a document condemning the claims of Rome to be more powerful than the king, he was excommunicated. The Walsh case proved that good loyal Catholics could be persecuted by their own Church simply because they upheld the idea that a sovereign should be independent and that he should command the loyalty of his subjects (5, pp. 323-324).

Contrasted with the honesty of Father Walsh's behavior was the description of Mary Tudor's deceit. Having promised her people that she wanted nothing more than the right to practice her religion in private, she rallied many fair-minded Protestants to her side, after which she instituted rapid changes to try to undo everything that her father had done. Although Burnet advanced reasons for Mary's actions (27, pp. 1250-1252) he clearly indicated that he thought she had broken faith with her subjects.

Still another solution was possible; although Bayle did not stress the point, he told of St. Cyprian's behavior when he realized that the Carthaginians were asking for him so that they could throw him to the lions. He retired, hoping that his absence might make for a calmer attitude. From that account, Bayle drew a conclusion with contemporary

overtones: Let the saint's behavior be a lesson to peevish souls ("esprits chagrins") who thought that the orders of a sovereign should be defied as soon as he attacked the prerogatives of religion and who thought that a pastor should never be allowed to yield (41, pp. 543-544)--probably an allusion to Bayle's difficulties with his co-religionist Jurieu, whose inflexible views on allegiance Bayle did not share.

CHAPTER III

A POTPOURRI OF NOTIONS ON SCIENCE

What could be called the scientific scene in the seventeenth century was a model of confusion. John Donne's lines are frequently quoted to illustrate the prevailing attitude:

> And the new Philosophy calls all in doubt,
> The Element of fire is quite put out;
> The Sun is lost, and th'earth, and no mans wit
> Can well direct him where to looke for it.
> And freely men confesse that this world's spent,
> When in the Planets, and the Firmament
> They seeke so many new; then see that this
> Is crumbled out againe to his Atomies.
> 'Tis all in peeces, all cohaerence gone;
> All just supply, and all Relation:
> --The First Anniversary (1611) (11, 205-214).

That statement, extreme for its day, was certainly applicable later in the century as old concepts were being re-examined and new explanations were being sought for old phenomena. In the field of science, which was known as natural philosophy in the seventeenth century, England, where men were somewhat freer than Continentals to experiment and test new hypotheses, was the leading nation. Led by a group of extraordinarily talented amateurs, the virtuosi,[1]

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[1]Westfall, Science and Religion, p. 14.

later organized into the Royal Society (chartered in 1662), that country was busily engaged in studying, observing, classifying, and reporting natural phenomena. Men, eager to read about the work of other investigators, began to report their results and to correspond with one another. Many of these accounts were reported in the pages of the Nouvelles, a contribution accurately summarized by Sarton:

> There are a good many scientific articles in the Nouvelles; yet, the journal concerned the world of learning rather than the world of science. The scientific articles are seldom perspicacious, enlightening, or authoritative; Bayle's curiosity was largely restricted to scientific "curiosities," e.g., anatomical, anthropological, or medical curiosities in which men of learning took some interest, because everything concerning men interested them. Bayle could see the difference between a good historical work and a mediocre one, but he had no standard to determine the relative importance of various scientific ones, no touchstone to distinguish the genuine from the false or to separate pregnant items from futilities.[2]

As Sarton stated, in spite of the many references to science and scientific experiment, Bayle was no scientist. Like Bacon, he lacked sufficient knowledge of mathematical analysis to be able to deal with many of the most interesting questions of the day. He could, of course, follow and appreciate qualitatively the work being done and the excitement caused by the new ideas. So it is that the reports in

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[2]George Sarton, "Boyle and Bayle; the Sceptical Chemist and the Sceptical Historian," Chymia, Annual Studies in the History of Chemistry, III (1950), 186.

the Nouvelles do not present a coherent picture of the progress of science, but give rather a series of interesting notes from here and there, echoes of the important scientific ideas of the day, but no extended or profound treatment or development.

During this period several scientific systems were very much talked about, each had its own followers, but no one view predominated, certainly not in the Nouvelles. Most of the articles show that scholars were trying their wings, were exploring new ideas to see whether they explained what had been observed, and were delighted by their sense of power and freedom.

> Il faudra dire desormais que rien n'est impossible à l'esprit de l'homme puis qu'il se rend maître de l'infini, qu'il peut déterminer ce qui est sans bornes. Nihil mortalibus arduum est coelum ipsum petimus industriâ (30, p. 1350).

The reviews in Bayle's journal all emphasize that what distinguished the new science from the old was the stress on experimental results, on determining what took place under given conditions, and how that happened. There was very little speculation on the ultimate cause of things; the focus was firmly fixed on experimentation and on collection and classification of phenomena. It was generally agreed, of course, that God was the final cause, but he was not often invoked except as a way of warding off hostile criticism. De Stair, for example, stated that the first principle of all was ". . . qu'il ne faut rien admettre

dans la nature qui ne s'accorde avec la veracité, la liberté, la science & la puissance infinie de Dieu" (30, p. 1337). Having pacified any possible critics with that avowal, he was then free to speculate on the workings of the universe. In a review of Willoughby's De piscibus, Bayle, musing on variations in size among animals and men living on the plains as contrasted with those inhabiting mountainous regions, wrote, "Il y a des raisons trés-méchaniques de toutes ces bizarres diversitez, mais comment les connoître ces raisons? Dés qu'on quitte la générale qui est l'infinie fecondité des voies simples dont Dieu se sert on ne trouve rien de distinct qui nous satisfasse" (46, pp. 701-702). Obviously, God was still very much present in the universe, but he was no longer so much the center of attention. Similarly, though European civilization was still very much a Christian culture, that faith was growing less important as science assumed a larger role in the intellectual life of the Continent.[3]

In general, those engaged in studying the new philosophy looked to natural science as an aid to belief. They hoped to bolster their faith[4] by demonstrating its

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[3]Westfall, Science and Religion, pp. 2-3; and Basil Willey, "The Touch of Cold Philosophy," in The Seventeenth Century, ed. by Richard Foster Jones et al. (Stanford: Stanford Press, 1969), pp. 373-374.

[4]Westfall, Science and Religion, pp. 117-118; and Manuel, The Eighteenth Century, p. 26.

reasonableness. Just as the study of history had suggested readily understandable reasons for the courage of Christian martyrs, so natural history provided explanations for Biblical miracles:

> Cette grande activité de l'estomach d'une Lamie ne doit pas empêcher de croire que Jonas y ait vécu 3. jours, car outre que Dieu le conserva par miracle, il est certain qu'il aurait pû demeurer à l'entrée de l'oesophage sans être exposé à la concoction, car on trouve souvent dans un brochet que s'il avale un poisson qui s'arrête en partie dans le gosier, tout ce qui en demeure là s'y conserve sans altération, pendant que le reste qui touche le ventricule est dissout jusques aux os (46, p. 705).

Though the end result of such studies was to relegate the spiritual element of Christianity, its most distinctive part, to a minor role, that was not the intention of the first scholars, whose goal was more accurately summarized by the title of a treatise published in Paris: Essais de Physique prouvez par l'experience & confirmez par l'Ecriture Sainte (30, p. 1346).

The ample evidence scattered through the pages of the Nouvelles indicated that the Republic of Letters realized the importance of experiment as the way to learn more about the physical world. Without experiment there could be no progress, on that there was general agreement. Scholars all over Europe were forming study groups to talk about what they had done and to correspond with their fellow

researchers in other countries.[5] Bayle mentioned having got news from London: he learned that Dublin and Oxfort [sic] had academies where work to advance knowledge was going on. Results would go to the Royal Society (2). Even earlier in Italy a group had been at work and he gave this optimistic report:

> Le temps est enfin venu où la physique peut faire de grand progrés, puis qu'on s'attache par tout aux expériences raisonnées. C'est le meilleur chemin qu'on puisse tenir pour arracher à la nature son secret, c'est pour cela, dis-je, qu'on est si fâché qu'une telle Académie ne subsiste plus (23, p. 978).

The same article went on to remark, without giving any details, that the Academy of Cimento had done work and that Waller of the Royal Society had published a collection of the Italian experiments done under the patronage of Prince Leopold de Medicis. Though that academy was no longer in existence, Bayle expressed the hope that groups in Paris would adopt the new principles (23).

The publication of the collected experiments mentioned above illustrated a trend, the compiling of existing knowledge on a given subject so it would be more readily available. For example, the Nouvelles reported a collection of chemical operations, recently published, that would be useful in both medicine and chemistry since it was codified

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[5]Herbert Butterfield, The Origins of Modern Science (1300-1800) (London: Bell and Sons, 1950), p. 11.

for easy reference. In addition to lists of operations, it also contained chapters of technical terms and on apparatus (10). Another short note told readers that Robert Boyle had written up his experiments on human blood and its properties: odor, taste, ease of congealing and of reconstitution, and the proportions of serum to solids. He dried blood, burned it, and noted the results "d'où on peut retirer divers usages pour la Medicine" (7). However, no details were given to explain just how medicine was to profit from Boyle's work.

Science was not Bayle's strong point but still he wanted his readers to know what work was being done and what titles were being published. His usual solution was to list titles, with the authors if he knew them, and then to give a short description of the contents. For example, he published a letter from London that gave his readers the following information: Boyle had put out a Traité des eaux Minerales d'Angleterre. Traité de menstruis mulierum and De motu circulari sanguinis had appeared (the letter indicated no author for either treatise). Wallis, in a thick in folio work, had proved that in algebra Descartes took everything from Harniottus, as Roberval had recognized. A book, with a big map included, on the draining of marshes in England, was available, as was Officina Chymica

Londinensis opera Nicol. Staphorst. The posthumous works of Barrow contained only mathematics. Morison's Historia plantârum rariorum, Ray's De plantis, and Willesgbejus (Willoughby's) De piscibus were well thought of (16).

In addition to publishing bulletins like the preceding example, the Nouvelles put out many brief notices, which sometimes served to announce works to be dealt with in detail later on, sometimes only to indicate publication. Short notices were given to Abercrombie, a doctor already known, the Nouvelles reminded readers, because of his method of curing venereal disease without the use of mercury and the resulting mercurial salivation; the doctor had written De variatione pulsus (57). Another note informed readers that Thomas Wharton's Adénographia sive glandularum totius corporis descriptio reported that saliva has its special ducts; Wharton was the first to find one (26). Still another bulletin said that Burnet--and the Nouvelles warned readers that he was not the Burnet who wrote Sacra theoria telluris--had extracted, for those lacking time and patience, some useful parts from Hippocrates. An additional note mentioned that publication of Burnet's work was urged by Sibbaldus, well known for his natural history of Scotland (33), later treated in some detail. Other short notes informed readers that the Journal d'Angleterre for June 1685

had published observations about an experiment carried out by the Royal Society using a piece of asbestos (62). Thomas Gage had, according to the Nouvelles, made remarks about chocolate (13) but readers were not told what he said.

The works on natural history, which got longer and clearer reviews than those on physical science, marked the beginning of interest in the systematic study and classification of plants and animals. The trend was sketched in Scotia illustrata, a work in two parts published by Robert Sibbald, M.D. The first section dealt with the air, the water, the places and inhabitants of Scotland, while the second talked of plants, cultivated and wild; animals, domestic and wild; minerals, metals, products of the sea. The whole was preceded by a geographical description of Scotland (11). Though that account sounded fairly comprehensive, readers were promised even more: ". . . ce n'est qu'un essay & comme un avertissement d'un grand Ouvrage intitulé Atlas Scoticus . . ." a work commissioned by His Britannic Majesty (11).

Many volumes were merely mentioned since Bayle's role was primarily to popularize new ideas and to familiarize his readers with the latest developments in the Republic of Letters. Occasionally he paused longer to present a more explicit account of a work. De piscibus (46), sent him by the Royal Society, did not, said the

Nouvelles, lend itself to detailed treatment, but it did get, nevertheless, a more extended review than most. The Nouvelles informed its readers that the work dealt with creatures that lived in water ("aquatiles"), having blood and fins but no feet and hardly able to live anywhere but in the water. Four volumes made up the study: the first talked of fish in general; the second, of Belluas marinas, of whales and the like; the third, of those fish called Cartilagineux by Pliny; and the last, of several other sorts of fish with bones.

The summary also mentioned fish biology. The work discussed the question, Can fish hear? The answer was affirmative but the organ involved was not known; it might, so the speculation went, be connected with the olfactory system. The respiration of fish was not easy to explain but the fact that fish died under ice proved that they need air; De piscibus upheld the idea that fish breathe, and recognized the existence and the purpose of the swim bladder. Also discussed were the longevity and the eating and reproductive habits of fish.

Mostly the review concentrated on odd facts, the sort of curiosities that especially enchanted Bayle. It was odd, he thought, that the largest fish (the whale was considered a fish in the work) lived in the coldest water of the north; the reverse was true of animals, for the elephant is a tropical beast. The second volume on

dolphins, porpoises, and whales ("Ces énormes masses de matiére animée") (46, p. 702) and their ability to hear and breathe would please the curious, opined the review, adding that there was nothing to the old tale that a fish guided whales as they swam about.

Then, continued the review, came a long treatment of the Monoceros (swordfish) with a curious example: a fish with two horns instead of just one, caught by the crew of a ship of Sr. Peterson of the Greenland whaling fleet. Next was a discussion of the Lamia (shark); readers learned that it was probably a fish of this group rather than a whale that swallowed Jonah. This fish, the most voracious of all, said Francis Willoughby, dissolves its victims in the shortest time possible. As for the electric ray, the old tale of its numbing force was not completely false, according to the review, a fact in which the Moderns ("quand ils sont honnêtes gens") (46, p. 706) take pleasure. There are, however, others ("qui ont l'esprit mal tourné") (46, p. 706) who delight in contradicting old authorities. According to the Nouvelles, Willoughby was a model; he gave credit when and where it was due, corrected errors for the edification of his century and of posterity.

The last volume of De piscibus, obviously a miscellany, gave odd bits of information about herring fishing and Guillaume Buckeldius (whose tomb Charles V had visited when

he was in the Low Countries), who had found out how to salt and preserve herring in kegs. The final praise for the author indicated his special merit and showed that he belonged to the new breed of scientists, those who checked their information before presenting it to the public:

> Ce qu'il y a de bon dans cet Ouvrage c'est que l'Auteur a vérifié tout ce qu'il rapporte, s'étant promené pour cet effet dans plusieurs Ports & dans plusieurs Poissonneries de l'Europe. Sa diligence lui a fait découvrir plusieurs sortes de poissons qui n'avoient pas été encore décrites dans les livres (46, p. 707).

John Ray's Historia plantarum also got a long and quite detailed treatment in the journal (63). Ray's work was especially important, for he had abandoned the old ways of looking at plants for their medicinal virtues and had looked at them logically; that is, according to "leurs accidens, leurs parties, & leurs differences" (63, p. 1318), after which he had arranged them into species and subgroups. This work marked the beginning of the systematic classification of plants, the collection and consolidation of the work of other botanists, and the clarification of the botanical nomenclature. The guiding principle was "de ne pas multiplier les especes sans necessité" (63, p. 1319), a principle not always observed by earlier students.

The review explained the function of leaves ("Elles servent à digerer l'aliment & à le renvoier bien preparé aux autres parties" (63, p. 1321); explained studies of fecundity

by giving an astonishing illustration: A seed of tobacco produces a plant that gives 360,000 seeds (63, p. 1321). Efforts were made to give rational explanations for the actions of plants like the sensitive plant, which reacts when touched: that happened, said the article, because touching it compressed and shut off the little tubes that carried the sap to the affected part; then the deprivation of the vital fluid caused the touched part to droop or shrink (63, p. 1320).

Ray, according to the review, gave examples of outsize trees (with examples from Germany, the Congo, Malabar, Cochin-China, Barbados) along with their ages (63, p. 1323). The medieval notion of signatures was rejected in the work (63, p. 1324), and Ray scoffed at those who used the stars and the moon to determine the best harvest dates (63, p. 1325). And, added Bayle, ". . . il a bien d'autres conseils à nous donner, tout autrement fondez en raison" (63, p. 1325).

In Ray's work, plants were studied in ascending order of perfection, perfect being those that reproduce sexually and produce seeds. The lowest group, the mushrooms, had no seeds; then came the ferns, explained the Nouvelles, with seeds visible only under a microscope (63, p. 1325).

Though there were plants like the acacia called pudiques or vergogneuses, the poppy was not one since the

Turks used opium--and this is the sort of detail dear to Bayle--as an aphrodisiac, as did the Chinese, in whom it produced truly remarkable results: even courtisans fled, unable to stand the "fureur" (63, pp. 1328-1329).

At the end of the review, a note gave additional data about Ray and his work: he had also worked on a history of birds and fish compiled by Willoughby; he had published, too, in 1670 and 1677 the catalog of plants found in England and the neighboring islands and in 1673 he published the catalog of plants he had noticed in the Low Countries, in Germany, in Italy, in Sicily, on the island of Malta, and in France. His Methodus plantarum was printed twice, in 1665 and in 1682 (63, p. 1330).

In the course of the review other works are mentioned but no details are given: two works by Grew, La fécondité du pavot blanc and De Saporum causis et differentiia; Harley on La grosseur et l'âge des arbres; Plot, Histoire naturelle de la Province d'Oxford, and Slare, Observations sur le tartre.

As Sarton's criticism suggested, Bayle was not a reliable reporter of scientific works. His written reports were not particularly lucid, although the accounts of biological science were somewhat clearer than those on physical science. Trying to follow his explanations is difficult because the reports begin fairly well with a statement of the problem, but soon jump from point to point, usually

without transition, as he singles out odd bits of information which he finds especially fascinating and which then often serve as points of departure for long digressions having little to do with the subject at hand.

When the going becomes too difficult, Bayle gets out of trouble by sending the reader to the original for more details. Points that do not capture his interest, even though they may be important, are barely mentioned, while others, quite minor, get full attention because they appeal to him. Some of the scientific explanations, especially those of the siphons and the perpetual motion machine, are accompanied by diagrams more confusing than explanatory.

However, certain topics get more play than others. Fluid flow, a fascinating notion, provides material for several columns (14) describing its effects and reporting the results of observations, mostly on the behavior of water in siphons. Although Torricelli's work was known, scientists were still toying with the notion of raising water to any wanted height. De Stair speculated that water issuing from natural fountains might have originated from the sea rather than from rain and melted snow. The sea water, he said, could rise to a height of 30 feet in certain pores of the earth, from which fact he deduced that water might be able to flow into subterranean reservoirs. Then it could, by a sort of switchback system, not specified,

rise another 30 feet and so on to any desired elevation (30, pp. 1347-1348).

Two articles discuss the problem of particles suspended in a liquid medium. Especially interesting is the case of particles of mercury suspended in spirit of niter, where the liquid remains clear in spite of the floating metal. The result is difficult to explain, for, as the review pointed out, each particle of mercury had to be heavier than each equal part of acid. Parallels were drawn to the case of dust particles suspended in air and to sand particles floating in water. The conclusion was that little particles of liquid were constantly in motion, even though the observer could not see that motion, and that the movement kept the mercury particles from recombining and falling to the bottom of the vessel (9; 12).

Another experiment with an accompanying diagram proved that liquids press on the bottom of a container in proportion to the height of the liquid, not according to its mass or specific gravity (70).

When it was a question of explaining the universe, the pages of the Nouvelles presented a generous mixture of ideas old and new. There was general agreement--more tacit than explicit--on the existence of God, but very little on the composition and functioning of his creation. The longest and most important philosophical exploration of the

physical universe was the review of Boyle's De ipsa natura (66), in which he wrote as a believing Christian who did not want to attribute to any abstract term such as nature what properly belonged to God. The real danger of the concept of nature was that it distanced man from God and was basically harmful to religion, a structure Boyle wanted to preserve.

Nature, after all, was, explained the review, a creation of the human brain, hence naturally inferior to God's wisdom, which reigns supreme in the universe. To investigate the question Boyle first did some analysis: what is the meaning of nature? He called it a complex term suggesting a lack of perfection on the part of God, almost as if nature were a necessary intermediary between the Creator and his universe. The word nature, an elusive one, may mean no more than that "les corps agissent les uns sur les autres d'une maniere qui repond aux lois generales du mouvement que le Createur a etablies" (66, p. 1388). Boyle, after eight sections of analysis, concluded in favor of rejecting the idea of nature because it did not explain what happens to matter. His feeling favored religion because the Bible attributes everything to God without mentioning nature at all (66, pp. 1401-1402). The notion of nature espoused by the Peripaticians gave, he thought, support to the impious, to those who believe in a world soul, to which they attribute divine qualities. Even if we cannot explain

phenomena by mechanical principles (which Boyle was trying to do), we must reject the idea of nature since it interposes a concept between man and God. It further posits a force which is not God but which acts constantly in the universe. Such a notion tends to incline men to idolatry and to undermine faith since they attribute understanding and feeling to natural bodies.

In discussing the phenomena of the physical world, most of the articles resorted to explanations involving what were variously called small particles of matter, or atoms, or corpuscles. The actions of these units, never very exactly defined or described, were the basis for accounting for physical effects observed. No one system got official sanction; Gassendi could be mentioned, but not with complete approval since his thinking might lead to materialism. Aristotle was clearly discredited; when his arguments were mentioned, it was to make fun of them and of those who held them. Neither did the Cartesians get complete sympathy, though Descartes' reliance on God to set his system in motion got approval. The strongest impression resulting from reading is that of a great number of possible theoretical explanations of natural phenomena. For example, the review of De Stair's Physiologia nova experimentalis (30) showed a man who ranged widely, assimilated what suited him, combined and recombined ideas. Not content with the work of

Ptolemy, Copernicus or Tycho Brahe, he proposed a system of his own, made up of parts from theirs. His explanation was not given in detail, probably because it was too complicated for Bayle, and did not basically interest him, for he referred his readers to De Stair's original text rather than trying to give them a summary of it (30, pp. 1342-1343).

By reporting in detail some of the works, by sending his readers to the original works for fuller explanations, by listing briefly the numerous topics in English publications, Bayle managed to convey to his readers a sense of some of the exciting work going on abroad and to make it especially evident that the new science held greater promise of explaining the world than did the old scheme. Because there was almost no extended development of any one topic, it is impossible to present more than a sampling of the ideas that Bayle, in his role of vulgarisateur, tossed out to his readers.

The material in the following paragraphs, abstracted from various articles, indicates the sort of hodgepodge presented to the readers of the Nouvelles. Two theories of light were mentioned: some, like the Stoics, think the sun a flame, which, needing fuel, is fed by ocean vapors. The same idea is held by people like Gassendi; he thought that light consists of a perpetual flow of corpuscles (30, pp. 1345-1346). On the other hand, the Cartesians said that

the sun presses all around on the globules of the second element surrounding it. De Stair did not embrace the corpuscular theory nor did he completely agree with Descartes; he thought, rather, that light was transmitted by lumious bodies that dart out and hit the matter surrounding them (30, pp. 1345-1346).

The ebb and flow of the tides was a fascinating subject, much talked about but not satisfactorily explained. Galileo's accounting for the tides by the diurnal and annual movements of the earth did not explain why the tides do not recur exactly every twelve hours. John Wallis, an English mathematician, put out a sketch of his theory, hoping, he added, that someone with more leisure than he had would develop it further (6). Wallis, working within the Copernican system, held that the moon revolves around the earth every month in such a way that the orbit described by the earth in its revolution around the sun is not described by the center of the earth but by the center of gravity common to the earth and the moon considered as a single system. But he recognized that the biggest problem was the lack of accurate observations of the tides, which vary considerably, probably, he added, because the days are not exactly 24 hours long (6, pp. 411-412).

Astronomy figured briefly in a series of theses from Oxford. Though the theses were termed Pythagorean by their

author, and though, conceded the Nouvelles, he might have gone back to that source, he could have got all his ideas from Gassendi. The purpose was to argue against the Aristotelians and to refute their notions. The points made were that the skies are fluid; that the earth moves on its own axis; that the rays of the sun are a body. These statements got no further clarification in the journal; the other three, which obviously suited Bayle better, got amplification: that the earth is not the center of the universe; that the moon is a habitable country; that the sun is a flame. The arguments summarized in the Nouvelles to support these ideas were not especially convincing. For example, the earth, said the review, is not the center of the universe and those who think so just because the sky seems to be a vault above them fail to realize that travelers always think, no matter where they are, that they are in the middle of the celestial vault. The similarity of the physical features of the earth and the moon seems to indicate to the author that both bodies are inhabited, though he is careful not to specify the sort of life to be found on the moon. The sun, since it is a flame, needs fuel and is fed by the ocean vapors. If the latter are lacking, nature makes up the deficiency elsewhere in a manner not explained (6, p. 404).

There was no general discussion of matter in the sense of a comprehensive theory to explain the physical

world. De Stair's view (also that of a Spanish Jesuit, Arriaga, said the review) was that matter is a series of indivisible points which God then combines to form little bodies. The difference between the latter and Gassendi's atoms, it was explained, was that De Stair's could be divided by God's omnipotence. De Stair also attacked the Cartesian denial that matter can have active faculties and he held--again along with Arriaga--that the prime quality of matter is not extension but impenetrability (30, pp. 1336-1339).

As for the constituent parts of matter, there are echoes of the old notion of the four basic elements: earth, water, fire, and air. The salt-sulphur-mercury idea is mentioned but not elaborated. Those old Scholastic notions are being replaced as experiments reveal their inability to explain observed phenomena, but the new system is not discernible in the pages of the Nouvelles. The one clear trend is the use of mechanistic explanations: whenever natural processes have to be explained, the favorite solution is to resort to the notion of particles of matter behaving in a certain way. Particles feed the sun; the sun transmits light by pressing on surrounding particles; particles, agitated by heat, keep other particles in suspension.

Two men, however, spoke about the workings of the universe in somewhat more metaphysical terms. George Rust, Bishop of Dromore in Ireland, wrote a Discours sur la vérité

to explain that objective truth resided in the eternal and unchanging connections among things. God does not make these connections, however; he finds them already established (although there was no explanation of how or what established them or how they were established) and he then observes them. The bishop then answered objections, though none were given in the review, so as to show the absurdities and impieties that resulted from holding contrary views (32).

Henry More, an English metaphysician, had written an Enchiridion Metaphysicum, combating Cartesian notions, because he felt that explaining all natural effects according to law of motion did great wrong to religion (21). But, Bayle reminded his readers, according to Descartes, only God could execute natural laws so that the Cartesian statement was really a clearer and stronger one against impiety than More's idea of some sort of incorporeal and insensitive cause, a soul or spirit of nature that moves bodies. That latter principle, one espoused by the Cambridge Platonists, is a hylarchic one and, though this was not spelled out in the text, would presumably lead to some sort of materialist explanation of the universe.

Nowhere, in the articles from England, is the idea of particles better illustrated than in the reviews of Boyle's work, De specificorum remediorum, which was the object of a long review (60). In that work the corpuscular

philosophy advocated by Boyle seems to clash with the idea of specific remedies; the problem is to show that the two notions are compatible. The old idea that has to be refuted is that all phenomena have a cause, something like heat, dryness, wetness or the like; hence there must be, according to such a view, a reason why a specific remedy acts as it does. However, examination of a specific remedy like quinine gives no clue to its manner of working; the relation between the illness, malaria, and the remedy, quinine, is simply not clear. Boyle's account, summarized in the Nouvelles, emphasizes the new idea of corpuscles that have shape, weight, motion and that act according to mechanical principles, that is, that there is actual mixing of the corpuscles of an ointment, say, with the corpuscles of the body. Thus, the corpuscles (small particles of matter) of a specific remedy actually come to grips with those causing illness.

Boyle, according to the review, after defining the term specific remedy and giving his reasons for being persuaded that such medicines exist, proposes a difficulty: any medicine undergoes change after being swallowed since it gets mixed up with the contents of the stomach and since part of it surely is excreted. That is not a serious objection, according to Boyle's reasoning, because Galen's followers have the same problem and the same accounting to do when they talk of their sudorifics and their cardiacs.

As the Nouvelles summarized them, the mechanical actions that can be accounted for by the corpuscular theory are dissolution, deadening, precipitation, strengthening, dilution, union. As the review describes the deadening action, there is a corpuscle-to-corpuscle struggle; the specific remedy can dull or remove the points of acids or it can surround the points much as a sheath encases a sword. The result is the same; since the acid can no longer cut or slice with its projecting points, it is rendered innocuous.

The second part of Boyle's dissertation, the one demonstrating the usefulness of simple remedies, is only mentioned in passing.

Just as Boyle looks to the corpuscular philosophy to provide an explanation of specific remedies, so Sylvius hunts for a mechanical cause for fevers (71). His idea, as summarized by the Nouvelles, is that the blood, when it circulates slowly, heats up and produces a fever. In his mind, fevers result from a disproportion in the mass of the blood, followed by a corresponding difference in heating and cooling and a consequent impaired circulation. The discomforts accompanying fevers can also be explained by irregular corpuscles that produce unbalanced mixtures of blood particles and interfere with proper bodily function. There can be other possible causes--mechanical, too--besides irregular mixtures of blood particles; for example, because of pressure on particles of matter, passages can be blocked so that

particles do not travel freely and then they become increasingly acid. The natural ferment of the blood particles can be changed by glandular obstructions so that the natural symmetry of the blood is upset.

According to Sylvius's theory, the cure for a fever is to give medicines that have a heating effect on the blood. Increased circulation, not blood-letting, is the answer to the difficulty, since the mechanical cause of the fever demands a mechanical cure. Sylvius recommends camphor but there is no explanation of the way it works.

As his thinking is summarized, Sylvius takes as his basic notion the idea that good health depends on the union and balance of parts of the blood and the chyle. The mechanical principle is again used to explain that the corpuscles of these two substances mesh with each other. This they do by using their points well and by not wearing them out by constant friction against other particles. The goal is to attain the balance mentioned previously so that the particles can pass freely through the pores without clogging or distending them to produce illness.

To his work on fevers, Sylvius adds a treatise on what he terms imperceptible transpiration, a phenomenon also based on mechanical principles. Foods are distinguished from each other by the distance between the particles composing them and the arrangement of those particles.

Sylvius, along with the Cartesians, supposes a subtle matter circulating among particles and moving them. If this subtle matter cannot escape through the proper pores, said the Nouvelles, it produces an agitation called natural effervescence, which in turn carries off certain aqueous and volatile particles--an absolutely necessary action that takes place in every part of the human body. The mechanism, as he sees it, is that little corpuscles come from the blood, compress the air, and cause subtle matter to occupy their former places. Without this process, the blood would not have enough motion to resist the weight of the air, he thinks. If, in fact, this imperceptible transpiration were visible, we would appear surrounded by a cloud, since we lose more material this way from our bodies than we do through passing urine and feces.

The same Sylvius is responsible for a report on a girl, born in Waterford, Ireland, who sprouted horns like ram's horns at the joints of her arms, feet, and hands, including her fingers and in fleshy parts of her body like her buttocks and breasts (53). The Nouvelles provides a full description, with accompanying sketch, of the child's body, of the horns, and told of the efforts made to pull out the horns or to wear them away. The case is quite different, Sylvius stresses in his letter, from that of the Italian noble who had an abnormal growth of nails on his hands and feet; these are real ram's horns.

Again, Sylvius relies on mechanical principles to provide an explanation of the case. When the sperm fertilizes the egg, the great variety of resulting particles makes possible a proportionately great diversity of results. His account is based on the passage through pores of viscous and aqueous material and the consequent development of a whole network of vessels and tubes. The horns resulted from a combination of viscous matter and volatile particles. Viscous matter, propelled through body passages by volatile particles, finds its way to the extremities where it passes through the skin. Then the volatile matter is dissipated and the viscous particles, hardened by the air, take the form of nails, or, in this case, of horns.

The girl's body had, at conception, Sylvius feels, more viscous particles and less diluting matter than usual, a disproportion that brought about a corresponding change in the tubes and vessels of her body. The viscous part of the chyle then became even thicker as a result of her peculiar constitution. The excess viscous matter joined with what was already present at the extremities to form horns instead of nails and the excess found other channels, already formed, through which it passed and resulted in the horns, as described.

The articles on science in the Nouvelles, though they were neither plentiful nor very accurate, did serve

to praise the Royal Society and the English and to give Continental readers an idea of the interests and activity across the Channel. What did emerge was a small chapter in the long controversy between vitalism and mechanism. As Dampier points out, those two concepts have alternated for the last three hundred years.[6] The Cartesian physics sharply differentiated mind and matter and found that the latter could be described in terms of certain laws of motion. So biology--for it occupied by far the most prominent place among the scientific articles from England--was to be explained by mechanistic notions. Boyle's corpuscles, moving about, colliding with each other, meshing with each other by means of projecting points, wearing each other down by friction--all the accounting for biological phenomena by laws of motion put the reporting in the main stream of seventeenth century scientific thought, which was primarily mechanistic.[7] As a matter of fact, the science described in the Nouvelles is really a revival of the old Greek atomic theories, which had been recently given new life by Gassendi. Though the ideas of the latter were widely known and used--as Boyle used them in his explanations of the motions of corpuscles--Gassendi's name was not generally mentioned,

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[6]Sir William Dampier, A History of Science (3rd ed. revised and enlarged; Cambridge: At the University Press; New York: The Macmillan Company, 1944), p. 370.

[7]Westfall, Science and Religion, pp. 17 and 92; and Baker, Wars of Truth, p. 30.

or, if it was, it was hedged about by cautionary statements since he was a dangerous man: he looked to matter, not God, for the source of reality. But the corpuscular theories discussed in the Nouvelles differ in one important respect from the old atomic theories: in the seventeenth century "there was assumed to be rationality in the mechanism itself--indeed, the corpuscular theories were the result of the search for rationality, and even part of the urge to justify God."[8] The broad difference, then, between the old theories and the new was the substitution of a rational mechanism for the chance that had governed the world according to the older view.

Along with Bayle's real interest in scientific work and his sketchy understanding of it went a very unmodern curiosity about the soul, its generation and its qualities, and in witches. These topics, which got more than cursory attention in the Nouvelles, were dangerous, as is evident from the gingerly treatment accorded them, with carefully worded discussions so that a reader could interpret them as he chose. Even when Bayle appeared to condemn what he termed "sentiments un peu bien creux" (21, p. 976), the fact that he mentioned them in some detail was significant since it was a way to get them into circulation. If Bayle were called to account by censors, he could always claim to be doing nothing more than reporting on a serious work for

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[8]Butterfield, Origins, p. 100.

his readers, who, after all, were eager to learn what the English were saying. No matter what his intentions--and since no one can be sure what they were, speculation is idle--he conveyed a number of notions not sanctioned by orthodoxy.

The discussion of the soul was ambiguous; while More's and Glanvil's ideas (the two men were not always clearly distinguished) were mentioned in what seemed to be a disparaging way, they merited several columns. More, in particular, got credit for great "esprit" while at the same time he was termed a "Platonicien outré" (21, p. 976) whose ideas were rather superficial, wording designed to protect the journal from the wrath of both sides. Several of More's ideas were set forth: souls, which pre-exist before they are joined to the body, are attracted to come down to be united with the body when the unformed embryos give off a subtle odor. In other words, much as birds of prey, went the summary, are attracted by game, the soul was said to be attracted to the body. But More was not a complete Platonist: he held, for example, that souls, attracted by the odor of embryos, confine themselves voluntarily in bodies, whereas Proclus, a Neoplatonist, held that they were so reluctant to lodge in souls that demons had to chase after them (21, p. 974). The burden of the work was to prove, of course, the existence of the soul against the arguments of those who doubted both its existence and its immortality.

The study of the soul was also pursued by Glanvil, who claimed to be proposing the old idea of the pre-existence of souls only to prove, said the Nouvelles, divine attributes and to make the Divinity more worthy of adoration. Whatever the reasons, opined Bayle, espousing that notion was dangerous since it meant that he sided with the condemned Origen, who had held that all souls were created at once. To support his thinking, Glanvil added comments against the creation of souls by parents (traducianism, a sensitive subject since it seemed to involve God in illicit sexual activities); he upheld the idea of pre-existence of souls by references to Scripture, by metaphysical principles, and by answering objections, although no examples were given in the review. The review went on to point out that all this material needed examination, as did Glanvil's comments on the states of the soul (aerial, etheral, terrestrial), on the final conflagration and the subsequent restitution of everything. The editor concluded that all the preceding notions meant wanting to restore Origen (32), whether such a result was good or bad was left to the reader.

Glanvil also turned his attention to witchcraft and wrote Saducismus Triumphatus to refute Webster's investigation of the story of the Tedworth ghost and to prove the existence of witches and diabolical apparitions. From that work seven statements were printed in the Nouvelles. Two

had to do with Biblical subjects: first the angel that accompanied Tobias was the soul of Asarias, incorporated, after leaving his body, in the heart of St. Raphael; and second, the soul of Jesus Christ actually appeared to the Patriarchs. Four dealt with the supposed mechanism by which souls act: first, souls exist before entering the body and are always accompanied by an ethereal matter that serves them as a vehicle; second, during life a man's soul, sustained by its accompanying ethereal matter, can leave his body for a time--that is how witches go to revels; third, by force of imagination the soul can imprint on the ethereal matter the form of an animal and can wander around for a while in that form; fourth, should ethereal matter in an assumed form receive a blow, it can, by the same force of imagination, imprint a similar wound on its real body when it is reintegrated into that body (just as a mother can imprint her foetus); and last, on the subject of witches, it is not absurd to say that devils suckle at the breast of witches, that they are nourished by witches' milk and that at the same time they strike the witches with a subtle poison to derange them mentally (21). Belief in witches was fading rapidly as the new philosophy changed men's ideas of the workings of nature, but the review shows that such speculation had not died out completely and could even captivate the mind of a Bayle.

CHAPTER IV

CONCLUSION

The Nouvelles de la République des Lettres under the editorship of Pierre Bayle was an important agent in attracting attention to the new ideas coming out of northern European countries, especially England, as those nations replaced Latin countries as the leading centers of intellectual activity in the western world. Because Bayle realized very early, long before the eighteenth-century travelers who usually get credit for the discovery, that England was a fertile source of new ideas, he looked to the island for inspiration and leadership. England, with a freer intellectual climate than that of most Continental nations, was open to the developments that grew out of the revolt against the Aristotelianism of the medieval world. By praising English accomplishments, Bayle managed to suggest improvements and changes that might be made on his side of the Channel.

Bayle, settled in exile in Rotterdam, was at the crossroads of Europe where the lively Dutch publishing industry provided a constant stream of books to read and where the liberal Dutch government allowed him to print

fairly much what he wanted. From 1684 to 1687 he put out his Nouvelles de la République des Lettres, a splendid vehicle for doing what he did superbly well, vulgarisation. In a steady production of articles, brief notices, and reviews, he told his readers what was happening in the Republic of Letters. He publicized new ideas, which he then examined critically; he questioned traditional beliefs; he pointed out inconsistencies, especially in questions of theology and history.

Most of his great store of intellectual energy was devoted to the Protestant-Roman Catholic debates. Having first-hand knowledge of both sects, Bayle became disenchanted with their narrow-mindedness in matters of dogma and with their partisan interpretations of the past. From his participation in the controversy came his strong belief in the right of the individual conscience to believe what it deemed pleasing to God and his emphasis on the importance of accurate historical studies.

Though no scientist, Bayle had a commendable interest in and appreciation for the new spirit that had spurred the formation of the Royal Society. He did his best to keep his public informed about current scientific experiments, and, if his information is often utterly inadequate, he at least got into circulation the names of authors and works and conveyed some idea of what they were doing.

By dwelling on points that fascinated him rather than trying to cover all aspects of a work, Bayle often falsified somewhat the contents of the works he was evaluating, but his good intentions were evident: he wanted to share his catholic interests with French-speaking Europe. For seventeenth-century readers who knew no English at all, the Nouvelles presented, in a readily available format, samples of what the English were discussing and reading. An even more instructive study would compare the English works reviewed in the Nouvelles with the evaluation in that publication to discover just what distortions occurred in the transmission of ideas to the Continent. Such a study would permit greater understanding of the perennial difficulties the English and the French have always had in appreciating each other's culture and would illuminate the special strengths and the blind spots of each civilization.

APPENDIX

LIST OF ARTICLES FROM AND ABOUT ENGLAND APPEARING IN THE NOUVELLES DE LA REPUBLIQUE DES LETTRES (MARS 1684-FEVRIER 1687)

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During the period of Bayle's editorship, the Nouvelles de la République des Lettres published roughly 3734 pages of text, most of which came from Continental sources. Of this total, however, approximately 352 pages, or roughly 10 out of every 100 pages, dealt with material from and about England. These 352 pages giving a fairly extended treatment of a specific work do not include the brief mentions, usually less than a half page, in which Bayle announced by author, title, and brief description, books soon to appear. Nor does the total include the many one-line references that appear scattered through other longer articles from England or the Continent. The increasing interest in English matters is reflected in the number of entries for each year: the following appendix shows that there were only 11 entries for the year 1684 but that the last full year of Bayle's direction, 1686, produced 37 entries. In addition, the later reviews tend to be longer and more detailed because readers wrote to reproach him, as

Bayle remarked, for not saying enough about what they wanted to hear.

1.	mars 1684	Extrait d'une lettre écrite de Londres (pp. 62-66). News of work going on in the scientific community of London.
2.	avril 1684	Report taken from the Journal des Sçavans 1684 (pp. 210-211). News of academies of Dublin and Oxfort [sic].
3.	avril 1684	ANTIBARCLAIUS, id est examen Apologiae quam non ita pridem Robertus Barclaius, Scoto-Britannicus pro theologia vere Christiana edidit, institutem in gratiam Evangelicorum (pp. 220-222). Mostly devoted to Barclay's work, the goal of which was to prove that Quakerism is the true religion.
4.	mai 1684	Pacificatorium Orthodoxae Theologiae Corpusculum. Sive brevis Juniorum, & ad Doctrinam verè Christianam manuductio, cui omnes qui seposito partium studio, Christum sapiunt & profitentur, unanimiter queant suffragari. Opus ad connubium unitatis cum veritate sanciendum à Thoma Pierce S. T. P. Regiae Majestati à Sacris, Decano Sarisburiensi amicabiliter concinnatum (pp. 308-310). The author is to be congratulated on wanting to reduce the number of disputes among Christians.
5.	juin 1684	Causa Valesiana Epistolis ternis praelibata, in antecessum fusioris Apologiae. Quibus accesserunt appendices duae, una instrumentorum, altera de Gregorio VII. & in fine additamentum. Autore F. Petro Valesio Ord. S. Francisci Strict. Observan. S. Theologiae Professore (pp. 323-332).

A discussion of Roman Catholics and the oath of supremacy.

6. juin 1684 ΠγΘΑΓΟΡΑΣ ΜΕΤΕΜΨγχΟΣ
Theses quadragesimales in Scholis Oxonii publicis pro forma habitae. Adjecta est Dissertatio Epistolica D. Wallisii ad D. Boyle de fluxu et refluxu Maris (pp. 400-414).

Discussion of Pythagorean theories about certain questions in physics, along with Wallis's theories about the tides.

7. juin 1684 Apparatus ad Historiam Naturalem sanguinis humani, ac spiritus praecipriè ejusdem liquoris, Authore Roberto Boyleo Nobili Anglo, regiae Societatis socio. Pars I. ex Anglico Sermone in Latinum traducebat D. A. M. D. (pp. 416-417).

Reports of Boyle's experiments with human blood.

8. juin 1684 Francisci Baconi Baronis de Verulamio, Vice-Comitis S. Albani, & summi Angliae Cancellarii opera quae extant omnia, in unum corpus collecta sex volumnibus comprehensa in 12 (pp. 423-424).

Notice of Bacon's collected works, to appear in several months.

9. août 1684 Extrait d'une Lettre écrite de Leyde à l'auteur de ces Nouvelles par M. Molineux, touchant la Dissolution des corps dans les Menstruës (pp. 37-41).

Discussion of hydrostatics: how can heavy bodies be dissolved in lighter liquids? The specific example is that of particles of mercury floating in spirit of niter.

10. octobre 1684 — Collectanea Chymica Leidensia, id est Maëtsiana, Margraviana, le Mortiana scilicet trium in Academia Lugduno-Batava Facultatis Chymicae, qua publicè qua privatim professorum nunc viventium, atque docentium, qui esthaec discipulis suis, ex omni Europa illò confluentibus per hos annos non solum ostenderunt, verùm etiam suis verbis dictarunt. Opus quingentis & amplius processibus adornatum collegit digessit, edidit Christophorus Love Morley M. D. Anglus (pp. 293-295).

Collection of experiments useful in both medicine and chemistry.

11. octobre 1684 — Scotia illustrata, sive prodromus Historiae naturalis, in quo Regionis natura, incolarumingenia & mores, morbi iisque medendi methodus, & Medicina indigena accuratè explicantur, &c. cum figuris aeneis. Opus viginti annorum jussu magnae Britanniae Regis editum. Auctore Roberto Sibbaldo, M. D. Equite aurato, Medico & Geographo Regio, & Regii Medicorum Colegii apud Edinburgum Sŏcio (p. 311).

List of the subjects treated in this work, a natural history of Scotland.

12. janvier 1685 — Réflexion de Monsieur Molineaux sur un endroit des Nouvelles du mois d'Août page 36. où l'on suppose que la suspension des corps dissouts dans des Menstruës procéde de ce que les parties du Menstruë servent de Vehicule à celles du corps dissout plus pesant, &c (pp. 301-302).

Continues the discussion begun in No. 9.

13. mai 1685 — Mention made of Thomas Gage "Voyageur Anglois" and his book and remarks on chocolate (p. 507). See also août 1686 (p. 976).

14. mai 1685

The description of a Siphon performing the same things With the Sipho Wirtembergicus, invented by Doctor Papin Fellow of the Roial Society. . . . Extrait du Journal d'Angleterre n. 167, page 847 (pp. 537-540).

Papin's explanation of his siphon, the largest of which is not more than 20 feet tall.

15. juin 1685

Idea Eloquentiae forensis hodiernae, unà cum actione forensi ex unaquaque Juris parte. Authore Georgio Mackenzeo à Valle Rosarum, Regio apud Scotos Advocato (pp. 649-653).

Defense of the idea that the eloquence of lawyers is greater than that of preachers.

16. juin 1685

Lettre de Londres (pp. 665-666).

A list of books recently published in England with some short descriptions of contents.

17. juin 1685

Lucii Coelii Lactantii Firmiani opera quae extant ad fidem MSS recognita & commentarii illustrata, à Tho. Spark A. M. ex aede Christi (pp. 681-682).

Mention of recent works on Lactantius.

18. juillet 1685

Inserted (pp. 757-758) in a longer article (VI) is the story of the Rainoldus brothers.

19. août 1685

Extrait des Transactions Philosophiques ou du Journal d'Angleterre du mois de juin dernier; contenant un Ecrit présenté dans une Assemblée de la Société Roiale de Londres par M. Papin, touchant une nouvelle maniére d'élever les eaux. C'est M. Papin qui parle (pp. 894-899).

Description of a new hydraulic machine.

20. septembre 1685 — Two items from England are mentioned in Article IV (pp. 969-970): first, a lamp "inventée à l'imitation de celle de M. Boyle" and "Trompettes à parler de loin qui ont acquis à M. le Chevalier Morland beaucoup de réputation."

21. septembre 1685 — In Article III (pp. 973-974) Henry More's Enchiridion Metaphysicum, a work attacking Descartes' mechanical principles, was given brief treatment.

22. septembre 1685 — Mentioned in one section of Article III are More's explanation of the Apocalypse, Glanvil's Saducismus triumphatus, and Webster's work attacking the story of the Tedworth ghost.

23. septembre 1685 — Waller of the Royal Society published, during the previous year, a collection of experiments done by the Academy of Cimento (p. 978).

24. septembre 1685 — Defensio fidei Nicaenae ex scriptis quae extant Catholicorum Doctorum qui intra tria prima Ecclesiae Christianae saecula floruerunt. In qua obiter quoque Constantinopolitana confessio de Spiritu Sancto antiquiorum testimoniis adstruitur. Authore Georgio Bullo Presbytero Anglicano. C'est à dire, Defense de la foi du Concile de Nicée par les écrits qui nous restent des trois premiers siècles. On établit en passant par les temoignages des anciens la doctrine qui concerne le S. Esprit (pp. 1037-1041).

An attack against the Jesuit Father Petau and the Socinians whose heretical views he encouraged.

25. octobre 1685 — Harmonia Evangelica Apostolorum Pauli & Jacobi in doctrina de justificatione, cum enodatione praecipuarum difficultatum super hoc fundamentali articulo, vindicatione doctrinae orthodoxae & confutatione errorum ab antiquis & modernis propriae justitiae praeconibus assertorum. Adversus Socinianos, Pontificios,

Arminianos, Curcellaeum, Morum, Bullum, Schorlockum & alios novaturientes instituta, une cum inquisitione in constitutionem controversiae inter nos & Romanenses à D. le Blanc exhibitam; insecundam justificationem cum Pontificiam cum Baxterianam à modernis Conditionalistis propugnatam, & in alia iustius commatis Neotericorum placita. Studio & opera Alexandri Pitcarnii, Scoto-Britanni V. D. M. C'est à dire Accord de S. Paul & de S. Jacques sur la matiére de la justification &c (pp. 1158-1160).

The author, forced to leave his country because of the dominant sect, is a studious man, eager to establish the clear differences between the views of the Reformers and those of the Roman Catholics. The title explains the contents of the work.

26. novembre 1685 — Warthon's [Wharton's] adenographie proved that saliva has its special ducts (p. 1224).

27. novembre 1685 — Histoire de la Réformation de l'Eglise d'Angleterre seconde partie, contenant le progrès de la Réformation sous le Régne d'Edouard VI. son renversement sous l'autorité de Marie, & son rétablissement par la piété d'Elisabeth. Traduite de l'Anglois de M. Burnet, par M. de Rosemond (pp. 1234-1254).

The main headings of the first volume are listed, along with the second volume topics listed above. The third volume contains documentary proof for the statements of the first two.

28. novembre 1685 — A Discourse concerning auricular Confession, as it is prescribed by the Council of Trent, and practised in te [sic] Church of Rome. C'est à dire, Discours sur la Confession auriculaire telle que le Concile de Trente la prescrit, & que l'Eglise Romaine la pratique (pp. 1267-1271).

An attack in which the author maintains that auricular confession was not instituted by Christ, that it has not had universal acceptance, and that it is, as currently practiced, harmful to piety.

29. novembre 1685 — The Summa Theologiae Christianae by Bishop Roger Boyle of Dublin is a confused work. Brief mention only (pp. 1270-1271).

30. décembre 1685 — Physiologia nova experimentalis in qua notiones Aristotelis, Epicuri & Cartesii supplentur [sic] errores deteguntur & emendantur, atque clarae distinctae & speciales causae praecipuorum experimentorum aliorumque phaenomenum naturialium aperiuntur, ex evidentibus principiis quae nemo antehac perspexit et prosecutus est. Authore D. de Stair Carolo 2. Britanniarum Regi à Consiliis Juris & Status, nuper Latinitate donata. C'est à dire Physique nouvelle experimentale où l'on rectifie les Principes d'Aristote, d'Epicure, et de Descartes &c (pp. 1336-1350).

An eclectic discussion of the nature of matter, of movement and rest, of weight, of the heavens, or the four elements.

31. décembre 1685 — Mention made, but no details given, of "la nouvelle science de l'infini inventee & demontree par M. Cluver de la Societe Roiale d'Angleterre" (pp. 1349-1350).

32. décembre 1685 — Two English works mentioned in Article IX: "le vrai système intellectuel de l'Univers par le Docteur Cudworth" and Glanvil's work on the pre-existence of souls (p. 1378). An outline of the Discours sur la verité by the Bishop of Dromore in Ireland [George Rust] leads the author to believe that the work should be translated into Latin (pp. 1377-1378).

33. janvier 1686 — Hippocratus contractus in quo magni Hippocratis Medicorum Principis opera omnia in brevem epitomen summa diligentia redacta habentur. Studio & opera Thomae Burnet M.D. Medici Regii et Colegii Regii Medicorum Edinburgensium Socii (pp. 102-103).

Burnet has abstracted parts of the works of Hippocrates for those who have neither the time nor patience to read the original.

34. janvier 1686 — Chartophylax Ecclesiasticus quo prope M. D. Scriptores Ecclesiastici tam minores quam majores, tum Catholici, tum Haeretici, eorumque patria, Ordo, Secta, munera, aetas, & obitus, editiones operum praestantiores, opuscula, quin et ipsa Fragmenta breviter indicantur. Scriptores dubii à certis, suppositii à genuinis, non existantes à superstitibus distinguuntur. A Chr. Nato ad annum usque 1517. Accedunt Scriptores Gentiles Christianae Religionis oppugnatores, & brevis cujusque saeculi conspectus. Studio & labore Guilielmi Cave S. S. Th. Pr. Canonici Windesoriensis (pp. 103-108).

This work is really the completely revised Tables Ecclesiastiques, which Cave had done earlier and which had been printed in England in 1674.

35. janvier 1686 — Praise is given to the Tables Historiques et Chronologiques by M. Tallents of Magdalen College, Cambridge (p. 107).

36. fevrier 1686 — Brief mention only of Hyde's Oxford Catalog (p. 217).

37. mars 1686 — Brigg's book on vision is mentioned and refuted by a doctor from Amsterdam (pp. 319-326).

38. avril 1686

Joannis Lightfooti SS. Th. P. Aulae Catharinae apud Cantabrigienses Praefecti, Canonici Eliensis, opera omnia. C'est à dire, Toutes les Oeuvres de M. Lightfoot (pp. 408-415).

A two-volume work containing the results of Lightfoot's hours spent studying the Old Testament, the Four Gospels, and the relations between them.

39. avril 1686

De legibus Hebraeorum ritualibus & earum rationibus libri tres. Authore Jo. Spencero, S. T. D. Ecclesiae Eliensis Decano & Collegii Corp. Christi apud Cantabrig, Praefecto. C'est à dire, Traité des Loix Cérémonielles, des Juifs & de leurs raisons (pp. 430-444).

The author has worked to demonstrate God's wisdom and power in establishing the ceremonial laws of the Jews.

40. avril 1686

Extrait du Journal d'Angleterre du mois de Décembre 1685. contenant des remarques sur un imprimé François qui propose un movement perpétuel, faites par D. Papin Membre de la Société Royale. C'est M. Papin qui parle (pp. 444-447).

A sketch of a perpetual motion machine (also published in the NRL, novembre 1685, p. 1254) and an accompanying explanation appear. The conclusion is that such a machine will not work.

41. mai 1686

Dissertationes Cyprianicae, ab Henrico Dodwello A. M. Dubliniensi. C'est à dire, Dissertations sur S. Cyprien (pp. 532-552).

Thirteen dissertations on points chosen from the saint's writings pay special attention to the question of early martyrs.

42. mai 1686 — Dodwell's book on schism mentioned, but the exact title is not given nor is the work discussed (p. 533).

43. mai 1686 — De jure Laicorum sacerdotali ex sententia Tertulliani aliorumque Veterum Dissertatio, adversus anonymum Dissertatorum de coenae administratione ubi Pastores non sunt: ab Henrico Dodwello A. M. Dubliniensi (p. 551).

Another book discussing a passage where Tertullian seems to say that all Christians are, in emergencies, real priests. Dodwell, Father Petau, and Grotius are involved in the debate.

44. juin 1686 — Discours contre la Transsubstanciation compose en Anglois par le R. D. T. & traduit par L. L. (pp. 680-689).

A discussion of Protestant objections to the Roman Catholic doctrine of transubstantiation with emphasis on the early history of the Church.

45. juin 1686 — Traité de l'Oraison par Origène (pp. 689-696).

A discussion of the early days of the Church, and the problems faced by Origen. There is also a review of the various editions of Origen's works.

46. juin 1686 — Francisci Willughbeii Armig. de Historia Piscium Libri IV jussu & sumptibus SOCIETATIS REGIAE Londinensis editi: in quibus non tantum de piscibus in genere agitur, sed & species omnes tum ab aliis traditae, tum novae & nondum editae bene multae, naturae ductum servante methodo dispositae, accuratè describuntur, earumque effigies quotquot habere potuere, vel ad vivum delineatae, vel ad optima exemplaria impressae, artifici manu elegantissime in aes incisae ad descriptiones illustrandas exhibentur. Cum appendice Historias & observationes in supplementum operis collatas complectente. Totum opus

recognovit, cooptavit, supplevit, librum etiam 1. & 2. integros adjecit Johannes Rajus è Societate Regia. C'est à dire, l'Histoire des Poissons (pp. 697-708).

A study of aquatic creatures having blood and fins but not feet.

47. juin 1686 — Mention of John Goad who observed weather changes and noted the method he used (p. 707).

48. juin 1686 — Thesaurus Linguae Sanctae compendiosè scil. contractus planè tamen referatus pleneque explicatus, sive Concordantiale Lexicon Hebraeo-Latino-Biblicum, in quo Lexica omnia Hebraica huc usque edita methodicè, succinctè & quasi synopticos exhibentur una cum Cordantiis Hebraicis, &c à Gulielmo Robertson A.M. (pp. 729-732).

A useful aid for those wanting to perfect their knowledge of Hebrew.

49. juin 1686 — Another volume by Robertson has three parts: (1) une Table générale des mots les plus irréguliers de la Bible réduits à leurs racines, conjugaisons, &c & plusieurs régles pour apprendre à connoître les racines & à lire sans points; (2) Abregé de la doctrine des accens Hebreux tant pour la Prose que pour les Vers; (3) une explication Grammaticale de la formation des verbes Hebreux &c (p. 731).

Mention is limited to the above.

50. juin 1686 — Robertson also published a Trésor de la Langue Grécque (p. 731).

No details given.

51. juin 1686 — Dictionnaire Historique, Géographique, Poëtique de Charles Etienne augmenté par feu Monsieur Lloyd, qui étoit Membre du Collége de Wadham à Oxford (p. 732).

A greatly revised and improved version of Lloyd's first revision of Etienne.

52. juin 1686 — Miscellanea, &c. Authore Thoma Smith Ecclesiae Anglicanae Presbytero (pp. 732-734).

The book contains a solid reply to Simon's attack along with four other dissertations on various subjects, including the causes that divide Christians.

53. juillet 1686 — Extrait d'une Lettre de M. Sylvius, Medecin Membre de l'Academie de Dublin, ecrite a l'Auteur de ces Nouvelles, Touchant une fille qui a plusieurs cornes en divers endroits du corps (pp. 790-796).

Article includes a sketch of the girl, showing the locations of the horns and an explication of their formation.

54. juillet 1686 — Angliae notitia sive praesens status Angliae succinctè enucleatus. C'est à dire, L'état présent de l'Angleterre (pp. 836-838).

A survey of the state of affairs in England but without any details.

55. août 1686 — Ogygia: seu rerum Hibernicarum Chronologia, &c. C'est à dire, Chronologie d'Irlande, Authore Roderico O Flaherty Armigero (pp. 897-908).

A history of Ireland from before the Flood to the year 435 in amazing detail.

56. août 1686 — A brief mention of Dr. G. Cave's Traité de la patience des l. Chrétiens pendant la Persecution, traduit de l'Anglois (pp. 978-979).

57. septembre 1686 — De Variatione Pulsus by David Abercromby is mentioned briefly and readers are reminded that he previously published Méthode de guerir souvent les maladies veneriennes sans l'aide du Mercure & toujours sans aucune salivation mercuriale (pp. 1015-1016).

58. septembre 1686 — La Morale de l'Evangile où l'on traitte de la nature de la vertu Chretienne, des motifs qui nous y doivent porter, & des remedes contre les tentations. Traduit de l'Anglois de Mr. Lucas, Ministre de l'Eglise S. Etienne à Londres (pp. 1098-1100).

Added to the review, which gives no details beyond what the title indicates, are notices of M. Rai's ouvrage sur les plantes; of M. Boyle's de specificorum remediorum and of "un nouveau livre . . . [by Boyle] une recherche touchant la signification qu'on donne ordinairement au mot de Nature"; and of the letters of Usserius.

59. octobre 1686 — Deux essais d'Arithmetique politique touchant les Villes et hospitaux de Londres et de Paris. Par le Chevalier Petty de la Societé Roiale (pp. 1144-1151).

A comparison of statistics for the two cities.

60. octobre 1686 — De specificorum remediorum cum corpusculari Philosophia concordia cui accedit dissertatio de varia simplicum Medicamentorum utilitate usuque. Ex anglico in latinum sermonem traducebat D. A. M. D. Autore Roberto Boyleo Nobili Anglo Societatis Regiae Socio. C'est à dire, de l'accord des remedes specifiques avec le Systeme qui donne raison des effects par les corpuscules (pp. 1165-1182).

Boyle's effort to show that the concept of specific remedies does not clash with that of the corpuscular philosophy.

61. octobre 1686 — Reflections on M. Varillas's History of the revolutions that have happened in Europe in matters of Religion. And more particularly on his Ninth Book that relates to England. By G. Burnet, D. D. C'est à dire, Reflexions sur l'Histoire que M. Varillas a publiée

de l'Hérésie, principalement sur le 9 livre où il parle de l"Angleterre (pp. 1206-1216).

Burnet's criticism is mainly that Varillas lacks documentary proof for his statements (see No. 27).

62. novembre 1686 — Notice of a report appearing in the Journal d'Angleterre for June 1685 and mentioning an experiment performed with a piece of asbestos (p. 1247).

63. novembre 1686 — Historia plantarum species hactenus editas aliasque insuper moltas noviter inventas & descriptas complectens, &c. Auctore Joanne Rajo à societate Regia SS. Individuae Trinitatis Collegii apud Cantabrigionses quondam Socio. Tomus primus. C'est à dire, Histoire universelle des plantes (pp. 1317-1330).

A new study of plants based on logical principles.

64. novembre 1686 — No. 62 also carries brief mention of several related works: two by Grew (De saporum causis et differentiis and Calcul sur la fécondité du pavot blanc); Robert Harley on "la grosseur et l'âge des arbres"; and four additional works by Ray himself (Catalogue des plantes qui se trouvent en Angleterre & dans les Iles voisines, Catalogue des plantes qu'il avait remarquées dans les Païs-Bas, en Allemagne, en Italie, en Sicile, dans l'Ile de Malthe & en France, "son travail sur l'Histoire des oiseaux et des poissons que M. Willugby avait compilee," and Methodus plantarum); Slare's Observations sur le tartre; Plot's Histoire naturelle de la Province d'Oxford.

65. novembre 1686 — Critique de Varillas (pp. 1350-1352).

See No. 61. Both the translator who put Burnet's comments into French and Burnet himself have made additional unfavorable criticisms of Varillas.

66. décembre 1686 — De ipsa Natura, sive libera in receptam Naturae notionem disquisitio ad Amicum. Authore R. B. nobili Anglo Societatis Regiae Socio. C'est à dire, Recherche libre sur l'idée qu'on se forme ordinairement de la Nature (pp. 1384-1402).

A work in 8 sections that studies the history of the word nature; its dangers (it seems to interpose a concept between us and God); its bases. Boyle rejects the idea of nature in favor of mechanical principles.

67. décembre 1686 — Mention made of a "Traitté du Sr. Preston Catholique Anglois qui sous le nom de Widdrington a discuté savamment l'autorité de ce Concile Latran contre le P. Lessus" (p. 1424).

68. décembre 1686 — A defence of the Exposition of the doctrine of the Church of England, &c (pp. 1427-1429).

An attack on the doctrine of transsubstantiation and on the veracity of Bossuet.

69. décembre 1686 — Commentarium de rebellione Anglicana ab anno 1640. usque ad annum 1685. Pars I. Autore R. M. Eq. Aur. C'est à dire Histoire de la rebellion d'Angleterre (pp. 1456-1457).

A Royalist is speaking against the Independents who committed the parricide against the wishes of the Presbyterian ministers who urged a more moderate course.

70. janvier 1687 — Extrait d'un lettre ecrite de Londres à M. Silvestre Docteur en Medicine par M. Pujolas touchant l'experience curieuse d'hydrostatique communiquée par M. Lufneu & inserée dans les Nouvelles d'avril 1685. art. 5 (pp. 20-28).

The article deals with a proposition believed true by Stevin, with an experiment questioned by Boyle and Wallis, and with Lufneu's explanation of Stevin's proposition.

71. janvier 1687 — Novissima idea de febribus, & earundem dogmatica ac rationalis cura mechanicis rationibus suffulta. Accessit dissertatio de insensibili transpiratione mechanicè probata. Auctore Jac. Sylvio Med. Doct. Batavo Collegii Medicineo non scoietatis Dubliniensis ad promovendam naturalem scientiam socio. C'est à dire, Nouveau Traitté des fievres selon les principes mechaniques (pp. 46-62).

Fevers result from impaired circulation of the blood so that the cure is to get the blood moving again.

72. février 1687 — Extrait d'une lettre ecrite de Londres à l'Auteur de ces Nouvelles le 10 janvier 1687. contenant l'explication d'un passage de Lucrece, & d'un passage de Terence (pp. 117-121).

The letter writer is commended on saying concisely what he has to give without padding out his message.

73. février 1687 — Extrait des Transactions Philosophiques du mois d'octobre 1686. sur une maniere de calculer la vitesse de l'air presentée à la societé Roiale par M. Papin. C'est lui qui parle (pp. 164-168).

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