

# The epidemic or pandemic of influenza in 1708-1709

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There is no remembrance of former things; neither shall there be any remembrance of things that are to come with those that shall come after. *ECCL.* 1.11.

In the years 1708 and 1709 an outbreak of respiratory disease afflicted almost all of western Europe. It was described by the famous Giovanni Maria Lancisi (1654-1720), who designated it as *epidemia rheumatica*, (1) a term which reflects the Hippocratic and Galenic concept that the disease is a *rheuma* or flow of noxious humors which descend from the brain (2). The outbreak was discussed repeatedly by Lancisi's contemporaries (3) and by writers of subsequent times. Recently the subject was studied anew by the senior author of (4) the present essay, who agreed with several previous com-

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- (1) LANCISI, Johannes Maria (1711). *Dissertatio de nativis, deque adventitiis Romani coeli qualitatibus, cui accedit historia epidemiae rheumaticae, quae per hyemem anni MDCCIX vagata est.* Rome, Gonzaga. Through the courtesy of Sig. Angelo Palma, the senior author of the present essay was permitted to examine Lancisi's heavily emended manuscript, which is MS no. 157 in the Biblioteca Lancisiana in Rome. The treatise on influenza occupies pp. 209-278 of the bound manuscript. In the title the word RHEUMATICA was at first spelled without the H; the missing letter was intercalated with a caret.
  - (2) A similar notion is expressed by the term *catarrh*, which appears again and again in descriptions of the disease.
  - (3) To the eighteenth-century Italian sources commonly cited we wish to add two unpublished manuscript discussions tentatively attributed to Ippolito Francesco Albertini (1662-1738). These are titled respectively *Epidemia di febbri... 1708* and *Epidemia di febre con coagolo insigne, e male di petto nell' Inverno dell' anno 1709* (University of Bologna MS 2089, vol. 1, pp. 104-107). We thank the library of the University and the Ministero per i Beni Culturali e Ambientali (Rome) for granting access to these texts.
  - (4) JARCHO, S (1979). The «epidemia rheumatica» described by Lancisi (1711). In: ROSENBERG, C. E. (editor). *Healing and history; essays for George Rosen.* New York, Neale Watson, pp. 51-58. In view of Prof. Olagüe's subsequent work it is felicitous that the expression «Spanish influenza» was not used.

DYNAMIS

*Acta Hispanica ad Medicinae Scientiarumque Historiam Illustrandam.* Vol. 5-6, 1985-86, pp. 125-141.  
ISSN: 0211-9536

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mentators in characterizing the disease as *influenza*, and by Prof. Guillermo Olagüe de Ros (5), who used such equivalent Spanish terms as *brote gripal* and *gripe*. The former of these recent authors injudiciously designated the outbreak as 'pandemic', while the latter used more conservative term 'epidemic' and included with his discussion a map, which shows the affected area to have included almost all of western Europe and part of central Europe, including Carniola (in what is now Yugoslavia), as well as Bohemia and western Poland. Left blank or situated beyond the limits of the map are Great Britain, Norway, Sweden, Iceland, Spain, Portugal, and the Mediterranean islands west of Sicily. (see: *Dynamis*, vol. 1, page. 72 (1981)).

In contemporary United States usage the word 'epidemic' signifies an outbreak of disease - usually, but not always, a large or widespread outbreak. The term 'pandemic' refers to much greater outbreaks, especially those that involve more than one of the world's major land masses (6). By the evidence available when his excellent and thoroughly documented essay was written, Prof. Olagüe was justified in applying the term 'epidemic' to the European outbreak of 1708-1709.

In the present communication we shall offer some new evidence - admittedly fragmentary and incomplete - as to the extent of the outbreak, with special reference to *terrae incongnitae* situated beyond the areas of occurrence that have been recognized heretofore. In addition we shall suggest some of the directions in which future scholars may find it profitable to conduct investigation.

## 1. THE THIRTEEN NORTH AMERICAN COLONIES

On the assumption that Lancisi, the overburdened papal consultant, investigator, and writer, would not have taken transatlantic affairs seriously into consideration, it seemed desirable to make some preliminary «biopsies» of North American writings about infectious diseases in the years 1708 and 1709. At the outset a passage in Noah Webster's remarkable history yielded the following statement:

In November 1708 began a severe and universal catarrh in Europe, which was speedily followed by a series of pestilential diseases. Of this catarrh, of the seasons, and the plagues that followed we have from Europe very

(5) OLAGÜE de ROS, G. (1981). La epidemia europea de gripe de 1708-1709. Difusión témporo-espacial e interpretaciones contemporáneas. *Dynamis*, 1, pp. 51-86.

(6) We offer collective thanks to three epidemiologists who have given us the benefit of their special knowledge of this matter (1983-84).

correct accounts; but, with the utmost industry, I cannot learn whether the catarrh extended to America (7).

In Webster's treatise this comment is followed by paraphrases of Lancisi.

Clearly the early North American epidemiographer had pondered the possibility that the outbreak might have crossed the Atlantic; at the same time his comment was discouraging, since his diligent inquiry had not obtained a positive result (8).

The new investigation continued; *ibant obscuri*.

The next step was an examination of histories of medicine in the thirteen British colonies which later coalesced to form the United States of America.

Blanton's history (9) revealed that on two occasions in the year 1709 the colony of Virginia decreed a public fast because of outbreaks of disease. Whith this guidance it was not difficult to discover in the *Executive Journals of the Council of Colonial Virginia* the following entry, which records the proceedings of a session held in Williamsburg, the colonial capital, on April 15, 1709:

Whereas it hath pleased God to afflict parts of this Country with a pestilential and infectious Sickness which has swept away great numbers of the Inhabitants It is ordered that a solem Fast be observed and kept throughout the whole Colony on Wednesday the 18th of May to implore the divine mercy in removing this greivous and publick Calamity and ordered that a proclamation be prepared accordingly (10).

Again, at meeting held on December 8, 1709 the Virginia council declared:

Whereas it hath pleased God to afflict diverse parts of this Country with a raging pestilential Distemper. It is Ordered that Wednesday the 11th of January be set apart as a day of publick fasting and humiliation to deprecate the wrath of almighty God and to implore his mercy in removeing this

(7) WEBSTER, N. (1799). *A brief history of epidemic and pestilential diseases*. Hartford, vol. 1, pp. 218-219. London, 1800, vol. 1, pp. 352-353.

(8) Has anyone even considered the possibility that the disease could have spread from America to Europe?

(9) BLANTON, W. B. (1931). *Medicine in Virginia in the eighteenth century*. Richmond, Garrett and Massie, p. 51.

(10) McILWAINE, H. R. (ed) (1925-1930). *Executive journals of the council of colonial Virginia*. Richmond, Bottom, vol. 3, p. 214.

grievous Calamity and Ordered that a Proclamation issue accordingly (11).

The evidence presented thus far reveals that in April 1709 and again in December 1709, widespread disease, causing many deaths, occurred in Virginia. The nature of the malady or maladies is not disclosed.

The volume in which these notices were found contains occasional mention of shipping, apparently on a modest scale, and limited (during the period under discussion) to England, the «Western Islands» (12), i.e. the Hebrides, and to Lisbon (13) and Barbados (14). None of these places is shown in the map as having been affected by the epidemic. Other items in the Virginia executive journals refer to the War of the Spanish Succession, to the recent importation of negroes from Africa, to privateers, and to travels - both by land and sea from Virginia to other British colonies in North America. Opportunities for transmission of infection therefore existed in abundance.

These rather small bits of evidence can be supplemented to some extent by reference to the *Secret Diary* of William Byrd, the Virginia patrician, landowner, public official, and author (15). An early entry, dated February 28, 1709, reads as follows:

... the distemper continues with the same violence it did, but that about [30-] people had died of it this winter in the two counties. It was infectious and killed chiefly poor people. The best remedy for it is sweating and the best way to prevent it is to vomit and purge. The distemper never comes but in winter and as the cold weather abates that abates also (16).

This report of an acute illness that occurs in winter, attacks especially the poor, and produces fatalities, is too vague for satisfactory inference. Diarrhoea and cutaneous eruptions are not mentioned. The description therefore probably points to an epidemic respiratory disease but this is not certain.

On May 18, 1709 Byrd noted that «this was fast day to remove the fatal illness with which this country has been of late afflicted» (17). This entry

(11) McILWAINE, H. R. (1925-1930). *Ibid.*, 10, p. 229.

(12) McILWAINE, H. R. (1925-1930), *op. cit.*, p. 178.

(13) McILWAINE, H. R. (1925-1930), *op. cit.*, pp. 179, 181.

(14) McILWAINE, H. R. (1925-1930), *op. cit.*, p. 193.

(15) BYRD, W. (1941). *The secret diary of William Byrd of Westover 1709-1712*. Edited by Louis B. Wright and Marion Tinsling. Richmond, Dietz, 2 vols.

(16) BYRD, W. (1941), *op. cit.*, vol. 1, p. 9.

(17) BYRD, W. (1941), *op. cit.*, p. 36.

agrees with the first of the two items already quoted from the *Executive Journals of the Council*. It is probable but not certain that the disease which caused trouble during the winter of 1708-09 was the same as the disease that occurred in the spring of 1709. The statement «the fatal illness with which this country has been of late afflicted» suggests that by May 18, 1709 the outbreak had ended recently.

Under date of December 7, 1709 Byrd wrote that «the distemper was very violent in the neighborhood» and on the next day he added «a general fast was appointed on account of the sickness» (18). The latter note coincides with the second of the two entries already quoted from the *Executive Journal*. Successive notes in Byrd's diary continue to report this outbreak of «distemper» -including the death of four negroes- at least as late as February 5, 1710, when he noted that the sickness «continued about Williamsburg very violently» (19).

The evidence from South Carolina is fragmentary and indistinct. In his *Epidemics in Colonial America*, (20) Dr. John Duffy, a highly esteemed historian, quotes reports sent in 1709 to the Society for the Propagation of the Gospel by a missionary, Robert Gaule, who wrote of «great colds, and indispositions», which frequently terminated «in dangerous effects» (21).

The *History of Medicine in South Carolina 1670-1825* (22) by the late Dr. Joseph I. Waring says

«... a type of respiratory disease, probably of the nature of influenza was present [in or near Charleston] in 1709 and was of serious concern».

Unfortunately for subsequent historians Dr. Waring failed to document this statement and his notes about it are now unavailable. His comment, however, cannot be dismissed, since he was a physician of great ability and wide experience. The problem is additionally complicated by the fact that the high incidence of malaria in South Carolina would tend to obscure descriptions of other febrile diseases.

(18) BYRD, W. (1941), *op. cit.*, pp. 115-116.

(19) BYRD, W. (1941), *op. cit.*, pp. 126-139.

(20) DUFFY, J. (1953). *Epidemics in colonial America*. Baton Rouge, Louisiana State University Press, p. 189 and n. 10.

(21) Dr. Duffy also quotes reports of pleurisies in Charleston in 1711 and 1712.

(22) Charleston, South Carolina Medical Association, 1964, p. 24.

## 2. CANADA

In Canada the low density and wide dispersion of the population might be expected to have resulted in scanty recording. Fortunately these unfavorable factors were counterbalanced in part by the presence of literate or learned administrators, clerical and secular. Consequently records were made and preserved.

The following statement appears under the date of 1708 in the annals of the Hôtel-Dieu of Québec (23):

The pleurisies, having become common since the spring, provided us with a large number of patients, who tested the charity of our sisters during the entire year, and after we had been occupied in succoring them to the best of our ability, two of our nuns were attacked by this sickness at the same time and died of it.

The expression «having become common since the spring» — the French original reads «étant devenuës populaires des le printemps» — refers to the spring of 1708 and is the earliest North American record of acute epidemic respiratory disease that has been found in the course of the present investigation.

Two additional Canadian reports are judged to be outside the bounds of the inquiry. In April and May, 1710 «there was a malignant fever, and of the purple kind, that was very general both in Québec and in the surrounding country, that carried off a vast number of persons». In 1711 there occurred a large and destructive outbreak of «a malignant Fever, accompanied by purpura» (24). These brief statements mention no stigmata of respiratory disease and possibly are reports of typhus, hemorrhagic smallpox, or even meningococccemia. A standard history of Canadian medicine devotes a chapter to influenza but makes no mention of an outbreak in 1708-1709 (25).

(23) Translated from JUCHEREAU, J. F. and DUPLESSIS, M. A. (1939). *Les Annales de l'Hôtel-Dieu de Québec, 1636-1716*. Québec, l'Hôtel-Dieu, p. 334. We are indebted to Mrs. Linda Ordogh of the Osler Library, McGill University, for furnishing photocopies of this text. We also thank Mr. Michel Wyczynski of the Public Archives of Canada and Mrs. Jocelyn McKillop of the Hudson's Bay Company, Winnipeg for bibliographic and other information.

(24) THWAITES, R. G. (editor) (1896-1901). *Jesuit relations and allied documents, 1610-1791*. Cleveland, vol. 60, p. 233 and vol. 66, pp. 211-213.

(25) HEAGERTY, J. I. (1928). *Four centuries of medical history in Canada*. Toronto, Macmillan, 2 vols.

Equally unproductive was the examination of a Canadian annalistic collection (26).

Of the Canadian data cited in preceding paragraphs it is clearly the first report—the information from Québec—that is most promising. An examination of cadaveric materials, however fragmentary and old, by means of advanced serological methods, would offer at least a slight hope of yielding virological or serological information that might prove etiologically significant. The obstacles, however, are numerous.

Through the courtesy of Mme. Claire Gagnon, archivist of the Monastère de l'Hôtel-Dieu de Québec it was learned that the cemetery of that famous and venerable institution was opened in 1662 and was closed in 1857 by municipal ordinance. In 1863-64 the exhumed bodies—it is not certain that this applies to all—were reinterred in the Belmont cemetery at Ste-Foy in the suburbs of Québec. In the daily record of hospital patients for the period preceding 1723 the annotations apparently mention deaths simply by the designation *deceased*, with the date, and it is not possible to determine if such patients were buried in the Belmont cemetery; many are known to have been buried in the parish of Notre-Dame de Québec. Further study would be needed in order to determine whether any extant burials can be identified reliably as influenzal.

An investigator (27) experienced in immunology in its application to paleopathology informs us that antigen-antibody tests have been performed on tissues far older than the twenty-seven decades of the materials now under discussion. A major problem is that of preservation. Fluorescent-antibody techniques are thought to offer no more than a modest prospect of success in the present problem, but complement-fixation and radioimmune assay appear well worthy of exploration.

We may point out incidentally the possibility of applying such methods fruitfully in yellow fever. The late Rev. David de Sola Pool (28) has described a cemetery in New York City which contains the grave of a physician who died of yellow fever during the outbreak of 1798; nearby are the graves of

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- (26) AHERN, M. J.; AHERN, G. (1923). *Notes pour servir à l'histoire de la médecine dans le Bas-Canada depuis la fondation de Québec*. Québec, Laflamme.
- (27) ALLISON, M. J.: Personal letter to Dr. Jarcho, Miami, Sept. 3, 1984. The reader may also be interested to examine *The Influenza Viruses and Influenza*, edited by E. D. Kilbourne. New York, Academic Press, 1975 (see esp. pp. 483-538 on the epidemiology of influenza).
- (28) POOL, D. (1952). *Portraits etched in stone*. New York, Columbia University Press, pp. 269-278.

four of his patients. All are marked, in various languages, «yellow fever». It is also highly probable that many yellow-fever burials are extant in Philadelphia, relics of the famous outbreak of 1793 (29). It is not utterly irrational to suggest that these cadavers may contain evidence of significant antibodies.

### 3. GREAT BRITAIN AND IRELAND

In the map, Ireland is marked as an affected area, while England is blank. August Hirsch indicated in his tabulation that in the year 1709 there was «general diffusion in Italy, France, Belgium, Germany, and Denmark» (30); he made no mention of occurrence in England.

In his history of influenza (31) Arthur F. Hopkirk wrote as follows under the heading 1709-12:

This was probably a single period of epidemics of wide distribution without particular direction. 1709, Italy, France, Belgium, Germany, Denmark. 1710, England.

He added that in England the symptoms were «severe cough, quick pulse, headache».

Additional opinion, not well buttressed by evidence, appears in the book by Creighton (32):

The very general coughs and catarrhs of 1709 seem to have been really caused by the severity of the memorable hard winter, the frost having begun in October, 1708 and lasted until March, 1709. The evidences of a truly epidemic infectious catarrh or influenza all over Europe in 1709 are scanty and ambiguous [sic!].

The possible presence of epidemic respiratory disease in England during 1708-09 involves a minor problem of no little complexity and obscurity. In

(29) A list of names is to be found in CAREY, M. (1794). A short account of the malignant fever lately prevalent in Philadelphia. 4th ed., Philadelphia, printed by the author, pp. 121-159.

(30) HIRSCH, A. *op. cit.*, vol. 1, p. 9.

(31) HOPKIRK, A. F. (1914). *Influenza: its history, nature, cause, and treatment*. (London, 1913) London, Scott and New York, Scribner, p. 35.

(32) CREIGHTON, C. H. (1965). *A history of epidemics in Britain*. Second edition, New York, Barnes and Noble, vol. 2, pp. 339-340. See also: VAUGHAN, W. T. (1921). *Influenza, an epidemiological study*. Baltimore, American Journal of Hygiene, pp. 8 and 12.

his *Annals of Influenza or Epidemic Catarrhal in Great Britain from 1510 to 1837* (33). Theophilus Thompson wrote:

Now [August 1709] raged a Malignant Fever, and very mortal in Harwich, &c. from the communication with foreign parts... March the 1<sup>st</sup> [1710] began and reigned two months, an epidemic which missed few, and raged fatally like a plague in France and the low Countries, and was brought by disbanded soldiers into England, viz. a Catarrhus Fever, called the *Dunkirk Rant* (34), or *Dunkirk Ague*; it lasted eight, ten, or twelve days. Its symptoms were a severe, short, dry cough, quick pulse, great pain of the head, and over the whole body, moderate thirst; sweating and diuretics were the cure...

Thompson mentioned Short as the source of this information, and here some intricacies were encountered.

In *A General Chronological History of Air, Weather, Seasons, Meteors, &c.* (35). Thomas Short (1690?-1772) wrote as follows:

In November [1708] after so many and sudden Changes, began Catarrhs of the Head and Breast, which were so epidemic, that very few escaped. It began with Chilness and Shivering, followed by a feverish Effervescence, intense Pain, or Stupor of the Head, Loss of Strength, and often of Appetite, often a Strangulation of the Jaws, or spurious Pain of the Pleura... Luc. Schroch.

It will be observed that this passage makes no mention of any specific country. By using the name «Luc. Schroch» as a clue it was possible to find the source in a misleadingly titled note by Lucas Schroeckius (1646-1730), his *Constitutio Epidemica Augustana 1701 et Sequentium*. This was discovered in the amplified posthumous *Opera Medica* of Thomas Sydenham (36). From the context of Schroeck's essay it is clear that the passage which Short had quoted refers not to England but to *Germany!*

On a later page (37). Short says, referring to August 1709, «Now raged a malignant Fever and very mortal in Harwich, &c. from the Communication

(33) London, Sydenham Society, p. 27 (1852).

(34) Under the year 1709, Schnurrer states the following (transl. by S. J.): «In England, where famine prevailed during this year and the next, and also in the Netherlands and some parts of France, there was generally disseminated fever which was named *Dunkirk rant*». (SCHNURRER, F. (1823-1825). *Chronik der Seuchen*. Tübingen, Osiander, vol. 1, p. 244). Schnurrer cites no source for this statement.

(35) London, Longman, and Millar, vol. 1, p. 438 (1749).

(36) Geneva, de Tournes, vol. 1, pp. 735-746 (1723) (see p. 744).

(37) SHORT, Th. (1749), *op. cit.*, p. 458.

with foreing Parts». Still later (38), referring to March 1, 1710, he gives the passage about the Dunkirk rant or ague, wich is presented above in the quotation by Thompson.

The meager information provided by Short and quoted by Thompson constitutes almost the totality of the material thus far encountered with respect to the occurrence of epidemic respiratory disease in England in 1708-10. The predominantly negative statement of Creighton and the brief allusion by Hopkirk have been quoted on preceding pages. This part of the problem might well be studied further by consultation of parish records, diaries, sermons, and letters.

It is worth noting that the epidemiologic use of the word *rant* is recorded by the *Oxford English Dictionary* (39) as follows:

*north[ern] dial[ect] and Sc[otch]. A boisterous, riotous frolic or merry-making; a spree. Also transb[erred sense].*

1675 in Thoresby *Ducatus Leodensis* (1715)... In December the same year was an Epidemick Distemper profanely called the Jolly Rant; it was a severe Cold, and violent Cough.

At this point additional complexities must be mentioned. In his medical history of the British navy (40), Keevil states the toward the end of the War of the Spanish Succession Sir John Leake with twenty men-of-war reached Dunkirk on July 7, 1712 and departed nine days later. By July 20 an epidemic had spread through his squadron and few escaped. The Dunkirk fever spread to England, reached London, and proved troublesome. Keevil adds: «From the description of this epidemic given by Turner in his *De Febre Britannica Anni 1712* and of the recurrence in 1713 mentioned by Mead, the condition was probably influenza of an unusual type, such as the so-called Spanish influenza of 1918».

In his famous essay, *A Short Discourse Concerning Pestilential Contagion* (41), Richard Mead wrote.

(38) SHORT, Th. (1749), *op. cit.*, p. 459.

(39) Compact edition, Oxford University Press, 1971 (ninth American printing, 1975), p. 2415.

(40) KEEVIL, J. J. (1958). *Medicine and the Navy, 1200-1900. Vol. 2, 1649-1714*. Edinburgh, E. and S. Livingstone, pp. 232-233.

(41) (London, Buckley and Smith, 1720) Seventh edition, London, Buckley, pp. 8-9 (1721). Almost the same statements appear in Mead's *De Peste*, London, Innys, pp. 104-105 (1723).

... we had the same kind of Fever in the Year 1713, about the Month of September, which was called the Dunkirk Fever, as being brought by our Soldiers from that Place; where it was indeed a Malignant Disease attended with a Diarrhoea, Vomiting, &c. and probably had its Original from the Pestilential Distemper, which some time before broke out at Dantzick and Hamburgh: But with us was much more mild, beginning only with a Pain in the Head, and by very easy Means went off in large Sweats, after a Day's Confinement.

The Dunkirk fever of 1712 and 1713, described and discussed by Turner, by Mead, and by Keevil, is clearly beyond the temporal scope of the present investigation but requires mention for at least two reasons. First, it is readily confused with the Dunkirk fever of 1709 and the poorly described London fevers of 1709-10. The former is mentioned by Crookshank in the following terms (42).

Epidemic *agues* there were, no doubt, but no pandemics of *malaria*; for now it is perfectly clear that, like the «Dunkirk ague» of 1709, the «epidemic agues» of Palmerius and many seventeenth and eighteenth century writers were really prevalences that we should now call influenzas of the headachy, bone-racking type.

A statement in Creighton (43) suggest that this noted epidemiologist may have failed to escape confusion, since he remarks that Mead, in writing of the Dunkirk rant, assigned it to September, 1713 but Short, who wrote in 1749, dated it at 1710.

It should be noticed that, contrary to Creighton's comment, Turner's essay (44), a pamphlet of seven small pages, discusses an outbreak that occurred in 1712, although the text was published in 1713. Moreover, although Turner speaks of war and mentions Prussia, Brunswick, Belgium [Netherlands], Great Britain, France, and Italy, he nowhere mentions Dunkirk. (An additional reference to that city will be found in the next section, which is devoted to Scandinavia).

Further, when Mead described a sickness which was manifested in Dunkirk as «a Malignant Disease attended with a Diarrhoea, Vomiting, &c» and which appeared soon afterward in England as a much milder ailment that began with a headache and «went off in large Sweats, after a Day's Confine-

(42) CROOKSHANK, F. G. (editor) (1922). *Influenza: Essays by Several Authors*. London, Heinemann, p. 37.

(43) CREIGHTON, C. H. (1965), *op. cit.*, vol. 2, p. 340 and n. 2.

(44) TURNER, JOAN[NES] (1713). *De febre Britannica anni 1712 schediasma*. London, Woodward.

ment», the modern reader inevitably wonders whether Mead was describing one disease or two.

These details, complex and beset by error, provide no convincing evidence that the European influenza reached England in 1708-1709; coughs and catarrhs are reported but there is no reason to think that they were other than sporadic. Widespread respiratory infection probably occurred in 1709-1710 but this is not certain. The Dunkirk rant, designated as a catarrhous fever, occurred in 1710. Apparently it was an acute communicable respiratory infection and it may have been influenza. In the single available report its area of occurrence is stated vaguely as «in Harwich, &c.» The true extent remains to be investigated.

#### 4. SCANDINAVIA

The map shows Denmark —its islands as well as its mainland— to have been affected by epidemic influenza; the other Scandinavian countries are not indicated. A new review of available secondary information adds almost nothing beyond a small hint.

The most extensive source, a three-volume treatise by Immanuel Ilmoni (45), provides the following statements:

The influenza that had begun in Italy the previous year [1708] also continued spreading; it visited both Germany and France in this year [1709] *pc*, thus heading in a generally northward direction (46).

A particularly severe and dangerous influenza harried Copenhagen during the latter year [1709], and it is stated that it especially struck children and young people. Apparently this disease was a continuation of the previously mentioned, northward-spreading influenza in Germany during the first half of the same year, for however much some persons have wanted to deny its influenzal nature, there cannot really be any doubt about it. There is every reason to believe that there was also, at that time, great general sickness in the Swedish provinces; at least, it is known for certain that mortality from diseases was at the time far higher than usual in several areas, for example, on Åland (47).

(45) ILMONI, I. (1846-1853). *Bidrag till Nordens Sjukdoms-Historia*. Helsingfors [Helsinki], Simeli, 3v.

(46) ILMONI, I. (1846-1853), *op. cit.*, vol. 2, p. 328. Translation by H. Hallmundsson.

(47) ILMONI, I. (1846-1853), *op. cit.*, vol. 2, p. 329. The mention of Copenhagen in this excerpt is credited to F. V. Mansa, 1844. (Translation by H. Hallmundsson). However,

The last sentence in the excerpt from Ilmoni suggest that a review of Swedish primary and secondary sources has a reasonably good chance of yielding a positive result, but the evidence is likely to be complicated by the coincidental presence of plague and of the war against Russia. It should also be noted that according to Faidherbe on October 20, 1711 the magistrate of Dunkerque organized a quarantine and inspection service to prevent entry of a disease then raging in the Baltic area (48).

## 5. EUROPEAN RUSSIA

In the Great Northern War of 1700-1721, Russia, Poland, and Denmark opposed Sweden. If influenza existed intercurrently or even epidemically in Russia during 1708-1710, the disease or the reporting of the disease could have been concealed or obscured by plague, which raged among armies and civilians at this time.

A thesis by John Appleby (49) describes nine British physicians who worked in Russia during the eighteenth century; only one of the nine, Robert Erskine (1677-1718), admired by his patient Czar Peter the Great, was active in medical affairs during 1708-10. Dr. Appleby's discussion of Erskine does not mention epidemic respiratory disease. An older thesis by Herrmann (50) discusses epidemic influenza in Russia but does not assert that the disease occurred there in 1708, 1709, or 1710.

In Richter's three-volume history of medicine in Russia (51) the present authors have found no mention of epidemic influenza having occurred in that domain in 1708-10. The treatise however includes lists and biographical notices of eight physicians who apparently worked in Russia at that time. Of

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an examination of Mansa's pamphlet (*Pesten i Helsingør og Kiøbenhavn 1711, skildret fra et laegevidenskabeligt Standpunkt*; supplement til de i «Historist Tidsskrift», Kjøbenhavn, Lunos, 1844, 38 pp.) reveals no mention of 1708-1710. Equally unrevealing for this period is SALOMONSEN, M. (1854). *Udsigt over Kjøbenhavns epidemier i den sidste halvdeel af det attende aarhundrede*. Kjøbenhavn, Klein.

- (48) FAIDHERBE, A. (1897-1898). Aperçu chronologique des principales épidémies de la Flandre. *Janus*, 2, pp. 49-56; 153-168. (see p. 166).
- (49) APPLEBY, J. H. (1979). *British doctors in Russia, 1657-1807. Their contribution to Anglo-Russian medical and natural history*. PhD. thesis, East Anglia University. See esp. pp. 32-85.
- (50) HERRMANN, O. (1854). *De catarrho Russico ejusque epidemii*. Thesis. Berlin, Schade.
- (51) RICHTER, W. M. (1813-1817). *Geschichte der Medicin in Russland*. Moscow, Wsewolojsky, 3 vols.

this cohort (52) the most promising, on chronological and biographical grounds, are Robert Erskine, mentioned above, and Nicolaus Bidloo. The latter was employed by Peter the Great from 1702 until 1735. A search of their writings and a search of other primary and secondary Russian sources are beyond the scope of the present investigation. A letter to a medical scientist in Moscow has not been answered. Two United States scholars proficient in Russian medical history were unable to provide information on the subject under discussion.

## 6. OTHER EUROPEAN COUNTRIES; TURKEY

A letter received from an eminent Austrian medical historian mentions the lack of a systematic epidemiologic history of that country and the predominance of smallpox and petechial typhus in Vienna in the era under discussion.

In a letter received from Prof. G. Bratescu (53) we are informed that data are lacking with regard to respiratory diseases in Rumania, in part because of the dominance of plague. This statement is reminiscent of the remark made by August Hirsch (54) that «Turkey... and the countries immediately adjoining it were almost the only seat of plague in Europe during the eighteenth century». A similarly negative report concerning Rumania was received from Prof. Samuel Izsak of Cluj (55).

A short essay by Gheorgiu (56) mentions medieval and modern outbreaks of grippe in Bucharest, but none in the period under consideration.

Because of disturbed conditions prevailing in Poland, the present authors directed no inquiries to that country.

Two letters to academic sources in Istanbul went unanswered; this is to be regretted, since the long administrative experience of the Turks and the

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(52) Nicolaus Bidloo, Johann Melchior Gussing, Johannes D. Blumentrost, Sr., Johann Justinus Dohnell, Robert Erskine (a.k.a. Areskine), Eustachius Placidus, and Antonius Sevast (RICHTER, W. M. (1813-1817), *op. cit.* vol. 3, pp. 91-133).

(53) BRATESCU, G.: Letter to Mrs. Salli Morgenstern. Bucharest, June 15, 1983.

(54) HIRSCH, *op. cit.*, vol. 1, p. 501. On the same page Hirsch says, however, that plague was imported into Denmark and Sweden at the beginning of the eighteenth century.

(55) IZSAK, S.: Letter to Mrs. Salli Morgenstern. Cluj, Feb. 5, 1983.

(56) GHEORGIU, E. (1977). Epidemia de gripa din Bucuresti (1833). *Microbiol. Parazitol. Epidemiol.* 18, pp. 475-480.

wide extent of the old Turkish empire make it probable that Turkish archives contain information on the subject discussed herein.

## 7. AFRICA

Close to the period under consideration is an outbreak that occurred in Ethiopia. According to Pankhurst (57), deadly epidemics, presumed to be influenza, struck that country at least twice in the eighteenth century. The first of these is recorded in a royal Ethiopian chronicle under date of 1706 and obliged the emperor and his heir to leave their residence. Many persons sickened and an unknown number died. Unless evidence should become available that the disease appeared in adjacent countries at about the same time, the Ethiopian incident cannot be considered part of a larger pattern.

Prof. Paul Ghalioungui of Cairo kindly directed attention to the travels of Paul Lucas (1664-1737) (58). Neither these nor Sandwith's book (59) suggests that epidemic influenza was present in Egypt during 1708-09. Letters to a noted microbiological institute in Algeria and to one in Tunisia yielded no positive information.

## SUMMARY AND CONCLUSIONS

The present report describes an effort to ascertain the true extent of the great European outbreak of influenza which occurred in 1708-1709. Was it limited to western Europe, as Lancisi and subsequent commentators declared? Can evidence of greater dissemination be discovered? And does extant evidence suggest any directions in which future research should proceed?

In available British writings, not devoid of intricacy and error, no convincing evidence was found that epidemic influenza occurred in Great Britain in 1708-1709. Coughs and catarrhs were reported but there is no reason to judge that these were other than sporadic. Widespread respiratory infection apparently occurred in 1709-1710; however, this is not certain. The so-called Dunkirk rant, designated as a catarrhus fever, occurred in 1710. In the single available report its area of occurrence is stated vaguely as «in Harwich

(57) PANKHURST, R. (1977). A historical note on influenza in Ethiopia. *Med. Hist.* 21, pp. 195-200.

(58) LUCAS, P. (1712). *Voyage du sieur Paul Lucas*. Paris, Simart, 2 vols.

(59) SANDWITH F. M. (1905). *The medical diseases in Egypt*. London, Kimpton.

&c.» This remark suggest a local outbreak, but the true extent remains to investigated.

While severe influenza is known to have occurred in Copenhagen in 1709, we have found no report of the disease from other places in Denmark. A medical historian has mentioned «great general sickliness» as having occurred in Sweden at the same time. Further research, including the examination of parish records, is likely to clarify this part of the problem. Our correspondence with Scandinavian libraries yielded no reference to relevant secondary sources.

Similar deficiencies exist with respect to the presence or absence of epidemic influenza in Russia at this time. Promising sources of information include the writings of British, Dutch, and German physicians who are known to have worked in Russia in the early eighteenth century. It is also probable that hospital records and military records for this period still exist. For Russia, as for Sweden, the data are likely to be complicated by the concurrent presence of war and plague at this time.

No positive information could be obtained either from correspondence or through the use of bibliographies, about influenza in 1708-1709 in Austria, Poland, Rumania, Turkey, Egypt, Tunisia, or Algeria. An outbreak of what may well have been influenza —the identity of the disease is uncertain— occurred in Ethiopia in 1706, but there is no evidence that it was connectec with the European influenza of 1708-1709.

For North America the record is not completely blank. In the province of Virginia, which included what is now West Virginia, a widespread severe acute illness, which was probably but not certainly a respiratory infection, started at some time before February 28, 1709 and continued at least until May 18, 1709. Not demostrably connected with this was another severe outbreak, which was in existence in December, 1709 and continued at least until February, 1710; its characteristics are not recorded in the documents consulted. Fragmentary evidence, documented only in part, suggests that influenza was present and seriously troublesome in Charleston, S.C. in 1709.

A large outbreak —its exact size is unknown— occurred in Québec in 1708 and caused at least a few deaths. This disease was a respiratory infection or cuased complications in the respiratory system, since it is known to have produced pleurisy. The location of some of the burials is known and it is suggested that the application of advanced radio-immunological methods to the cadavers may throw light on the cause of this outbreak.

Our investigation has shown that the outbreak in Europe was somewhat wider than previous discussions indicate. Outbreak of acute respiratory infection occurred in North America at the same time but there is no proof that these were connected with one another or with the simultaneous large outbreak in Europe.

In its strictest sense the term *pandemic* cannot be applied to the huge European outbreak described by Lancisi.

#### ACKNOWLEDGEMENTS

We thank the following ladies and gentlemen for their kindness in supplying information during the course of the present investigation

Jay T. Alexander, Lawrence, Kan; Marvin T. Allison, Miami; John Appleby, London; Gheorghe Bratescu, Bucharest; David L. Cowen, Jamesburg, N. J.; Anne K. Donato, Charleston, S. C.; Inge Dupont, New York; Nancy Frieden, Larchmont, N. Y.; Claire Gagnon, Québec; Luis García Ballester, Santander; Paul Ghalioungui, Cairo; Hallberg Hallmudsson, New York; Dorothy T. Hanks, Bethesda; B. Hapgood, Cardiff; M. Hvardal, Oslo; Samuel Izsak, Cluj; Erna Lesky, Innsbruck; Jocelyn Mckillop, Winnipeg; Salli Morgenstern, New York; Guillermo Olagüe de Ros, Granada; Linda Ordogh, Montreal; Angelo Palma, Rome; G. R. Paterson, Toronto; Robin Price, London; David Williams, Barry; Michel Wyczynski, Ottawa.