CHAPTER FOUR
THE SPREAD OF BUBONIC PLAGUE OVER DISTANCES

Contiguous Spread and Metastatic Spread

The advocates of alternative theories, particularly Twigg,1 Scott and Duncan,2 and Cohn,3 deny that bubonic plague spreads by leaps (per saltum) by the movement of people or goods, technically often also called metastatic spread. Although they must have seen Shrewsbury’s presentation of the principle and mechanisms of metastatic spread of plague by transportation of rats and rat fleas,4 they insist that bubonic plague spreads only by contact between adjacent rat colonies, technically called contiguous spread. In the words of Twigg:

An important aspect of plague spread is the continuity across a rat population. The more isolated the rat units the slower will be the movement of plague amongst rats, and ultimately, to people.5

Among the specific examples he cites in accordance with his view that this factor alone has the power of invalidating or undermining the rat-and-flea-based bubonic-plague theory is the following:

The disease would be expected to have spread northwards from the counties of East Anglia, which it had reached in May 1349, spreading through the rat population and causing local epizootics. Yet throughout this large area the high mortality occurred only one month later over the whole diocese. Plague is said to have reached York on 21 May but according to Thompson (1914)6 the deaths of clergy over the whole of this vast

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1 Twigg 1984: 57, 100, 185. However, Twigg acknowledges that plague can be spread by fleas over various distances on pages 128–9, see below.
2 Scott and Duncan 2001: 79–80; Scott and Duncan 2004: 177.
3 In his monograph, Cohn accepts that bubonic plague can be spread by shipments of grain, but denies all other types of spread by goods, textiles or clothing: see Cohn 2002: 29, 31–2. However, later, in a review of my monograph on the Black Death, he denies flatly the relevance of the concept of metastatic spread and the fact of spread by leaps, see Cohn 2005: 1354–5. Cohn repeats this view in a recent paper, Cohn and Alfani 2007: 178.
5 Twigg 1984: 100.
6 A.H. Thompson has written two valuable papers on the mortality of the beneficed clergy in the Black Death which will be discussed at some length below in the chapter on seasonality. See also the bibliography.
northern diocese were on the increase soon afterwards. As we have seen, bubonic plague can be excluded from the reckoning if these facts are correct, and there is no reason to doubt them.\footnote{Twigg 1984: 185.}

Objections against this account of the spatio-temporal pattern of spread are not important at this point; I cite the passage to illustrate the implied unconditional view that plague spreads according to a territorially contiguous epizootic process, by direct contact between adjacent rat colonies, and, consequently, that the Black Death could not have been bubonic plague.

Presumably the advocates of alternative theories all adhere to this view of the very slow territorial spread by contact between rat colonies because it is obviously incompatible with the real spread rates of historical plague epidemics. Since this can be seen as a sufficient condition for rejecting the conclusion that historical plague epidemics were bubonic plague, they can therefore triumphantly conclude that historical plague epidemics must have been a different disease, which justifies their endeavours to identify an alternative disease. This erroneous view is misleading other serious scholars in the field, derailing potentially good research.\footnote{Wood, Ferrel, DeWitte-Aviña 2003: 444; Drancourt, Houhamdi, and Raoult 2006: 234–41; below: 193–4, 461.} The time is ripe for taking the advocates of these assertions to task.

The metastatic mode of spread has long been empirically established as a characteristic feature of the epidemiology of bubonic plague (as of most other epidemic diseases). Since the advocates of alternative theories deny or ignore the facts on this crucial point in order to save their theories, I will now not just paraphrase or summarise the scholarly literature on the mechanisms of spread of bubonic plague, but will supply a broad collection of citations from the primary studies and standard works on plague which should settle the matter definitively. However, Cohn’s assertions on the matter in particular are so extraordinary that they warrant some concluding remarks on the background of the evidence presented.

In this chapter, the citations constituting the heart of the subject will be presented chronologically to demonstrate the history and development of this insight, how conspicuous this feature of plague epidemiologically was, how early plague researchers identified these mechanisms