



Kent Academic Repository

**Palmer, R. J (1978) *The Control of Plague in Venice and Northern Italy 1348-1600*.
Doctor of Philosophy (PhD) thesis, University of Kent.**

Downloaded from

<https://kar.kent.ac.uk/86158/> The University of Kent's Academic Repository KAR

The version of record is available from

<https://doi.org/10.22024/UniKent/01.02.86158>

This document version

UNSPECIFIED

DOI for this version

Licence for this version

CC BY-NC-ND (Attribution-NonCommercial-NoDerivatives)

Additional information

This thesis has been digitised by EThOS, the British Library digitisation service, for purposes of preservation and dissemination. It was uploaded to KAR on 09 February 2021 in order to hold its content and record within University of Kent systems. It is available Open Access using a Creative Commons Attribution, Non-commercial, No Derivatives (<https://creativecommons.org/licenses/by-nc-nd/4.0/>) licence so that the thesis and its author, can benefit from opportunities for increased readership and citation. This was done in line with University of Kent policies (<https://www.kent.ac.uk/is/strategy/docs/Kent%20Open%20Access%20policy.pdf>). If y...

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title of Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our [Take Down policy](https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies) (available from <https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies>).

THE CONTROL OF PLAGUE
IN VENICE
AND NORTHERN ITALY
1348-1600

by
RICHARD JOHN PALMER

Ph.D. thesis
University of Kent at Canterbury
1978

CONTENTS

Acknowledgements	page	ii
List of illustrations and appendices		iii
Abbreviations		iv
Abstract		v
Introduction		vi
Chapter 1	The Black Death	1
Chapter 2	The development of plague control in the fourteenth and fifteenth centuries	27
Chapter 3	The establishment of the Venetian Health Office	51
Chapter 4	Plague treatises in the mid-sixteenth century	87
Chapter 5	Defending Venice against plague	123
Chapter 6	Cooperation, conflict and control	149
Chapter 7	The lazarettos	183
Chapter 8	Administrative problems of the Venetian Health Office 1541-1575	211
Chapter 9	Physicians, the Health Office and the state: the Venetian crisis of 1576	238
Chapter 10	Religion and the plague	280
Conclusion		315
Appendices		322
Principal manuscript sources		356
Bibliography		367

ACKNOWLEDGEMENTS

I owe a debt of gratitude to those who have helped during the preparation of this thesis. Special thanks are due to my supervisor, Dr. Peter Laven, who introduced me to Venetian history, and from whose thoughtful approach to historical studies I have learned a great deal. I am also grateful to fellow research students and staff at the University of Kent, and to scholars in Venice, for sharing with me the fruit of their own researches. I am particularly indebted to Professor Brian Pullan whose studies of the Venetian poor law introduced me to the Provveditori alla Sanità, to James Williamson for valuable assistance when I began research in Venice, to Nicholas Davidson for the benefit of his knowledge of religion and dissent in Venice, and to Benny Arbel of the University of Tel Aviv for drawing my attention to a number of manuscripts without knowledge of which this study would have been the poorer. My thanks are due to many librarians and archivists in England and Italy. I am especially indebted to the staffs of the Archivio di Stato and the Biblioteca Nazionale Marciana in Venice and to the staff of the Wellcome Institute for the History of Medicine in London. Finally I acknowledge with gratitude the help of my wife Valerie, who has undertaken the typing of this thesis.

LIST OF ILLUSTRATIONS
AND APPENDICES

Illustration 1	A health pass for merchandise, issued in Venice, 1624	following page 137
Illustration 2	A health pass for travellers, issued in Pavia, 1624	137
Illustration 3	The lazaretto of Milan	192
Illustration 4	The lazaretto of Verona	194
Illustration 5	The lazaretto of Padua	194
Illustration 6	The Lazaretto Vecchia of Venice	204
Illustration 7	The Lazaretto Nuovo of Venice	204
Illustration 8	The lazaretto of Ancona	209
Appendix 1	Measures against the Black Death in Venice	page 322
Appendix 2	Refugees from plague in Ragusa may not approach Venice	324
Appendix 3	The foundation of the Lazaretto Vecchio	326
Appendix 4	Epidemics in Venice 1348-1631	328
Appendix 5	Death in Venice 1537-1580	338
Appendix 6	The foundation of the Venetian Health Office	339
Appendix 7	The Provveditori alla Sanità 1486-1600	340
Appendix 8	Plague areas banned by Italian Health Offices 1590-1599	353
Appendix 9	The foundation of the Lazaretto Nuovo	355

ABBREVIATIONS

AS	Archivio di Stato
ASF	Archivio di Stato, Florence
ASM	Archivio di Stato, Milan
ASMant	Archivio di Stato, Mantua
ASMod	Archivio di Stato, Modena
ASP	Archivio di Stato, Padua
ASV	Archivio di Stato, Venice
ASVat	Archivio Segreto Vaticano, Rome
BBQ	Biblioteca Queriniana, Brescia
BMV	Biblioteca Nazionale Marciana, Venice
MCV	Museo Civico Correr, Venice
m.v.	modo veneziano (The Venetian year ran from March to February, e.g. 13 January 1500 m.v. = 13 January 1501 in modern reckoning).

ABSTRACT

The classical theory that plague was caused by breathing in corrupt air was challenged by the Black Death, which was seen to be contagious. Civic authorities responded more quickly than the medical profession, and were increasingly involved in attempts to prevent the spread of plague. Particularly influential was Milan, where a permanent Health Office, responsible for plague control, was established before the mid-fifteenth century. Venice maintained a Health Office from 1490. At first its concerns were civic, but later it took responsibility for the whole Venetian mainland and for the work of provincial Offices. Plague control came to be conceived in broad territorial terms, and by 1600 the Health Offices of the Northern Italian states were in close cooperation.

To control disease the Health Offices banned infected areas, preventing the movement of persons and merchandise by cordons sanitaires and health passes. From the fifteenth century lazarettos were established, at first as hospitals for the plague sick, and later as centres for quarantine and disinfection. Although hampered by administrative problems, the plague measures corresponded remarkably to the needs of the situation.

The knowledge of plague gained inductively by the Health Offices stood in uneasy relation to theological and classical theories about epidemics. In the mid-sixteenth century Fracastoro and other physicians sought a synthesis. Writers on the epidemic in Venice and Padua in 1555-6 believed that plague might arise initially by corruption of the air and then spread elsewhere by contagion alone. In the plague of 1576, however, it was doubted whether plague in which contagion alone was operative could be called 'true plague'. The resulting disputes revealed the continued vigour of classical theory in the late sixteenth century. The survival of theological views of plague was promoted at the same time by the gathering pace of the Counter Reformation.

INTRODUCTION

In the centuries which followed the Black Death, measures to control plague were adopted and steadily elaborated in Western Europe by civic and state authorities. The main focus of this development was Northern Italy, where, in the fifteenth and sixteenth centuries, governments established Health Offices to organise the struggle against the disease. This thesis studies the creation of these Offices, and traces the progress of their efforts to 1600, when they can be said to have reached maturity. Attention centres on Venice, which, as the principal intermediary in trade between the West and the plague-ridden eastern Mediterranean, has been thought to have had a special importance in the history of plague.

In addition, the thesis is concerned with contemporary theories about the causation and spread of epidemics held by members of the medical profession and by the Church. It traces the origin of these ideas to classical and biblical authorities, and examines a theme of central importance in the history of medicine and science in the Renaissance, that is, to what extent the inherited wisdom of authorities was subject to modification in the light of experience. At the same time the relation is explored between intellectual theories of epidemics and government action expressed through the Health Offices. Were the Offices dependent on the theories of physicians, or were they pragmatic, taking their own experience of plague as the basis for action? This, then, is a study in administrative and intellectual history and the relation between them. The demographic and economic implications of plague are not dealt with except incidentally, where these have prompted governments to take an active part in plague control.

Since the eighteenth century local studies in the history of plague have been published in daunting profusion, and in some cases

national surveys have been attempted, such as that by Corradi on Italy, and those by Creighton and Shrewsbury on the British Isles. (1) There is also a wealth of literature on the economic and demographic significance of epidemics. (2) Until recently, however, there has been almost no interest in plague control or its implications for the early modern period. The work of the Italian Health Offices, one of the most striking aspects of the history of medicine in the Renaissance, has scarcely been mentioned in general histories of medicine. Whilst however this thesis has been in preparation, there has been a remarkable upsurge of interest in the subject. Carlo Cipolla has published a study of plague control in Prato, in the Duchy of Tuscany, during the epidemic of 1630 (3), and an essay on the origin and development of the Italian Health Offices. (4) Jean-Noël Biraben has produced an important and wide-ranging study of plague in Europe, which devotes more space to plague control than any previous work, and which is certain to provide the context in which further, more specialised studies will be discussed. He argues that in the second half of the seventeenth century, for the first time, vast resources were being committed to plague control on an international scale, over wide geographical areas. It was the success of this effort which brought about the

1. Alfonso Corradi, Annali delle epidemie occorse in Italia dalle prime memorie fino al 1850 (8 vols., Bologna, 1865-94; also vol. 1, Avanti l'era volgare. Dopo l'era volgare fino all'anno 1600, reprinted Bologna, 1973).
Charles Creighton, A history of epidemics in Britain (new edn., 2 vols., London, 1965).
J.F.D. Shrewsbury, A history of bubonic plague in the British Isles (Cambridge, 1970).
2. On England, for instance, there is a recent review of the literature in John Hatcher, Plague, population and the English economy 1348-1530 (London, 1977).
3. Carlo M. Cipolla, Cristofano and the plague. A study in the history of public health in the age of Galileo (London, 1973).
4. Published in his Public health and the medical profession in the Renaissance (Cambridge, 1976).

disappearance of plague from Western Europe. (1) This argument raises problems which are not new, but which Dr. Biraben's research has brought more clearly into view, and which are further examined in a recent publication by Local Population Studies, The plague reconsidered: a new look at its origins and effects in sixteenth and seventeenth century England (Matlock, 1977).

Whilst the present thesis is the product of independent research, it is complementary to recent studies. It develops in greater depth some of the themes in Professor Cipolla's essay on the Health Offices, and also contributes to the argument on the success of plague control opened up by Dr. Biraben. Ironically, the richest documentation in support of Dr. Biraben's thesis is to be found in the Health Office archives in Italy. But only in relation to France is Dr. Biraben's work based on manuscript sources. Elsewhere he relies on secondary works, many of them local studies, the accuracy of which cannot always be relied upon. (2) For this reason the present study of plague control in Northern Italy has an important complementary role.

The controversial nature of Dr. Biraben's thesis explains in part why the history of plague control has in the past been neglected. Were in fact the measures used by the Health Offices, taken in ignorance of modern bacteriological and epidemiological

1. Jean-Noël Biraben, Les hommes et la peste en France et dans les pays européens et méditerranéens (2 vols., Paris, 1975-6). vol.2, p.183.

'Dans la seconde moitié du 17^e siècle enfin, les gouvernements participent activement et massivement à la lutte; cette fois les moyens mis en oeuvre sont à la mesure de la maladie qui, sauf quelques retours limités, disparaît de l'Europe occidentale après trois siècles de présence ininterrompue dans ce continent'.

2. On the Health Offices of Northern Italy, for instance, Dr. Biraben's account is the most garbled yet published. He assumes the Milanese Office to have been instituted in 1485, when three noble Venetians were allegedly appointed to introduce Venetian-style plague control (ibid., vol.2, pp.138-139). In fact the Milanese Office, active from at least the mid-fifteenth century, was an inspiration to Venice as to other states.

insights, of any practical significance? Did they contribute to the economic and social well-being of the states which employed them, or were they a vain waste of resources? The answers to these questions depend on how the behaviour of plague is interpreted, from its invasion of Western Europe in 1348 to its retreat in the second half of the seventeenth century.

Historically, plague has been manifest in a number of forms. In bubonic plague the disease enters the body through the skin. At the site where the skin is penetrated a blister forms, which afterwards develops into a blackish carbuncle. There is also swelling of the lymphatic glands, and buboes are formed, usually in the groin, but sometimes in the armpit or neck. If neither death nor recovery takes place at this point, general septicaemia may set in, with further carbuncles and subcutaneous haemorrhages marking the body. In pneumonic plague, which sometimes develops during bubonic epidemics, the disease enters the body through the lungs. The latter are severely infected and a blood-stained sputum is a principal symptom. This form is infectious, plague bacilli being sprayed into the air as the patient coughs. Pneumonic plague, which is almost always fatal, contributed to the mortality of the Black Death, but it was virtually absent from Northern Italy from the late fourteenth century, and may have been of little consequence in Europe generally after this time. In cases of septicaemic plague, which are found during bubonic epidemics, the blood is so quickly infected that death may intervene within hours of infection, before bubonic symptoms have time to develop.

The modern understanding of plague has developed from discoveries made in the Far East in the 1890s. The plague bacillus, now generally known as Yersinia pestis, was identified in Hong Kong in 1894, using the bacteriological methods developed

by Pasteur and Koch. At about the same time a connexion was observed between rat epizootics and epidemics of plague amongst the human population. Yersin and other investigators concluded that plague was a disease of rats in which humans only incidentally participated. But how was the disease transmitted from rat to man? In 1898 it was suggested that the agent was the rat flea, and this theory was strengthened by the work of the Plague Research Commission in Bombay in 1908, which showed conclusively that rat plague was flea borne. Further research demonstrated that one particular rat, the black one, Rattus rattus, and one rat flea, Xenopsylla cheopis, were especially responsible for the generation of human plague. The sequence of events leading to a plague epidemic was now clear. First there was an epizootic amongst the rats. As the rats died, their fleas, bearing the plague bacillus with them, sought an alternative source of nourishment. This they found in the human population. With the bites of the infected rat fleas the plague epidemic began. Plague, then, was not a disease which spread from man to man as the Health Offices had believed, but one which spread only from rat to man.

This epidemiology of plague, which is most clearly described by L.F. Hirst (1), is unquestionably valid for the Far East at the close of the nineteenth century. It has also been widely assumed to provide a model of how plague behaved in Western Europe between the fourteenth and seventeenth centuries. For a time it even seemed to explain one of the mysteries of the history of plague, its disappearance from Western Europe in the

1. L.F. Hirst, The conquest of plague (Oxford, 1953), p.101 ff. Hirst himself was an epidemiologist with experience of plague in the Far East.

seventeenth century. (1) One recent writer, the bacteriologist J.F.D. Shrewsbury, has taken the modern epidemiology of plague to extreme limits in the interpretation of history. (2) He believes so strongly in what he calls the 'invariable aetiology' of bubonic plague that he is prepared to say not merely what happened in the past, but what must have happened on the basis of our knowledge of plague in the modern world. The result cannot be thought satisfactory from an historical point of view. Furthermore, it is doubtful whether the aetiology of plague is as invariable as Professor Shrewsbury suggests in the modern world, let alone the past.

In the 1920s the epidemiologist Ricardo Jorge introduced the notion of sylvatic plague, throwing into relief the role of a number of species of wild rodents as permanent foci of plague in various parts of the world. In 1932 he suggested that it was the human flea, Pulex irritans, and not a rat flea, which played the predominant role in the history of bubonic plague in Europe. (3) This theory has since received a large measure of support. In a number of plague epidemics in the twentieth century research has failed to inculcate the local rat population. (4) As a result of

1. It was argued that the arrival in the West of a new rat species, the brown one, Rattus norvegicus, which did not live in so close a relation to man as the black rat, and which bore an allegedly less dangerous flea, brought about the decline of the disease. It is clear nevertheless that Rattus norvegicus did not make its appearance until the eighteenth century, whereas plague had already disappeared from the countries of Western Europe between the 1650s and 1670s.
2. J.F.D. Shrewsbury, op. cit.
3. Ricardo Jorge, 'Les anciennes épidémies de peste en Europe comparées aux épidémies modernes', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.361-375.
4. Ernst Rodenwaldt, 'Pest in Venedig 1575-1577. Ein Beitrag zur Frage der Infektkette bei den Pestepidemien West-Europas', Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse, Jahrgang 1952, 2 Abhandlung, p.222 ff. According to Professor Rodenwaldt this is true of the outbreaks in Opporto in 1899, in Djiddah in 1906, Paris in 1920 and Bolivia in 1937. The absence of rat involvement in rural plague in Iran, Iraq, Syria and Turkey is noted in Local Population Studies, op. cit., p.14.

their research into plague in Morocco, where the human flea is superabundant, the French biologists Blanc and Baltazard concluded that Pulex irritans had been responsible for the outbreak, and in 1941 they were able to demonstrate in the laboratory that this flea can carry the disease. (1) Pollitzer has doubted whether Xenopsylla cheopis, the most dangerous rat flea, was rampant in the cool climate of Northern Europe during the period of bubonic plague. (2) Ernst Rodenwaldt, a German biologist, has argued strongly that the human flea has been of primary importance in the history of plague in Europe. He distinguished conditions in India and the Far East, where the human flea is uncommon and the rat flea abounds, from the differing climatic conditions in Europe, where, in past ages, the human flea was probably abundant. (3) Jean-Noël Biraben also credits the human flea with an important role in the epidemiology of plague, although in his view its role was probably not an exclusive one. (4)

The controversy over the means by which plague has spread in past ages is not the subject of this thesis, but it has an underlying significance which necessitates the present excursus into epidemiology. The Health Offices believed that plague was transmissible directly from man to man, though they also considered that it could be carried by textiles and other goods. They believed that if the movement of persons and goods could be stopped by cordons sanitaires and other means, then plague could be controlled. All parties would agree that their theory was substantially correct. Plague has demonstrably been carried by

1. The evidence is discussed by R. Pollitzer, La peste (Geneva, 1954), p.401 ff.
2. His argument is discussed in Local Population Studies, op. cit., p.14.
3. Rodenwaldt, op. cit., p.119 ff.
4. J-N. Biraben, op. cit., vol.1, p.334 ff.

humans and their goods. It has advanced primarily along trade routes and at a speed commensurate with human transport. (1) On the other hand, while human fleas can move only with their human hosts, rat fleas, transported by rats, are less subject to control. It would be wrong to put too much stress on the latter point since the black rat is notably sedentary in habit and, according to Dr. Biraben, has never been found more than 200 metres from a habitation. (2) Nevertheless, apologists who have used the rat-flea theory in historical interpretation have tended to assume that the sort of measures used by the Health Offices were ineffective. L.F. Hirst, for instance, has dismissed one of the most important techniques employed by the Offices:

'In practice the attempt to cope with plague by frontier-long inland cordons was bound to be a failure because, however efficient, numerous and incorruptible the staff employed for the purpose, plague rats know no frontier'. (3)

What historical evidence can be brought to bear on this controversy? One fact tells heavily against the involvement of the rat flea. According to Hirst, Shrewsbury and others, a rat epizootic must have preceded every epidemic of bubonic plague. Writing for instance of the plague in London in 1665, Shrewsbury observes that 'dead plague-rats must have been littering the houses and streets in their thousands'. (4) Yet no reference has been found to any such phenomenon in Europe at any time from the rise of plague to its decline. This is despite a vast literature, comprising medical treatises, contemporary narratives and diaries, as well as the Health Office archives which are the product of generations of investigation into the phenomenon of plague. What

1. Biraben, op. cit., vol.1, p.285 ff. Biraben provides further confirmation of this generally accepted thesis from a close study of the diffusion of plague from Marseilles in the years 1720-22.
2. Ibid., vol.1, p.17.
3. Hirst, op. cit., p.401.
4. Shrewsbury, op. cit., p.14.

is all the more striking is that plague treatises record all manner of other natural phenomena which preceded epidemics and which, it was thought, might have served as portents. These phenomena included disturbances amongst animals, such as sudden increases in the insect population. (1) Avicenna had suggested that there was danger when mice, snakes and other creatures living below ground fled to the surface, and when birds deserted their nests and young. (2) His statement was known and widely quoted until at least the seventeenth century, yet no author produced any corroborative evidence based on observation. (3) Shrewsbury assumes that rat epizootics may have gone unrecorded because contemporaries would not have accorded them any significance. (4) In view of the literature on portents, this cannot be the case. Furthermore, some physicians noted specifically that there was no mortality among animals during plague epidemics, even though for them this represented an intellectual problem in view of their belief that plague arose from a poison in the air. (5) Reports of

1. E.g. Girolamo Mercuriale, De pestilentia (Venice, 1577), p.16 on phenomena prior to the plague of 1575-77.
2. Avicenna believed that earthquakes were a cause of epidemics. The phenomena which he cites, and which are still believed in some parts of the world to be predictive of earthquakes, were thus an indirect portent of epidemics. (See below, p.11).
3. Several authors, including Gabriel Magny, Rats et peste (Paris, 1907), pp.16-18, have claimed to have found evidence in plague treatises that mice or rats were recognised as having a connexion with plague. Invariably, however, it is a question not of direct observation but a quotation of Avicenna's statement on portents. The mice or rats, for instance, appear in the company of the snakes and other reptiles mentioned by Avicenna.
4. Shrewsbury, op. cit., p.14.
5. Alessandro Massaria, De peste libro duo (Venice, 1579), f.21v, is amongst the authors who tackle this question.

plague epidemics in the Far East in the late nineteenth century are in marked contrast. In the Far East rat epizootics preceding plague epidemics were witnessed by the local population and vividly recorded by missionaries, explorers and others present in the area. (1) These observations were prior to the discovery of Yersinia pestis, and were not a product but a cause of research into the connexion between rats and plague. Here there would seem to be strong evidence supporting Rodenwaldt's view that plague in the Far East has not been typical of plague elsewhere and at other times.

A number of further points have been made on the importance of the human flea. Experience in the early modern period suggested that persons and their goods were responsible for transporting plague from place to place. The epidemic, for instance, which reached Venice in 1575 appears to have been carried by a traveller from the infected region around Trent (2), and to have been disseminated in the city by the sale of his infected clothing. It is Rodenwaldt's view that whereas hungry rat fleas may bite humans in the absence of rats, they would not accept human beings as alternative homes. If therefore plague was carried by solitary travellers and bundles of clothing, then the rat flea would be unlikely to have been responsible. (3) He also points out that whereas in Indian plague epidemics it has been rare for many members of the same household to be infected, as might be expected if the disease were carried from man to man by the human flea, the obverse has been the case in the history of

1. Hirst, op. cit., p.101 ff.

2. See below, pp.211-212.

3. Rodenwaldt, op. cit., pp.234-235.

plague in Europe. (1)

Investigation into the capacity of the human flea to transmit plague has shown it to be a far less efficient vector than the rat flea Xenopsylla cheopis. If it played an important role in the history of plague then two conditions must have been met. First, the flea must have been extraordinarily abundant. Second, plague cases must have shown an unusually high degree of septicaemia, since only a high concentration of plague bacilli in the blood stream would facilitate the transmission of the disease from man to man. (2) Almost nothing is known about the density, or nature, of the flea population in history, although it is known that fleas were a nuisance to rich and poor alike. (3) But there is some evidence that bubonic plague has presented a more dramatic clinical picture in early modern Europe than it has in recent times. Rodenwaldt has pointed out that in most modern epidemics in the Far East the appearance of a bubo has been the principal symptom; only unusually have there been marked symptoms on the skin. In the history of plague in Europe, however, and certainly in the plague in Northern Italy in the 1570s, buboes were only a part of a broader syndrome. The clearest description of the symptoms in Venice in 1576 refers to buboes (tumores) in

1. Rodenwaldt, op. cit., p.224. Contemporaries such as Girolamo Mercuriale (op. cit., p.3), certainly noted the extinction of whole families from plague, but it is not clear to me that this could not have arisen from concentrations of rat fleas.
2. Hirst, op. cit., p.241. Hirst and other apologists of the rat flea theory acknowledge that the human flea would have been important if these conditions were met.
3. According to J.R. Hale, for instance, the household accounts for 1509 of the wealthy Venetian Marco Falier show that he kept mulberry twigs under his bed to divert the fleas, J.R. Hale, Renaissance Europe 1480-1520 (London, 1971), p.23.

the groin, armpit and beneath the ears, to carbuncles (carbunculi) all over the body, and to other markings of the skin (vibices frequentissimae in dorso, maculae nigrae, violaceae, rubeae). (1) Death occurred usually on the fourth day, few patients surviving beyond the fifth day (2), again suggesting that the disease had a more rapid and dramatic effect than has been more recently observed. (3)

The evidence so far discussed would seem sufficient to cast some doubt on the widely accepted view that rats and rat fleas were primarily responsible for plague in Western Europe. It may be that the Health Offices' belief that plague was transmitted from man to man was not, after all, misguided. This is not to promote an alternative orthodoxy. Microscopes and the techniques of modern epidemiology illuminate the present, not the past. At the same time historical evidence cannot answer all the questions which can be asked. It may be that at present an authoritative statement on the transmission of plague in European history cannot be made. This is all the more reason to avoid historical interpretations based on a priori hypotheses, and to allow the historical evidence to speak for itself. For this reason the

1. Mercuriale, op. cit., pp.2-3. The symptoms recorded in contemporary treatises are surveyed by Rodenwaldt, op. cit., p.236 ff.
2. Mercuriale, op. cit., p.3.
'rari fuerunt qui quintam diem transgressi sunt, mior pars in quarta vel intra quartam obiit. Non defuerunt etiam qui secunda et prima die occubuerint'.
The latter cases were presumably due to acute septicaemic plague.
3. According to Jean-Noël Biraben, of deaths from bubonic plague 1-2% are sudden, 30-40% take place within two days, 50-55% within a week, 60-65% within three weeks, 80-90% within four weeks and the rest thereafter, Les hommes et la peste, op. cit., vol.1, p.11.

modern theories of plague described at length here are not discussed further in the chapters of this thesis. Rather, the work of the Health Offices is made to speak for itself. It may be that it is neither modern biologists nor modern historians who can speak most accurately about plague in early modern Europe, but the health officials of Venice and Northern Italy who fought the disease and learnt from it. Their statements and beliefs, however, must be evaluated in the light of their work, its development, and its relation to experience and to the intellectual climate of the day.

CHAPTER 1.

THE BLACK DEATH

Contemporary chroniclers recorded that the Black Death was brought to Western Europe by Genoese galleys returning from the Black Sea. (1) They brought it to Messina in Sicily in October 1347, and within a few months it had spread to Ragusa, Spalato and Venice on the Adriatic coast, and to Pisa and Genoa on the Ligurian. Early in the year 1348 it began its rapid advance through the European ports and inland across the continent.

The misery wrought by that advance is beyond imagination. One third of the population of Europe is estimated to have died during the Black Death. (2) But no statistic can reveal the horror of the disease. In its bubonic form, the swelling of the bubonic tumour, usually sited in the groin or armpit, brought severe pain to the sufferer. Fever, headache and acute thirst were also usual, and as the disease progressed there might be diarrhoea and vomiting, as well as secondary swellings and pett-echial spotting of the skin. The pneumonic form of the disease was also common, and was noted at Avignon, Ragusa and Venice. (3) In this, a massive infection of the lungs led to the spitting of blood. In addition to all these horrors, the stench from the body of the patient was said to be unbearable.

Where the plague appeared, the bonds of humanity were shattered. In Avignon, Ragusa, Florence and Venice contemporaries noted how parents shrank from their children in fear of the

1. Philip Ziegler, The Black Death (London, 1969), p.16.

2. Ibid., pp.238-9.

3. On Avignon, see the description by Guy de Chauliac quoted in A.M. Campbell, The Black Death and men of learning (New York, 1966), pp.2-3. On Ragusa, see G. Gelcich, Delle istituzioni marittime e sanitarie della repubblica di Ragusa (Trieste, 1882), p.37. On Venice, see below p.17.

plague, and vice versa. Reminders of death and destruction lay all around; so much so that the government of Venice brought in a ban on the wearing of mourning, whilst that of Florence forbade the tolling of bells for the deceased. (1)

It is generally agreed that plague was absent from Western Europe between the eighth and the fourteenth centuries. (2) The Black Death came as a new disease, different in kind and scale from anything witnessed for centuries. 'It was such', wrote Guy de Chauliac in Avignon, 'that its like has never been heard tell of before', (3) and in Ragusa too the term infermita inaudita was used to describe it. (4) Governments were forced to make new efforts in epidemiology. What experience they had was derived from epidemics of other kinds. Chronicles are full of references to pestilences before 1347, though it is rarely possible to identify their nature. (5) Many cities, particularly in Italy, had already codified extensive health legislation. Surviving statutes include those of Florence dated 1324 (6), and those of Milan which were several times revised between 1330 and 1396. (7) A number of the Venetian statutes were policed by the magistracy of the Signori di Notte. (8) Statutes in these cities were concerned with the running of hospitals, the control of the

1. ASV., Compilazione leggi, Busta 337, f.131r.
2. J-N Biraben and J. Le Goff, 'La peste dans le Haut Moyen Age', Annales, vol.24, 1969, p.1485.
3. Quoted in Campbell, op. cit., p.2.
4. Gelcich, op. cit., p.37.
5. For a survey of such epidemics in Italy, see Alfonso Corradi, Annali delle epidemie occorse in Italia dalle prime memorie fino al 1850 (Bologna, 1865-94), vol.1 (Bologna, reprint 1973). For Britain, C. Creighton, A history of epidemics in Britain, vol.1 (Cambridge, 1894, reissued 1965).
6. F. Carabellese, La peste del 1348 e le condizioni della sanità pubblica in Toscana (Rocca S.Casciano, 1897). A number of Florentine statutes relating to hygiene are also published in Guido Pampaloni, Firenze al tempo di Dante: documenti sull'urbanistica fiorentina (Rome, 1973).
7. A.F. La Cava, Igiene e sanità negli statuti di Milano del secolo XIV (Milan, 1946).
8. Filippo Nani-Mocenigo (ed.), Capitolare dei Signori di Notte (Venice, 1877).

medical profession and with civic hygiene in general. In Venice industries productive of noxious fumes were zoned on the marshy perimeter of the city. (1) The Florentine orders made provision for street cleaning and for hygiene in the meat markets, and they forbade the keeping of pigs in the city. In Milan there were orders against polluting the running water of the city with refuse, and against throwing filth into the public streets. There was provision for rubbish collection, for public lavatories, and for the removal of horse droppings. No flaying of animals or tanning was allowed within the city. Many of the statutes indicated a concern with the problem of epidemics. When the Milanese authorities ordered the removal of open sewers they did so because 'cloacae et magolcia in civitate pestilentem reddant aerem'. (2) The notion that epidemics derived from pestilential states of the air was an ancient one which will be considered at length. It is significant that such opinions were built into the legislation of the state even before 1348, presupposing cooperation between governments and the medical profession.

Civic authorities maintained close links with the medical profession. In Venice, as elsewhere, the availability of medical expertise was not left to chance; the state salaried up to twelve physicians and twelve surgeons for the benefit of the public.(3) Similarly, at least from 1258, the Venetian government enforced standards in medicine through the office of the Giustizia

1. Nani-Mocenigo, op. cit., p. 107 (8 Aug 1308).
2. La Cava, op. cit., p.64.
3. B. Cecchetti, 'La medicina in Venezia nel 1300', Archivio Veneto, series 1, vol.XXVI, 1883, pp.77-95. The practice of granting civic contracts (condotte) to surgeons and physicians continued and expanded during the 16th century in the Venetian maritime colonies. Privileges to grant such condotte may be found in ASV., Provveditori alla Sanità, Regs.12 and 13 passim. The practice was obsolete in Venice much earlier; possibly the acquisition of Padua in 1405 with its facilities for medical education increased the supply of doctors and obviated the need to attract them to the city with condotte.

Vecchia, and this practice continued even when the profession organised itself into two colleges of physicians and surgeons early in the fourteenth century. (1) Indeed government control of the profession was tight enough to prevent obedience to the Hippocratic oath. By the statutes of 1258 the physician was bound to swear an oath, not to the confidentiality of the patient, but rather to tell all as required by the Giustizieri Vecchi. (2) From 1281 surgeons were expected to report to the Cinque alla Pace all cases of wounds which came to their notice, and if there was any danger to life they had also to inform the police, the Signori di Notte. (3) With this background of cooperation, it is not surprising that governments looked to the medical profession for advice on the Black Death.

Medical science at this time was dominated by the Arabian physician, Avicenna, and his major work the Canon, written in the early eleventh century. Since however that work is largely a synthesis of the classical medicine of Hippocrates and Galen, and because in the Renaissance the influence of the latter became predominant, it is worth examining first the Greek understanding of disease.

Hippocrates' most influential statements on disease, which date from the fourth or fifth century B.C., are mainly to be found in two works, Airs, waters and places, and the first and third books On epidemics. (4) Considering his vast influence

1. Ugo Stefanutti, Documentazioni cronologiche per la storia della medicina, chirurgia e farmacia in Venezia dal 1258 al 1332 (Venice, 1961).
2. The statutes of 1258 have been published in Maria Gargioli and E. Djalma Vitali, 'La medicina nella repubblica veneta del XV secolo', Collana di 'Pagine di storia della medicina', miscellanea 7, 1963, pp.66-68, and in Stefanutti, op. cit.
3. Cecchetti, op. cit., p.97.
Nani-Mocenigo, op. cit., p.155.
4. English translations of both works are available in The medical works of Hippocrates (Oxford, 1950), edited by John Chadwick and W.N. Mann.

on the subject over some twenty two centuries, it is ironic that there is no evidence that Hippocrates had any experience of a plague epidemic, even though Galen liked to dramatise him in combat with the famous plague of Athens. (1) Nevertheless, the suggestions he made concerning diseases in general, and the factors he thought relevant to their aetiology, were to be of the highest importance. Hippocrates was a keen observer of nature. According to the Airs, waters and places,

'whoever would study medicine aright must learn the following subjects. First he must consider the effects of each of the seasons of the year, and the differences between them. Secondly he must study the warm and the cold winds, both those which are common to every country and those peculiar to a particular locality. Lastly, the effect of water on the health must not be forgotten'. (2)

As a result, Hippocrates offered an account of the role of environment in the generation of disease that has excited eulogy down to the present. (3) The seasons certainly have a role in promoting disease. It is precisely because climatic conditions affect the breeding of fleas that plague was largely a summer disease in Western Europe. (4) But Hippocrates' suggestion that atmospheric states produced disease, and were its sufficient cause, was misguided. The effect of his observations was to divert attention in plague research away from relevant phenomena on the ground, and to engender fruitless controversy over meteorological conditions.

Furthermore, whilst it has often been said that Hippocrates, unlike Galen, was neither a dogmatist nor a speculative theorist (5), he did have a talent for generating ideas which easily

1. M.D. Grmek, 'Preliminaires d'une étude historique des maladies', Annales, vol.24, 1969, p.1479.
Campbell, op. cit., p.68.
2. Hippocrates, Medical works, op. cit., p.90.
3. Arturo Castiglioni, A history of medicine (2nd ed. New York, 1947), pp.164-7.
4. L.F. Hirst, The conquest of plague (Oxford, 1953), pp.270-280.
5. Castiglioni, op. cit., pp.178-220.

became dogma in the work of his successors. This is true of his suggestion that different types of causation must be operative in endemic and epidemic disease. For whilst he accepted bad regimen as the cause of endemic disease, he sought a more universal explanation for an epidemic. In his work The nature of man he wrote,

'whenever many men are attacked by one disease at the same time, the cause should be assigned to that which is most common, and which we all use most. This it is which we breathe'. (1)

This argument, which also appears elsewhere in the Hippocratic corpus (2), that the cause of epidemics lay in the air, had the force of a compulsive simplicity. So reasonable did it seem to subsequent generations that in 1577 Girolamo Mercuriale wrote that on the basis of it scarcely anyone doubted that the cause of plague lay in the air. (3)

Galen took up these arguments of Hippocrates and developed them into a more complete theory. His writings, which date from the 2nd century A.D., are voluminous, and many have not been translated into any modern language. Fortunately, a search in the Galenic corpus for references to the causation of epidemics has already been carried out. (4) In addition to those that were found, an important text, which was frequently quoted by later writers (5), is contained in the first book of Galen's De temperamentis. (6) Hippocrates had examined diseases res-

1. Hippocrates, Works, vol.4 (London, 1959), p.25.
2. e.g. in the treatise 'On breaths', Works, vol.2 (London, 1959), p.233.
3. Girolamo Mercuriale, De pestilentia (Venice, 1577), p.14.
4. Charles Winslow, The conquest of epidemic disease (Princeton, 1943), pp.71-74.
5. e.g. Nicolo Massa, Ragionamento sopra le infermità che vengono dall'aere pestilentielle del presente anno MDLV (Venice, 1556), f.8v; Mercuriale, op. cit., p.22; Alessandro Massaria, De peste (Venice, 1579), f.19r.
6. Galen, 'De temperamentis', Medicorum graecorum opera quae exstant, ed. C.G. Kühn, vol.1 (Leipzig, 1821), pp.529-531.

ulting from various states of the atmosphere (constitutiones) characterized by combinations of hot, cold, wet and dry conditions. (1) The warm, damp atmospheric constitution was seen by Galen as a sufficient cause of plague, provided it persisted for an unusual length of time. (2) For such conditions were ideal for putrefaction, and the air was thought liable to grow corrupt. Galen felt that the air could also be corrupted in other ways, for example through vapours emanating from unburied corpses, or stagnant swamps (3), or through the rising of the Dog star. (4) Whatever the cause, a poisonous miasma was understood to brood over the plague stricken area, hatching out disease in those who breathed it in.

Here was the classical understanding which was to dominate subsequent research. Probably it would not have done so had not Galen made of it so comprehensive a thesis that it answered all possible doubts. His answer to the question of why, if the air was poisonous, everyone was not infected during an epidemic, is illustrative of the point. Hippocrates had posited the constitutional differences between men and animals as an explanation of why animals remained immune. (5) Galen took the argument further, positing the differences of constitution and mode of life between individuals as the reason why only some men

1. Particularly in the 1st and 3rd books 'On epidemics', Works, op. cit.
2. Galen, 'De temperamentis', op. cit., p.531. Speaking of the seasons Galen wrote,
'Quod si duo triave sint mutata, aut etiam totus annus calidus humidusque fuerit, necesse est, magna pestilentia succedat'.
3. Galen, 'De febrium differentiis', Medicorum Graecorum opera quae exstant, ed. C.G. Kühn, vol.7 (Leipzig, 1824), p.290.
4. Ibid., pp.291-2. It is not clear whether Galen thought the star was itself a cause or whether 'the rising of the Dog star' merely indicated the dog days, the hot season in July and August. A.M. Campbell, op. cit., p.37 stated that Galen did not mention astronomical causes of plague.
5. In the treatise 'On breaths', Works, vol.2, op. cit., p.233.

fell victim. Many, for example, were thought predisposed to disease as the result of an inactive life, given over to drinking and sexual indulgence. (1) The system of explanation thus created was foolproof; there was no phenomenon which might count against it. In any plague atmospheric conditions considered over a period were likely to have been warm and damp at some point, and in any case exhalations from swamps and from putrid matter, near or distant, always offered an alternative hypothesis. Furthermore, whatever the movements of the disease on the ground, the theory of individual disposition to infection served to explain them. The Galenic theory of epidemics was one of the most perfect pieces of pseudo-science in the history of medicine.

The measures which the classical authors recommended against the plague followed naturally from their theory. Hippocrates suggested light breathing in order to reduce the intake of corrupt air, and thought that slimming would be helpful to the heavy breather. (2) He also recommended that the air should be breathed which was furthest away from the site of the epidemic - possibly a hint that flight was in order. Galen's main recommendation is found in his claim that the plague of Athens was overcome by correcting the air with fires around the city on which were placed flowers and aromatics. (3).

To set the classical understanding of epidemics in relief, it is worth asking what concepts it lacked. First, there was no suggestion that disease had a pre-existent causative agent.

1. Galen, 'De februm differentiis', op. cit., pp.291-2.
2. In the treatise 'On breaths', op. cit., p.233.
3. Cited in Winslow, op. cit., p.72.

Disease was treated in negative terms as a disturbance of a harmony. The structure of the air was disrupted when the seasons were out of joint; disease resulting in the individual was a lack of balance between the humours. In both cases a structure was broken down in conditions of putrefaction. This was a natural process which needed no instigating agent or germ to set it in motion. Second, the concept of contagion, the passage of disease between individuals, was alien to the classical theory of epidemics. There was no mention of contagion in the works of Hippocrates. (1) Galen acknowledged contagion in the transmission of endemic diseases, but expected different principles to be operative in epidemics. Only in one isolated passage, in the 'De februm differentiis', did he speak of contagion in relation to plague:

'Quinetiam pestilentem aeris statum affere febrim, minime ignorant quicumque intellectu participant; quemadmodum et versari cum his, qui peste laborant, periculosum esse: etenim ne a contagio laedamur periculum est, quemadmodum a scabie quadam aut ophthalmia. Periculosum praeterea est consuescere his qui tabe tenentur, atque in totum cum omnibus qui putridum adeo expirant ut domicilia in quibus decumbunt, graviter oleant'. (2)

This passage indicates that Galen was aware of contagion in epidemics though it is not clear how he reconciled the notion with the Hippocratic theory which in general he followed. Perhaps the clue lies in his statement regarding the danger of associating with any who breathe out foul air so that their houses reek. Here he seems to have had in mind not a theory of infection by contact but rather a localization of corrupt air about the person of the sick. In any event, the statement is an isolated one and there is no hint that Galen made it the

1. E.W. Goodall, A short history of the epidemic infectious diseases (London, 1934), p.9.
2. Galen, 'De februm differentiis', op. cit., p.279.

basis for any practical measures against the plague.

The absence of any proper discussion of contagion in the classical texts was to be an embarrassment for later writers imbued with the teachings of classical medicine. In the 1570s Girolamo Donzellini admitted frankly that the ancients had not mentioned it (1), whilst Giovanni Battista Susio was amazed that he could find no trace of the idea in Galen's writings on epidemics. (2) Girolamo Mercuriale spoke for them all, and included Avicenna in his strictures:

'veteres medicos debiliter et obscure de contagio fuisse locutus'

and he even allowed himself a rare joke, finding Galen's silence especially strange

'qui (pace illius dicam) loquacissimus esse solet, in rebus etiam nulli momenti, ut norunt omnes'. (3)

Avicenna's theory of the aetiology of plague, expressed mainly in the first Fen of the fourth book of the Canon, was modelled very closely on that of the classical writers. But in some respects he went beyond his classical models, stressing, for example, the importance of astronomical phenomena. In his view, comets and fiery apparitions foretold the coming of plague, whilst heavenly bodies could be directly causative:

'immo oportet ut scias, quod causa prima longinqua ad illud sunt figurae coelestes, et propinqua dispositiones terrestres. Et quando faciunt necessario virtutes agentes coelestes et virtutes patientes terrestres, humectationem vehementem aeri, elevantur vapores et fumi ad ipsum, et sparguntur in ipso et putrefaciunt eum cum caliditate debili'. (4)

His stress on the passive role of the earth was also original.

1. Girolamo Donzellini, Discorso nobilissimo e dottissimo preservativo et curativo della peste (Venice, 1577), unpagged. 'Questo modo et causa non è stato avvertito da gli antichi scrittori, o almeno non ne hanno fatto mention alcuni'.
2. Giovanni Battista Susio, Libro del conoscere la pestilenza. (Mantua, 1576), ff.42r, 45r.
3. Mercuriale, op. cit., pp.7-8.
4. Avicenna, Liber Canonis (Basle 1556), p.806 (Liber 4, Fen 1, Tract. 4, Cap. 1).

In another passage, perhaps with earthquakes in mind, he spoke of putrefactions (putredines) occurring in the interior of the earth, rising to the surface to affect the water and the air.

(1) Avicenna's view that plague derived from a corruption of the air was essentially classical; it was his theory of the causation of that corruption that was original. So convinced was he that the corruption of the air derived from the elevation of poisons from the earth under astronomical influence that he found no place for the purely meteorological theory of Hippocrates:

'aer non putrescit secundum dispositionem suae simplicitatis, immo propter illud quod amiscetur ei de vaporibus malis'. (2)

Avicenna made reference to a number of phenomena which might be used to predict the coming of plague. Celestial disturbances have already been mentioned. Other signs of pestilence were the multiplication of frogs, and the generation of reptiles from putrefaction. In addition, Avicenna thought that there was danger when mice, snakes and other creatures living below ground fled to the surface and behaved as if drunk, and when animals took to flight leaving their nests and young. (3)

With regard to measures to be taken against plague, Avicenna followed Galen in seeing the primary aim as the rectification of the air. The use of perfumes and fragrant flowers was therefore important, and he also recommended sprinkling houses with vinegar, which, as a preservative, was thought to resist the putrefaction of the air. Like Hippocrates, he advised that corrupt air should be avoided at all costs. If the

1. Avicenna, Liber Canonis (Basle, 1556), p.806 (Liber 4, Fen 1, Tract. 4, Cap. 1).
2. Ibid.
3. Ibid., p.807 (Liber 4, Fen 1, Tract. 4, Cap. 4). See above, p.xiv.

atmospheric corruption derived from adjacent land, he advised refuge in high shelters; but if corruption was general in the air, brought by the wind and not derived from the earth in the immediate vicinity, he recommended refuge in subterranean caverns. (1) Finally, like Galen, Avicenna was anxious to promote personal fitness as a general prophylaxis against plague. One section of the Canon was given over to a discussion of regimen, making suggestions concerning exercise, bathing, diet and the role of sleep. (2)

The influence of Avicenna was paramount in the medical treatises occasioned by the Black Death, and, accordingly, in the advice offered to governments of the time. A number of the treatises are known to have been addressed to, or commissioned by, state or civic administrations. This is true of the earliest known plague tract, that of Jacme d'Agramont, addressed to the Lords and Council of Lerida in Spain, and of that commissioned from the Parisian medical faculty by Philip VI of France. (3) Similarly, one of the Consilia contra pestilentiam, written at Perugia by Gentile da Foligno shortly before his death in June 1348, included the recommendation that the authorities should appoint a committee to consult with the doctors in order to regulate affairs in the interests of public health. (4)

The Parisian Compendium de epidimia, written in October 1348, was of particular importance. It bore the authority of the University of Paris, and, rapidly translated into French,

1. Avicenna, op. cit., p.129 (Liber 1, Fen 3, Doct. 5, Cap.1).
2. Ibid., pp.112-122 (Liber 1, Fen 3, Doct. 2, Caps.1-9).
3. Campbell, op. cit., pp.9, 14-17.
4. Ibid., p.12.

Italian and German, it became a model for subsequent writings. The Compendium traced the origin of the disease to a planetary conjunction of Mars, Jupiter and Saturn in the year 1345. This was thought to have induced excessive heat and dampness on the earth, and drawn noxious vapours into the air. In this process earthquakes too were thought to have played a role. (1) Gentile da Foligno, who taught at Padua from 1337 to 1345, was amongst those who stressed the nearer causes of plague. His Consilium pointed to decay in the air, arising from local accumulations of filth on the earth and from stagnant lakes and ponds. (2) Others made much of the effect of disordered seasons, especially of prolonged periods of warm, damp weather. (3)

Whatever their stress on near or distant causes, to all doctors who wrote on the Black Death one fact was clear: the immediate danger to life lay in the noxious quality of the circumambient air. The plague tracts therefore urged flight from the stricken area as the best remedy. Where this was impossible, the University of Paris advocated a choice of residence on low ground, sheltered from corrupt vapours and far from marshy and fetid ground. It also suggested that windows should be glazed or covered with wax cloth except when a fresh north wind was blowing. (4) Many writers stressed the burning of aromatic woods to rectify the air, and the sprinkling of houses with vinegar and rose water. The Parisian Compendium suggested that scented pomanders should

1. Campbell, op. cit., pp.39-47.
2. Ibid., p.53ff.
3. Ibid., p.47.
4. Ibid., p.65ff.

be carried and frequently smelled. Exercise, which increased the volume of air inhaled, was generally frowned upon. So, too, was bathing, which was thought to open the pores to admit corrupt air. (1)

The plague tracts devoted considerable attention to ways of preparing the body to resist corruption. A variety of medicines were prescribed for the purpose. Purgation was also stressed, and both laxatives and diuretics employed. Bleeding served a similar purpose in freeing the body from superfluities. Special consideration was given to diet. Whilst suggestions on this subject were various, the general aim was clear: those foods were to be avoided which easily went bad, and which, it was feared, might putrefy in the stomach. In addition, writers such as Gentile da Foligno gave explicit instructions on the role of sleep, and on regimen in general. (2)

From even a brief outline of the plague tracts, their debt to traditional thought appears overwhelming. Yet in some respects experience and observation of the Black Death were also influential. Above all, the concept of contagion gained ground. Describing the plague in Avignon, Guy de Chauliac wrote:

'It was so contagious, especially that accompanied by spitting of blood, that not only by staying together, but even by looking at one another, people caught it, with the result that men died without attention, and were buried without priests'. (3)

De Chauliac's statement, and others like it, represented a considerable advance. A recent author was so impressed by

1. Campbell, op. cit., pp.66-68.
2. Ibid., p.76.
3. Quoted in Campbell, op. cit., p.3.

references to contagion in the plague tracts that, summarising their content, he wrote:

'The first conclusion.....is the universal acceptance of the fact of contagion. Not all the documents mention contagion, but none challenge it'. (1)

His statement may be true, but it is misleading. If references to contagion in the treatises are impressive, it is ultimately the small part which they play that calls for comment. The Black Death, compared with subsequent outbreaks, was remarkable for the prominent role played by the pneumonic form of plague. Bubonic plague, the spread of which depends on factors such as the activity of fleas, is not, strictly speaking, an infectious disease. That understanding of its behaviour remained obscure for so long is scarcely surprising. Pneumonic plague, on the other hand, is simple in its mode of transmission. It is highly infectious, and passes readily between man and man via the breath of the infected person. Contagion was therefore operative in the Black Death in a manner more manifest and observable than was the case in most subsequent outbreaks of plague. Seen in this light, De Chauliac's statement on contagion was no more than might have been expected. Far more remarkable is the number of tracts which did not mention contagion at all. Of the fourteen treatises emanating from Christian Europe which were analysed by Anna Campbell, no less than five fell into this category. What is more, the concept of contagion was of small importance in the other nine. It remained unrelated to the doctrine of the air's corruption which had universal predominance, and no writer made it the basis for advice on means to control the disease.

1. Winslow, op. cit., p.99.

The conservatism of the medical writings in relation to contagion appears the more remarkable when contrasted with comments on the Black Death from outside the profession. Literary sources, chronicles and inscriptions were eloquent in acknowledging the role of contagion. Physicians, such as those who composed the Parisian Compendium, sought the origin of the disease in obscure astronomical phenomena, and understood its spread to be governed by the drifting of poisonous miasmatic clouds. Chroniclers such as Michele di Piazza traced the coming of the disease to the arrival in Europe of Genoese galleys returning infected from the Black Sea, and described the danger to all who associated with the sick members of their crews:

'si quis cum aliquo ipsorum locutus fuisset, erat infirmitate effectus letali'. (1)

Popular reaction to the disease was in line with that of the chroniclers. Messina was the first city in Western Europe to be infected. When the first refugees from the calamity arrived in neighbouring Catania, they were welcomed, only to be driven out when the nature of the disease became apparent:

'Et si aliquis eorum cum aliquo loquebatur, respondebatur sibi vulgariter, "non mi parlari ca si Missinisi"; et nemo eos hospitabatur'. (2)

A Flemish chronicler noted the same reaction in Genoa when three infected galleys arrived in the port:

'When the inhabitants of Genoa....saw how suddenly and irremediably they infected other people, they were driven forth from that port by burning arrows and divers engines of war; for no man dared touch them; nor was any man able to trade with them for if he did he would be sure to die forthwith'. (3)

1. The section of Michele di Piazza's Historia sicula ab anno 1337 ad anno 1361 describing the Black Death is printed in Corradi, Annali, op. cit., vol.1 (1973 reprint), pp.189-194.
2. Ibid., p.192.
3. Quoted in Ziegler, op. cit., pp.16-17. The same work, in Chapters 1 and 3, gives a narrative drawn from a range of contemporary chronicles.

The same popular acknowledgement of contagion occurred throughout Europe. Boccaccio and many others described the abandonment of the sick by horrified friends and relatives. In a passage which went further than anything to be found in the medical literature of Christian Europe, Boccaccio also wrote that infection could be carried by inanimate objects:

'not merely by speech or association with the sick was the malady communicated to the healthy...but any that touched the clothes of the sick or aught else that had been touched or used by them, seemed thereby to contract the disease'.
(1)

A near contemporary inscription in the cloister of the Scuola di Santa Maria della Carità in Venice recorded the effect of the Black Death on the Scuola and on the city in general. After describing the earthquake of 25th January 1348, it noted the coming of the disease:

'E puo drierdo comenza una gran mortalitade e morie la zente di diverse malatie e nasio. Alcuni spudava sangue per la bocca e alcuni vegniva glanduxe soto li scafi e ale lenzene, e alcuni vegnia lo mal de carbone per la carne. E pareva che questi mali se piase l'un da l'altro zoe li sani da l'infermo. Et era la zente in tanto spavento che pare non voleva andar dal fio nel fio dal pare et si se diseva comunamente chel iera morto de le do parte di la zente di Veniexia'. (2)

This text is noteworthy for its observation of the presence of both pneumonic and bubonic plague in the city. It is also striking in that it noted the contagiousness of the disease as an observed fact surprising enough to call for comment.

It would therefore appear that persons free of professional dogma tended to differ from physicians in their understanding of the Black Death. This dichotomy of opinion in

1. Quoted in Ziegler, op. cit., p.23.

2. The text is given in full in Corradi, Annali, op. cit., 1st ed., pp.3647-8.

part explains the varying responses of Italian governments to the disease.

In some cities administrators appear to have despaired of opposing the plague. Madame Carpentier's description of Orvieto during the Black Death is particularly striking:

'la ville ne lutte plus, elle est complètement submergée par le fléau, sans plus chercher à l'affronter et toujours sans oser l'évoquer dans les textes'. (1)

Elsewhere, reaction was more positive. News of the plague's arrival at Messina, its first foothold in Italy, was communicated to Florence at an early date. (2) The government there responded with a public decree dated 15th January 1348. Yet this decree made no attempt to limit contact with Messina, but merely reiterated sanitary ordinances formalised more than two decades earlier, in 1324. The scope of the legislation was to protect the purity of the Florentine air. To this end the streets were to be kept free of filth, sewers cleaned, animals kept out of the city's boundaries and all occupations banned which were productive of foul smells. On 3rd April new regulations were issued. The government now forbade citizens to take into their homes any sick person from Genoa, Pisa or any other town where the pestilence raged. At the same time it ordered that linen and woollen clothes and bedding of the sick were not to be kept or sold. These instructions might suggest an appreciation of contagion and seem even to share Boccaccio's understanding of the conveyance of disease by inanimate objects. Yet when

1. Elisabeth Carpentier, Une ville devant la peste: Orvieto et la peste noire de 1348 (Paris, 1962), p.122.
2. Carabellese, op. cit., especially pp.42-48, is the principal source for what follows.

the Florentine government came to elect eight citizens as a Health Committee on 11th April, it did so in the explicit belief that the danger arose 'ex corruptione et infectione aeris', which in turn was thought to develop 'ex rebus et corporibus putridis et corruptis'. It is in the light of these statements that the decree of 3rd April must be understood. It is noticeable that Florence did not try to prevent contact with infected cities in general. Entry to the city was refused only to the sick. In this, as in the legislation on the foul clothing of the infected, the aim was to protect the air from reeking persons and things rather than to resist the dangers of contagion.

Venetian policy was similar to that of Florence. (1) The first government measures were taken on 30th March, some two months after the disease had broken out in the city. On that date the Maggior Consiglio set up a committee of three nobles to deal with the problem and examine 'super omni modo et via que videretur eis pro conservatione sanitatis et ad evitandum corruptionem in terra'. The first proposals of the committee were made on 3rd April. The putrefying bodies of the poor were to be removed for burial to the islands of S. Leonardo Fossalama and S. Marco Bocalama, and officials for the purpose were to be appointed in each contrada of the city. Likewise on 5th June, fearing that shallow graves might be eroded by heavy rain, and the air made more unhealthy by the action of summer heat on corpses thus exposed, the Maggior Consiglio regulated the depth of graves and ordered

1. Mario Brunetti, 'Venezia durante la peste del 1348', Ateneo Veneto, vol.32, 1909, especially pp.4-9, is the main source for what follows.

that sand from dredging should be made available in all cemeteries. Also on 5th June the Maggior Consiglio forbade sick persons to come to Venice since they could be the cause of further problems (causa corruptionis maioris). On 10th July this order was renewed by the Senate, and regulations elaborated for its enforcement. The decision of 10th July has been incautiously summarized in the past, and it has appeared to represent a total ban on access to Venice for both sick and healthy. (1) Accordingly, since in traditional theory healthy persons could not have posed a danger to the city, the measure of 10th July has seemed to be based on a theory of contagion, including a notion of healthy people able to carry the disease on their persons and in their goods. The text of the original document is given below to show that this was not the case. (2) In reality, as in Florence, the ban on access to the city applied only to the sick, and the aim was simply to protect the city's air. The same motive was evident in another decision taken by the Senate on the same day. This ordered the expulsion from Venice of all salt pork which had gone bad, 'que multum fetorum inducunt et per consequens putredinem quod est corruptio aeris'. Sick persons were dangerous in precisely the same way as bad salt pork, in that they added to the general atmospheric corruption. Nothing could demonstrate more clearly how alien to Venetian theory was the notion of the disease's spread between individuals by means of a specific causative agent. In Venice, as in Florence, measures taken by the state in 1348 were wholly in keeping

1. Brunetti, op. cit., p.8 summarises the document as an extension of the Maggior Consiglio's regulation, implying 'proibizione assoluta per i forestieri provenienti cosi dall'estero che dai domini della Repubblica, di venire a Venezia'. The article is otherwise reliable and well documented.

2. See below, Appendix 1.

with traditional advice enjoined by the medical profession.

This was not the case in all Italian cities. Pistoia was struck by the Black Death in the spring of 1348. Here, as in Florence and Venice, a Health Board, the Sapientes Viri super Sanitate, was established for the emergency, and detailed statutes, the Ordinamenta sanitatis tempore mortalitatis, were approved by the city council on 2nd May. (1) In some respects the Ordinamenta were akin to measures taken at Florence and Venice. The depth for burials was regulated 'ad evitandem turpem fetorem' and corpses were permitted to be moved only when sealed in wooden coffins, 'ut nullus fetor exinde exiri possit'. (2) The tanning of hides within the city walls was likewise forbidden 'ut fetor et putredo hominibus obesse non possit'. (3) All these measures reflect concern with the state of the atmosphere.

Similarly, as in Florence, many of the statutes seem a restatement of previous legislation. There were measured and detailed laws governing hygiene in the meat markets, including a regulation governing the months of the year in which pigs might be slaughtered, a general statute in no way limited to the year 1348. It was in the opening paragraphs of the Ordinamenta that the Pistoian reaction to the Black Death was most accurately recorded. These related specifically to the situation in Pistoia in the spring of 1348, when the plague was manifest in the surrounding area at Lucca and Pisa. Faced with this situation, the government of Pistoia took

1. The Ordinamenta have been published by Alberto Chiapelli, 'Gli ordinamenti sanitari del Comune di Pistoia contro la pestilenza del 1348', Archivio Storico Italiano, series 4, vol.20, 1887, pp.3-24.
2. Ibid., pp.9-10.
3. Ibid., p.15.

action to prevent the disease from reaching the city. A ban was enforced on all contact with the territories of Pisa and Lucca. No Pistoian might go there, and no person was allowed to come from there. Second hand clothes of wool or linen were also forbidden entry to Pistoia. Guards at the city gates were to enforce the regulations. (1)

No medical treatise of the time appears to have advocated such measures, which might well have seemed pointless to physicians who believed that plague was spread irrevocably from town to town by the wind. There is no categorical statement that fear of contagion underlay the Pistoian statutes. The motive for them was simply stated as follows:

'ut nulla materia infermitatis que ad presens institit in partibus circumstantibus civitatis Pistorii in humanis corporibus civium Pistorii possit devenire'. (2)

In that practice was running ahead of accepted theory, it is not surprising that no clearer statement on contagion emerges from the Ordinamenta. Yet the concept of a materia infermitatis which could be brought to the city by persons and their goods so strongly implies a doctrine of contagion that it can hardly be understood in any other sense.

Nor were such measures peculiar to Pistoia. As early as 14th January 1348 Lucca ordered that no Genoese or Catalan, or anyone who had visited their cities or that region of the north eastern Mediterranean known as Romania, might come to Lucca. (3) This indicates that the Luccan government shared with the chroniclers a full understanding that contact with

1. Chiapelli, op. cit., pp.8-9.

2. Ibid., p.8.

3. Carabellese, op. cit., p.36.

infected shipping from the eastern Mediterranean was responsible for the spread of the disease.

The reaction of other Italian cities to the Black Death is less well documented. This is particularly unfortunate in the case of Milan, which, perhaps unique in Italy and highly unusual in Europe as a whole, appears to have escaped the general calamity. (1) Although the government records of Milan are not extant for the period, Giulini's Memorie, based on manuscript sources which have not always survived, records a decision of 9th July 1348 of considerable relevance. It appears that by that date commerce between Milan and the outside world had been prohibited ob pestem morbi. Special measures were taken to ensure that letters left with guards at frontier crossings could be taken into Milan by internal couriers. (2)

Whether the Milanese controls were responsible for the preservation of the city is impossible to say. Certainly the measures taken at Lucca and Pistoia were unsuccessful. Yet whatever the success, a precedent was set: in a number of cities governments went beyond medical advice in attempts to control the disease. In this a number of factors were influential. First, like the chroniclers, governments were more able to learn from their experience of the disease than was the medical profession. Second, despite all the classical learning of the plague tracts and the confidence of their prescriptions for preservatives and antidotes, medicine was

1. Recording the death from plague of his son Giovanni in 1361, Petrarch wrote on the first guard leaf of his Virgil, 'He died in Milan in the unexampled general devastation wrought by the plague, which had hitherto left that city immune from such evils, but now has found it and invaded it'. Quoted in translation by Ernest Hatch Wilkins in his Life of Petrarch (Chicago, 1961), p.179.
2. Giorgio Giulini, Memorie spettanti alla storia, al governo ed alla descrizione della citta e della campagna di Milano nei secoli bassi (Milan, 1771), Lib.67, p.474.

helpless in the face of the Black Death. In some cities doctors were amongst the first to flee from the disease. On 1st December 1348 the Venetian government ordained that the physician Franciscus de Roma be rewarded for his services:

'specialiter tempore mortalitatis ellapse, que sic terribilis et magna fuit, cuius timore et formidine omnes quasi medici de Venecia recesserunt, preter ipsum magistrum franciscum'.
(1)

Finally, there was already one area of medicine in which the state rather than the profession led the way. This was the control of leprosy.

Leprosy appeared in Europe at an early date, some of the earliest leprosaria being established in the sixth century. (2) But the spread of the disease far and wide came later, perhaps as a result of fresh contact with the East during the Crusades.

(3) The twelfth century saw important efforts to cope with the problem, mainly on the part of the Church. In Italy a special order, dedicated to San Lazzaro, committed itself to nursing those afflicted by the disease, and specialist hospitals were constructed outside the city walls. In the south of Italy hospitals tended to be founded by the order of San Lazzaro, whilst in the north of the country they were largely of private or civic foundation. (4) Institutions of this kind were founded in Milan, Genoa, Rome, Venice and Florence between 1138 and 1186.

The 3rd Lateran Council of 1179 laid down regulations for the treatment of lepers. They were to be expelled from cities,

1. Cecchetti, op. cit., p.380.
2. A. Breda, 'Contributo alla storia dei lazzeretti (leprosari) medioevali in Europa', Atti del Reale Istituto Veneto di Scienze, Lettere ed Arti, vol.68, 1909, p.156.
3. Castiglioni, op. cit., p.362.
4. Emilio Nasalli-Rocca, 'Gli ospedali italiani di S. Lazzaro o dei lebbrosi', Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, kanonische Abteilung, vol.27, 1938, pp.265-8.

and provided with separate churches and cemeteries. On expulsion a religious ceremony was to be held. (1) The task of expelling the lepers fell to the civic authorities. In Florence special officials 'pro infectis expellendis' are mentioned in the sanitary ordinances of 1324. (2) In 1300 the Venetian government was concerned with the problem of lepers hanging around bridges and churches, where the stench from their degenerating flesh was said to be sickening. The Maggior Consiglio determined to negotiate the placing of all lepers in the city's hospitals, and to face the sick with the alternative of hospitalisation or exile. (3)

The initiative in the control of leprosy lay not with the medical profession, but in the combined activity of church and state. For whilst medicine was committed to classical traditions, the state's treatment of lepers derived from a different source. The expulsion of lepers had been practised in Babylon (4), and it may have been the Babylonians who passed the custom on to the Hebrews. The book of Leviticus lays down precise regulations for the treatment of the disease, and provides for expulsion:

'he is unclean: he shall dwell alone; without the camp shall his habitation be'. (5)

The disease itself appears to have come to Europe from the Near East; there, too, crusaders saw leper houses in operation. It was on Near-Eastern practice that the medieval treatment of leprosy was based.

The appreciation of the role of contagion in leprosy paved the way for acceptance of the same principle in relation

1. Nasalli-Rocca, op. cit., p.290.
2. Carabellese, op. cit., p.45.
3. ASV., Compilazione leggi, Busta 337, f.95r.
4. Nani-Mocenigo, op. cit., pp.83-4.
5. Castiglioni, op. cit., p.40.
5. Leviticus, Chapter 13, verse 46.

to plague. Johannes de Parma, chronicler of the Black Death in Trent, hinted as much:

'christiani evitabant se invicem, tamquam lepus leonem, vel sanus leprosum, et dico tam de patre vel de matre contra filium, et e converso'. (1)

Furthermore, the isolation of lepers was to provide a model for the isolation of the plague stricken. As leprosy declined in Italy, the hospitals of S. Lazzaro were to give place to the plague hospitals, the lazarettos.

By way of summary, it may be said that physicians in 1348 were conservative in their understanding of the Black Death. In contrast, chroniclers and observers outside the profession were more prepared to learn from experience, and to recognise the operation of contagion. Government response to the problem lay between the two extremes. In some cities legislation followed closely the advice of the medical profession, whilst in others there were attempts to use isolation as a defence against contagion. These measures revealed the potential for controversy between classical theories and experience, and between the medical profession and the state. As such, they were rich in significance for the future.

1. Corradi, Annali, op. cit., vol.1 (1973 reprint), p.197.

CHAPTER 2

THE DEVELOPMENT OF PLAGUE CONTROL IN THE
FOURTEENTH AND FIFTEENTH CENTURIES.

Whereas the Black Death has given rise to a vast literature, subsequent epidemics have received disproportionately little attention. Yet the Black Death was not the unique event which it has sometimes appeared to be. Contemporaries had no vocabulary with which to distinguish it; the term 'Black Death' is both modern and misleading. In places as far apart as England, Spain and Ragusa, the Black Death and subsequent plagues of the fourteenth century were known simply as 'prima mortalitas', 'secunda mortalitas' and so on. (1)

In its advance across the continent from the European ports, the Black Death reached Russia by the year 1350. From there it moved westwards again, progressing more slowly, but producing heavy mortality throughout Europe between 1357 and 1363. A recent article, based in part on statistics such as those of deaths at the papal court in Avignon, has argued that the mortality in this 'second plague' fell little short of that of the Black Death. (2) What is more, the second plague set the pattern for the rest of the century. At least until 1400, Europe was struck by waves of disease advancing across the whole, or large parts, of the continent.

Italy was seriously affected by plague in the years 1360-3, 1371-4, 1381-4, 1388-91 and 1397-1400. (3) Yet there is little

1. On England, J.F.D. Shrewsbury, A history of bubonic plague in the British Isles (Cambridge, 1970), p.126ff.
On Spain, Corradi, Annali, op. cit., vol.1 (1973 reprint), p.233.
On Ragusa, Vladimir Bazala, 'Della peste e dei modi di preservarsene nella repubblica di Ragusa', Atti del XIV congresso internazionale di storia della medicina (Rome, 1954), p.731ff.
2. Jean Glénison, 'La seconde peste: l'épidémie de 1360-2 en France et en Europe', Annuaire Bulletin de la Société de l'histoire de France, années 1968-9, pp.27-38.
3. Corradi, Annali, op. cit.

evidence of any general progress in measures to control the plague during these epidemics. This is true, for example, of Venice, traditionally regarded as a pioneer in plague control. (1) Chronicles and the city's governmental records reveal the ravages of the disease. Attempts to repopulate Venice by encouraging settlement were made in the wake of the Black Death in 1350, 1353 and 1355 (2), and, as a result of subsequent plagues, in 1373, 1382 and 1391. (3) During the epidemics there were measures to assist government councils, such as the Quarantia, which were unable to muster a quorum as patricians fled the city. (4) There was also assistance for debtors who, having fled from Venice, were unable to repay their creditors before the terms of their loans expired. (5) Finally, there were attempts to aid Venetian maritime colonies smitten by plague, both to protect the colonists from the pillage or invasion to which their weakness exposed them, and to promote repopulation. (6)

In all this legislation there was little to deal with the plague itself rather than its repercussions. There was a decree during the plague of 1382 preventing doctors from leaving

1. I can trace no substantiation for the statement frequently made (e.g. Georg Sticker, Abhandlungen aus der Seuchengeschichte und Seuchenlehre, vol.1, Die Pest (Giessen, 1908), pp.78,80) that Venice took action against the plague in 1374 and 1383.
2. ASV., Maggior Consiglio, Reg.20, Copia del libro Novella, f.13v (29 Aug 1350), f.62r (6 Oct 1353), f.90r (7 June 1355).
3. ASV., Maggior Consiglio, Novella, f.137r (19 Oct 1373), ff.171v-172v (23 March, 1 April, 22 May 1382).
ASV., Maggior Consiglio, Leona, f.47r (7 May 1391).
4. ASV., Maggior Consiglio, Novella, f.179v (21 Aug 1382), f.187v (7 Dec 1382).
ASV., Maggior Consiglio, Leona, f.20v (13 Sept 1388), f.96v (18 Sept 1397).
5. ASV., Senato, Deliberazioni miste, Reg.38, f.1v (20 Jan 1383mv).
6. On Crete, F. Thiriet, Délibérations des assemblées vénitiennes concernant la Roumanie, tome 1 (Paris, 1966), p.253 (27 June 1362); ASV., Senato, Deliberazioni miste, Reg.38, f.87v (20 Nov 1383); ibid., Reg.44, f.42v (10 June 1398).
On Modon and Coron, ASV., Senato, Deliberazioni miste, Reg.44, f.95r (4 April 1399), f.108v (3 June 1399), f.109r (9 June 1399).
On Valona and Durazzo, Giuseppe Valentini (ed.), Acta Albaniae Veneta saeculorum XIV et XV, Pars prima, vol.1 (Panormi, 1967), p.177 (24 Sept 1363).

Venice, and recalling those who had already fled. (1) An order to the magistracy of the Piovego in 1383, concerning the dredging of canals, was promoted by health motives. (2) A decision in 1398 delayed the departure of ambassadors to Ferrara because of the epidemic there. (3) In the plague of 1397 the Maggior Consiglio donated 300 ducats to the preaching friar Johannes Benedictus for his work in aiding the sick poor and burying the dead. (4) Yet there was nothing to check the spread of plague. Even the decision concerning Ferrara needs no explanation beyond the state's concern for the immediate health of its ambassadors, whilst the donation to Fra Johannes only reveals that in dealing with epidemics state activity was secondary to that of the Church. This does not imply that Venice lagged behind the majority of her contemporaries in her treatment of plague. Rather, it highlights the achievement of those few states, above all Milan and Ragusa, which pioneered plague control in the late fourteenth century.

It is not easy to say why Milan should have led the way in the late fourteenth century, and indeed, in the fifteenth century, but a number of factors were probably significant. First, its success in escaping the Black Death may have inspired greater confidence in the plague orders in Milan than was the case elsewhere. Second, the autocratic nature of the Milanese state under the Visconti made possible the promulgation of plague orders which were necessarily rigorous in character and

1. ASV., Maggior Consiglio, Novella, f.180v (21 Sept 1382).
2. Ibid., f.197r (25 Oct 1383).
3. ASV., Senato, Deliberazioni miste, Reg.44, f.68r (24 Oct 1398).
4. ASV., Maggior Consiglio, Leona, f.97r (18 Oct 1397).

which demanded absolute strictness in execution. Third, the geographical expansion of the state under Bernabò, and more particularly under Gian Galeazzo Visconti, facilitated the implementation of more effective cordons sanitaires. Finally, there was the personality of the Visconti on whose fiat the plague orders depended. (1) E.R. Chamberlin has pointed out the 'pathological timidity' in successive members of the family, including Gian Galeazzo. (2) His son, Filippo Maria Visconti, was terrified of the plague, as he was of the dark and almost everything else.

In the 'second mortality' of 1361 Milan was seriously affected. Galeazzo Visconti retired to Monza; Bernabò fled to Marignano, where he isolated himself so securely that rumour spread of his death. Matteo Villani recorded that Bernabò placed guards to prevent anyone from approaching him, and issued dire warnings to any who attempted to do so:

'si mise nel piu salvatico e foresto luogo ove piu di due miglia da lunga fece rizzare pilastri con forche ne quali era scritto che chi li passasse su vi sarebbe appeso'. (3)

Bernabò's action in 1361 indicated his belief that the disease could be carried by individuals, and demonstrated the techniques of isolation that could be used against it. His action in the plague of 1373 was more ruthless, as a contemporary recorded:

'fecit dirui palatia et domos infirmantium et mortuorum et cum ipsis infermis et aliis morantibus secum cum omnibus bonis eorum, credens divinam posse potentiam coercere, ipse vero

1. A volume of Gian Galeazzo's Ducal letters 1397-1400, which has been used as the basis for Aldo Bottero's 'La peste in Milano nel 1399-1400', Atti e memorie dell'Accademia di storia dell'arte sanitaria, vol.8, 1942, shows how far the plague orders were the work of Gian Galeazzo himself, and how often he had cause to rebuke his less vigorous Council.
2. E.R. Chamberlin, The Count of Virtue (London, 1965), pp.27, 66.
3. Matteo Villani, Cronica (Milan, 1834), p.344.

fugit ad oppida sua in nemoribus cum filiis et uxore'. (1)
 His crude attempt to destroy the disease root and branch wherever it appeared did at least have the merit of recognising that danger lay not only in the sick but also in their goods and property. More sophisticated, if only a little less severe, were the regulations which he sent on 17th January 1374 to the Podestà of Reggio Emilia, the execution of which was witnessed by the chronicler De Gazata:

'volumus quod quaelibet persona, cui nascentia vel brosa veniet statim exeat urbem vel castrum vel burgum in quo fuerit et vadat ad campos in capannis vel in nemoribus donec aut moriatur aut liberetur. Item qui servient stent post mortem alicuius decem dies antequam habeant consortium cum aliqua persona. Item sacerdotes ecclesiarum parochialium inspiciant infirmos et videant quod malum est, et statim notificent inquisitoribus deputatis sub poena ignis. Item quod omnia bona tam mobilia quam immobilia applicentur camerae Domini. Item qui aliunde portaverint epidemiam similiter eius omnia bona sint camerae Domini, de quibus nulla unquam fiat restitutio. Item quod sub poena bonorum et vitae nullus alius vadat ad serviendum infirmis praeterquam ut supra et de praedictis fiat omnibus subditis notitia. (2)

In giving the task of diagnosis to the clergy, and in expelling the sick from the town until they died or were healed, these regulations are reminiscent of the treatment of leprosy. They are of the highest importance in a number of ways. First, the order to remove the sick from the town was to be central to the Italian plague measures of the future. Second, the notion that persons who had been in contact with the infected should be quarantined for ten days was original and an equally important pointer for the future.

Ragusa played a role in the development of plague measures that was almost certainly independent of that of Milan. Its maritime situation enabled it to be influential in controlling

1. Sagacius and Petrus^{De} Gazata, 'Chronicon Regiense ab anno MCCLXXII ad MCCCLXXXVIII' in L.A. Muratori (ed.) Rerum Italicarum scriptores, vol.18 (Milan, 1731), col.81.
2. Ibid., col.82.

the spread of the disease by shipping. In 1377 the Maggior Consiglio of Ragusa issued the following orders which are worth quoting in full:

'Eodem anno die XXVII Julii in consilio maiori congregato ut est moris in quo interfuerunt consiliarii XLVII captum et firmatum fuit per XXXIIII quod tam nostrates quam advenae venientes de locis pestiferis non recipiantur in Racusium, nec ad eius districtum, nisi steterint prius ad purgandum se in Mercana (1) seu in civitate veteri (2) per unum mensem. Item per consiliarios 44 eiusdem consilii captum fuit: quod nulla persona de Ragusio, vel suo districtu, audeat vel praesumat ire ad illos qui venient de locis pestiferis et stabunt in Mercana, vel civitate veteri sub poena standi ibidem per unum mensem; et qui portabunt illis de victualibus, seu de aliis necessariis, non possint ire ad illos sine licentia officialium ad hoc ordinandorum cum ordine ab ipsis officialibus eis dando sub dicta poena standi ibidem per unum mensem.

Item per consiliarios 29 eidem consilii captum fuit et firmatum, quod quicumque non observaverit praedicta seu aliquod praedictorum solvere debeat de poena ipp.50, et nihilominus praedicta teneatur observare'. (3)

These orders, representing a complete system for the quarantine of shipping from plague areas, show how well the government of Ragusa understood the dangers of contact with infected ships, and how much could be done to deal with the problem. Two decades later, on 5th January 1397, the Maggior Consiglio of Ragusa revised the plague orders and ordained the appointment of officials to police them. (4) The new posts were responsible ones, carrying the right to impose arbitrary fines, and to inflict corporal punishment, up to the removal of an ear, on those who failed to pay. Persons arriving from plague areas were to be sent out of Ragusa and were to stay for a month outside its district, or within its district, on the island of Mercana or in a monastery on the island of Melita (Mljet).

1. The island of Mrkan.
2. Cavtat, on the coast south of Dubrovnik.
3. The text given here is that published in Gelcich, op. cit., p.139, with minor corrections based on f.78 of the Liber Viridis in the State Archive at Dubrovnik, illustrated on p.32 of M.D. Grmek's 'Quarantäne in Dubrovnik', CIBA Symposium, vol.7, 1959.
4. The text is given in full in Gelcich, op. cit., pp.139-141.

Merchandise might be brought into Ragusa, provided it did not include clothes, beds or used goods. In the same year, on 28th June, a further law prohibited the movement of any goods, including grain, fruit and clothing, from an infected area of Ragusan territory to a healthy one. (1) The appointment of officers to enforce the regulations represented an important advance. Furthermore, the officials reappear in a document of 1420, when they are referred to as the offiziales cazzamortuorum, and in others of 1436 and 1439. (2) Although there is little record of their activity (3), it is possible that the appointment of officials in Ragusa in 1397 marked the beginnings of Europe's first permanent Health Office.

The most influential attempts to control the plague in the fourteenth century were those of Gian Galeazzo Visconti of Milan in the years 1398-1400. In some respects these developed from the measures of Bernabò Visconti. Yet while Gian Galeazzo's regulations matched those of his uncle in rigour, they were more sophisticated, and sought to accommodate charity to the sick with the demands of the plague laws.

First there were attempts to isolate Milan from centres of infection. When the plague, which, significantly, he referred to as the contagiosus morbus, appeared in Soncino in 1398, Gian Galeazzo refused entry to Milan to any person coming from that area. (4) Notices were posted up at all bridges and ports, that no one from Soncino might cross the river Adda in the direction of Milan. This first known attempt to use natural

1. Gelcich, op. cit., p.141.
2. The texts are given in Gelcich, op. cit., p.141 (15 Jan 1420), pp.142-3 (19 May 1436), p.144 (27 Mar 1439).
3. No surviving archive is mentioned in Gelcich's catalogue of the State Archive in Dubrovnik which is printed as an appendix to F.W. Carter, Dubrovnik (Ragusa): a classic city state (London, 1972).
4. The decree, dated 7 October 1398, is quoted in full in Bottero, op. cit., p.17.

barriers as a cordon sanitaire was followed by equally striking action in the year 1400. The Jubilee year brought throngs of pilgrims journeying from France and Germany towards Rome, risking the spread of plague in the area of Milan. Gian Galeazzo dealt with the problem by refusing the pilgrims entry to his cities, and by assigning them obligatory routes through his dominion, in order to keep them well outside the centres of population. Transit camps, stocked with provisions, were established every nine or ten miles along the roads, and signposts erected at intervals, ex quibus cognoschatur quod talis strata tendat versus Romam. (1)

Contingency plans were also drawn up in case the disease should reach Milan. In September 1399 sites were chosen in the city to which any who fell sick could be removed. In the following month, when the disease made its appearance, two plague hospitals (mansiones ad receptandum infirmos) were opened, and a system of control put into effect. (2) The nature of that system appears from a letter of Gian Galeazzo condemning failures 'tam in visitari faciendo infirmantes et oppressos contagione predicta per medicos qui inspectione urinarum infirmantes cognoschant, quam etiam in claudendo domos et divertendo extra civitatem familias mortuorum'. (3) Clearly the Duke's policy was that doctors should visit suspected cases, and in the event of a positive diagnosis, despatch the sick to hospital. At the same time, the infected house should be shut up, and contacts of the infected sent out of town.

These measures, which formed the model for Italian plague orders of succeeding centuries, were reaffirmed and elaborated

1. Bottero, op. cit., p.19 (Feb-Mar 1400).
2. Ibid., p.18.
3. Ibid.

as the plague increased in the following year. Brushing aside suggestions from his Council that the sick might be kept in their houses, the Duke insisted 'nostre expresse intentionis esse quod infecti extra civitatem more solito portentur et a personis sanis penitus separentur'. (1) At the same time he ordered that in the plague hospitals, which in 1400 were moved outside the town, patients should be kept separate one from another. They were to be supplied with all necessaries, and tended by teams of doctors, barbers and apothecaries and by nurses of both sexes. (2) Equally generous provision was made for the families of the sick, which were quarantined in monasteries outside the town.

Such detailed plague orders demanded effective executive action. In 1399 a leading official, Giovanni de Roxellis, was given charge of the problem in Milan, with officials to carry out his instructions. Notaries were also appointed to record the names of the dead so that the Duke could have daily notice of the total mortality and of the diseases responsible. (3) The task was not limited to Milan, for the regulations were applied throughout Visconti territory. This is reflected in a letter of 5th August 1400 to the Podestà of Pavia, which also indicates Gian Galeazzo's personal involvement:

'sentimus personas sanas expulsas a Papia causa morbi adhuc in uno et eodem loco morari cum infectis non sine gravi periculo infectionis personarum sanarum et ingenti tedio mentis nostre, praesertim quia iamdiu vos avisamus quod circa istud providere deberetis'. (4)

The same letter reveals the Duke's motivation in insisting on the evacuation of infected houses. Like his uncle, he

1. Bottero, op. cit., p.21 (July 1400).
2. Ibid.
3. Ibid., p.18.
4. Carlo Magenta, I Visconti e gli Sforza nel castello di Pavia, vol.2 (Milan, 1883), p.85.

believed that not only the sick, but also their goods and property, were a source of danger. Yet whereas Bernabò demanded the destruction of everything with which the sick had had contact, Gian Galeazzo was more discriminating. In dealing with plague in the prisons in Pavia he distinguished items such as mattresses, which were able to harbour the disease (paleas, storia et similia pestis capacia) from other items which might be disinfected. Walls, for example, might be whitewashed, ut ab omni pestifero vapore purgentur. (1) Fumigation was a technique which might also be used. In a letter addressed to Piacenza, the Duke considered that the revival of the plague there might have been caused by families returning home to improperly disinfected houses 'nulla provisione facta ex fumigationibus et aliis opportunis ad purgandam superfluitates morbosas'. (2)

The plague orders of Milan and Ragusa impinged closely on the activities of neighbouring states. In July 1400 a Venetian family was refused entry to Belluno, then in Visconti control, until it had undergone a quarantine of eleven days. (3) In May of the same year, the Venetian Senate discussed the Ragusan policy of denying Venetian shipping access to its ports whilst there was plague in Venice. This time Ragusa itself was infected with plague, whilst Venice remained in a state of health. As usually happened, boat-loads of Ragusan refugees were heading for Venetian territory. At this point Venice decided to turn the tables on Ragusa by refusing to admit Ragusan shipping to the city or the District of Venice. (4) The

1. Magenta, op. cit., p.86.
2. The text of the letter is given in Johannes de Mussis, 'Chronicon Placentinum' in L.A. Muratori (ed.), Rerum Italicarum Scriptores, vol.16 (Milan, 1730), col.560.
3. Corradi, Annali, op. cit., 1st ed., p.2692.
4. ASV., Senato, Deliberazioni miste, Reg.45, f.11r. The text of this decision is given in Appendix 2.

decision, which represents the first known Venetian attempt to deal with the spread of disease by contagion, is interesting in a number of ways. First, the whole tone of the document, with its lengthy self-justification, indicates the novelty of such action as far as Venice was concerned. Second, whilst Ragusa was singled out in a retaliatory way, there is no indication that other plague centres were similarly isolated. Indeed, not until 1423 did Venice formally adopt the isolation of infected cities as a general policy. The necessity for the policy was by then evident, for the Senate recognised that Venice was suffering plague almost every year through the arrival of persons from infected areas. (1) At the same time in 1423, the Venetians decided to establish in the area of Venice a permanent plague hospital, or Lazzaretto as it came to be called, to which the sick could be sent in time of plague, and which could also receive plague infected mariners arriving in the port. (2)

The plague orders created by Gian Galeazzo Visconti were given an institutional basis in the course of the fifteenth century by the foundation of a permanent Health Office in Milan. As in the case of Ragusa, the year in which the Milanese Office was founded is not known. There are references to Commissari responsible for health and contagion in documents of 1424 and 1437. (3) In 1447, under the Ambrosian republic, plague orders were issued by Zoanne dal Torgio as commissario su lo offitio della conservatione della sanitate di Milano e del ducato.(4)

1. ASV., Senato, Deliberazioni miste, Reg.54, f.140v. The text of this decision is given in Appendix 3.
2. The lazarettos in Venice and elsewhere are described below in Chapter 7.
3. Carlo Cipolla, Public health and the medical profession in the Renaissance (Cambridge, 1976), p.15. On the plague orders of 1424 cf. C. Santoro (ed.), I registri dell'Ufficio di Provvisione e dell'Ufficio dei Sindaci sotto la dominazione Viscontea (Milan, 1929), pp.329-330.
4. ASM., Panigarola, Reg.6, f.8v (7 Sept 1447).

The regulations of 1447 were explicitly a reinforcement of orders laid down under the Visconti. All sick persons, of whatever disease, were to be reported in writing to the Anziani of each parish, who in turn were immediately to notify the Health Office. No medical treatment was possible for persons not reported to the Office, and no burial was to take place without written licence of the Commissario.

These regulations, which made available to the government precise information on the state of the disease in Milan, facilitated and prevented abuses of the control system established by Gian Galeazzo. During the second half of the fifteenth century, daily bulletins of deaths in Milan were sent to the Dukes. (1) The information included the names, ages and parishes of the deceased, together with a diagnosis of the cause of mortality and the name of the doctor making the judgment. Registers of the dead were also kept in the Health Office. These survive with some gaps from the year 1452. (2) A typical entry may serve to indicate their nature:

Die veneris XXI Iulii MCCCCLII
Parochia S. Nazarii. Catalina filia quondam Christophori de Bononis annorum XVIII a pestifero dragonzelo in inguine sinistro iudicio Catelani. casus novus. Die XVIII decessit.
(3)

The registers testify to the permanent standing of the Milanese Health Office in the second half of the fifteenth century under the rule of the Sforza. One of the first acts of Francesco Sforza on his accession to power was to appoint, in

1. Bundles of them are preserved in ASM., Miscellanea Storica, Cartelle 2-4.
2. ASM., Popolazione, Parte antica, Cartella 73 and ff. Tables of mortality in Milan, 1452-1755 have been compiled from the registers by Giuseppe Ferrario, Statistica medica di Milano dal secolo XV fino ai nostri giorni (Milan, 1838-40), vol.2, pp.374-9.
3. ASM., Popolazione, Parte antica, Cartella 17, f.lr. This register, Nascimenti, morti ecc. 1451-72, is the first of a secondary series, possibly compiled from the main series of death registers.

March 1450, a new Commissario super conservatione sanitatis, with the same privileges as predecessors under Filippo Maria Visconti. (1) The Commissario commanded a sizeable staff, comprising medical personnel (fisicus epidemie, ciroycus, barbitonsor), three general officials (famuli), a notary (notarius), two couriers (equitatores), an officer (portator listarum) to deliver bills of mortality, presumably to the Duke or his Council, a carter (carrator) and two gravediggers (ad sepeliendos mortuos). (2)

Under the direction of the Health Office, measures against the plague became routine. Moves to isolate infected areas were frequent, and the determination behind them was reflected both in the importance, and in the geographical range, of the cities placed out of bounds. Pavia, Venice, Padua, Florence, Bologna and Rome all suffered periods of isolation in the years 1447-8.

(3) Rome, Pesaro, Rimini, Perugia, Ferrara and Cesena received the same treatment in the years 1462-3. (4) In 1467 a list of places under the Milanese ban included Rome, Bologna, Imola, Forli, Grenoble and other parts of the Duchy of Savoy. (5)

Even more international was the ban on Lyons and Geneva which the Health Office reported to the Duke of Milan in 1476. (6)

In order to be effective, accurate information on the movements of the plague was essential. In supplying this, the Milanese ambassadors played a key role, and surviving despatches are rich

1. Achille Giussani, 'L'archivio del magistrato della sanità in Milano', Annuario del R. Archivio di Stato in Milano, vol.5, 1915, p.144.
2. Ibid.
3. ASM., Panigarola, Reg.6, ff.15r-v, 21r, 70r, 81v, 132r, 142r.
4. Ibid., Reg.22, ff.570v, 582r-583v, 637v-638v, 647r.
5. ASM., Miscellanea Storica, Cartella 2.
6. Ibid., 4 Sept 1476.

in intelligence on the subject. Demands from Milan for regular information kept ambassadors aware of their responsibilities (1) and on occasions reports on plague, in addition to the usual despatches, were requested for the attention of the Council. (2)

Most of the techniques used in the second half of the century were based on practices instituted under the Visconti. Natural barriers continued to be used as a means to prevent the plague's advance. Francesco Sforza prohibited transit across the Po and the Ticino in 1456, and twenty years later the Health Office proposed that the number of crossing points on the Po be reduced, as had been done in time of plague by Filippo Maria Visconti. (3) As the Health Office observed:

'la guardia dil Po è tanto importantissima quanto dire se possa ala conservatione dil stato, cossi per la peste como etiam per molti delicti et fraudi se commettono in preiudicio de la ducal camera'. (4)

The policy of isolating infected areas at the first report of plague remained central, on the principle that è manco male essere zeloso che cornuto'. (5) Practical difficulties remained: it was not easy for guards at transit points to establish the provenance of travellers. Burgundians were wont to pass them-

1. ASM., Archivio Sforzesco, Carteggio delle Potenze estere-- Venezia, Cartella 347. A letter of Duke Francesco Sforza to Antonio Guidobono in Venice of 29 December 1460.
2. Ibid., Cartella 351, 13 April 1464.
3. Giussani, op. cit., p.142.
4. ASM., Miscellanea Storica, Cartella 2. A letter to the Duke of 1st October 1479.
5. Ibid., Cartella 3. Measures recommended in 1468, presumably by the Health Office or the Consiglio Secreto, in order to preserve Milanese territory from plague.

'Che havuta chiareza quando in una citae, terra, castello et parte e appizata la peste de tratta et gagliardamente se bandegia et habiase consyderatione quanto e difficile levare la peste et quanto facilmente se leva el bando et come è manco male essere zeloso che cornuto'.

selves off as French and vice versa. (1) Furthermore, the isolation of a city brought severe economic complications. During the plague in Milan in 1451 action by surrounding areas reduced food supplies to the capital and put artisans out of work. The Consiglio Secreto on 10th August warned the Duke of the dangers:

'se per disgratia non guadagnano loro la vita et carestia venisse, poria seguitare qualche murmuratione et forse scandolo che non daria favore alcuno a la S.V.' (2)

Such considerations were sufficient for the Consiglio to seek alternative methods of coping with a minor outbreak of plague in Cremona and Parma in 1468. (3) Two solutions were possible. The first was to subject to quarantine all persons arriving from suspect areas. This was tried in 1477 by decree of Bona of Savoy and Gian Galeazzo Sforza. (4) More commonly, a system of health passes (bollette) was employed. This was the choice of the Council in relation to the plague in Cremona and Parma in 1468. The order was accordingly given:

'che da Parma non sia lassato venire de qua alcuno senon cum bolletta de li officiali de la, per la quale se faccia fede che quelli veniranno siano sani et manchino de ogni suspitione'. (5)

Likewise no person from Cremona might cross the Adda in the direction of Milan without a pass of the Cremonese Health Office (li offitiali deputati li sopra la sanitate). In the same year, passes were issued at Genoa which also formed part of the Sforza

1. ASM., Miscellanea Storica, Cartella 2. A letter from the Consiglio Secreto to the Duke, 28 November 1472.
2. Carlo Decio, La peste in Milano nell'anno 1451 e il primo lazzaretto a Cusago (Milan, 1900), pp.27-8.
3. ASM., Miscellanea Storica, Cartella 2. A letter to Duke Galeazzo Maria Sforza of 4th June 1468.
4. Giussani, op. cit., p.142.
5. ASM., Miscellanea Storica, Cartella 2, 4th June 1468.

dominions. (1) Each bolletta carried the name of the bearer and a note of his anticipated journey. It certified that he was free of all suspicion of plague. (2)

The health passes served a dual function. First, they solved the dilemma of how plague control could be combined with the continuance of trade, where a total ban on a suspect area would have been disproportionate to the danger. Second, by insisting in appropriate circumstances that all travellers carry health passes, a general check on their provenance became possible. By limiting the opportunities for deceit, the health passes made the isolation of infected areas a more practical proposition than it could have been in the time of Gian Galeazzo Visconti.

Measures taken within plague infected towns in the second half of the fifteenth century also developed from practices initiated under the Visconti. Great stress was placed on the removal of the sick and their contacts to separate isolation hospitals outside Milanese cities. The institution of lazarettos was a striking aspect of the fifteenth century.(3) The disinfection of infected houses was also a major concern. Under Gian Galeazzo Visconti no person had been allowed to enter an infected house until it had been well aired for eight to ten days, and fumigated with incense and other aromatics. Mattresses had been burned, and bedding aired and washed. (4) In the plague

1. ASM., Miscellanea Storica, Cartella 2, 3 August 1468. An official letter from Genoa referred to the issue of health passes:
'uno magistro pollo da Pavia medico in questa terra se partito da qui con la sua famiglia per venire a stare a Pavia per suspitione de la peste et ha havuto el bolletino dal offitio de la sanita dal offitio de le bollete et anche da noi. Dapoi la partita sua gli e morto una schiava pur de peste dilche ne do aviso a V.S. acio che venendo a Pavia li possa fare quella provisione li parera'.
2. Cipolla, op. cit., p.26 gives a copy of a Milanese bolletta of 1484.
3. See below, Chapter 7.
4. Johannes de Mussis, op. cit., col.560.

of 1451 lavanderii et domorum nectatores were likewise employed and a series of orders issued on the subject. (1) Extreme suspicion of infected housing also led to a remarkable ducal instruction to Laurentio de Pisauro in Pavia in 1476, reminiscent of that of Bernabò Visconti a century earlier:

'Recevuto queste, volemo fatiate bruxare tutte le robe et case infecte che sono in Pavia, facendoli bruxare tutte senza remissione. Ma habiate bona advertentia, aviso et cura adeo che nel bruxare de le case infecte non bruxassero anchora le vicine non infecte. Praeterea farete fare una crida publica che chaduno se guardi da la infectione, perche ad che se gli attachera gli serano brusate le case senza alcuno resguardo sia de qual conditione se voglia....' (2)

There is no evidence that the burning of houses was, or indeed could have been, anything more than an occasional practice.

The instruction to Pavia is most important as a forceful illustration of the philosophy underlying the plague orders.

The plague was treated as a disease which, with care, individuals could avoid. By the same token, the sick deserved to have their houses burned because of their incautious contact with infection. A more extreme belief that the principle of contagion was alone responsible for the spread of the disease could hardly be found.

One of the most striking aspects of plague control under both the Visconti and the Sforza was its operation not only in Milan, but throughout Milanese territory. From before the mid-century the Health Office was responsible not only for the capital, but for the whole of the Duchy. (3) The direct involvement of successive Dukes from Gian Galeazzo onwards also contributed to the centralisation of control, as may be seen

1. Decio, op.cit., pp.24-25, 29.
2. ASM., Miscellanea Storica, Cartella 3, November 1476.
3. ASM., Panigarola, Reg.6, f.8v (7 Sept 1447). An order of Zoanne dal Torgio as Commissario su lo offitio della conservatione della sanitate di Milano e del ducato.

from ducal letters to the governors of provincial cities. (1) Subject cities often had their own Health Offices. There were officiali sopra la sanità, probably on an ad hoc rather than a permanent basis, in Cremona and Parma in 1468 (2), in Pavia in 1476, in Cremona in 1480 (3), in Pavia in 1484 (4), and in Como in 1497 (5). Practice however was determined from Milan. This became clear in 1484 when Pavian attempts to ban Casale without reference to Milan brought rebuke in the name of Duke Gian Galeazzo Sforza:

'...habeati sopra ciò tenere che non debeat bannire alcuna terra, maxime quelle che sono fora del Dominio nostro, ne altre sottoposta da noy senza nostra speciale commissione o de li prefati deputati'. (6)

The application of measures against the plague throughout the Milanese Duchy was of immense significance. The Italian maritime states which traditionally have been regarded as pioneers against the disease can be seen to have inherited much of their concern from Milan. Pisa was subject to the Visconti from 1396-1405, throughout the period of Gian Galeazzo's rigorous measures. Genoa was under the dominion of Filippo Maria Visconti from 1421-1435, and of the Sforza from 1464 to 1478, and from 1488 to 1499. By its capture in the early fifteenth century of large areas of Visconti territory, from Vicenza to Bergamo and Crema, Venice too inherited ingrained traditions of plague control.

1. Since the fifteenth century Health Office archive, apart from the death registers, was lost in the office fire of 1502, ducal letters, marked according to urgency cito, cito cito, or cito cito cito, form the most valuable source for the history of Milanese plague control in the fifteenth century. A large number related to plague have been separated from the main series on a subject basis to form the series Miscellanea Storica, Cartelle 1-4. Many undated items, out of their archival context, have been stripped of historical significance.
2. ASM., Miscellanea Storica, Cartella 2, 4 June 1468.
3. Cipolla, op. cit., pp.16-17.
4. Magenta, op. cit., p.442.
5. ASM., Miscellanea Storica, Cartella 3, 17 March 1497.
6. Magenta, op. cit., p.442.

The persistence of the plague measures outside Milanese frontiers after the break-up of the Visconti empire may be instanced in the case of Brescia, which fell to the Venetians in 1426. Records of decisions (Provvisioni) of the Consiglio Cittadino of Brescia continue in an undisturbed sequence throughout the 1420's, revealing the extent of continuity between the Milanese and Venetian regimes. In 1422 and 1423 the Anziani of the city had met with the Milanese Podestà or his Vicario to take measures against the disease in Cremona and Pavia. Two citizens had been elected as guards for each of the city's five gates, seeing that the river Oglio had too many crossing points to serve as an effective cordon sanitaire. (1) Four years later, on 5th September 1427, the Consiglio Cittadino met under Venetian auspices, in the presence of the Rettore Fantin Dandolo. In the face of disease in Salò a resolution, similar to previous Milanese ordinances, was made to provide a hospital outside Brescia, equipped with medical personnel, servants, and all necessaries, to house the sick should the disease reach the city. (2) In the following month Brescian fears proved justified. On 21st October citizens were elected to carry out provisions against the disease. Cases of sickness were to be reported, and no burials were to take place without official licence. (3) In November the Anziani were instructed to make daily inspections of their sections of the city, to report the sick in writing, to send a specialist barber to diagnose suspect cases, and to despatch the infected to the hospital of San

1. BBQ., Archivio Storico Civico, Num.482, ff.92r, 108r (Sep-Nov 1422); Num.483, ff.58r-v, 59v, 65r, 75v, 81r, 91v (July-Dec 1423).
2. Ibid., Num.484, ff.38v-39r.
3. Ibid., ff.47r-v.

Bartolomeo outside the town. (1) A document of 1428 indicates that the evacuation of the sick was compulsory, and that their houses were closed up behind them. (2) In this way a Venetian Rettore presided over measures of an unmistakeably Milanese character. Likewise on 4th November 1428 the first recorded act of Tomaso Michiel as incoming Podestà was to proclaim:

'quod non sit aliqua persona cuius status aut dignitatis existat qui audat nec presumat venire nec intrare Brixiam que steterit aut habitaverit in aliquis locis, villis, castris seu civitatibus morbatis aut infectis'. (3)

In the following year Michiel renewed the plague orders taken under Fantin Dandolo. Particular mention was made that families of the sick were also to leave the town. (4)

The orders of Michiel and Dandolo were frequently re-instituted in the course of the century. On 10th August 1438 the Consiglio Cittadino determined that:

'proveditur et ordinetur quod omnes et singule provisiones alias edite contra morbum et pro conservatione civitatis a morbo tempore magnifici Domini Tome Michael tunc Brixie pottestatis executioni mittantur...'. (5)

Once again a committee of citizens, who were in fact members of the Consiglio, was established to put the regulations into effect. (6) In this year, because of the incipient siege of Brescia, provision had to be made for isolating in their homes the families of the sick who were unwilling to leave the city, and later the sick themselves. (7)

1. BBQ., Archivio Storico Civico, Num.484, f.53r (11 Nov 1427).
2. Ibid., f.113r (23 March 1428).
3. Ibid., f.158r (4 Nov 1428).
4. Ibid., ff.198v, 214r, 236r-v, 239v-241r (March-Aug 1429).
5. Ibid., Num.489, f.90v. A similar decree explicitly reinstating the orders of Dandolo and Michiel was made in 1448, ibid., Num.494, f.149v (28 April 1448).
6. Ibid., Num.489, ff.90v, 96r (Aug 1438).
7. Ibid., f.101v (30 Aug 1438), f.126v (23 Oct 1438).

The extent to which the Venetian Rettori entered into the contagionist philosophy of plague control in Brescia appeared from a speech of the Podestà to the Consiglio in 1439:

'Et eis exposito per praefactum dominum pottestatem qualiter ad eius pervenerat aures pestem iterum in Brixia convalescere, et hoc maxime pervenire ex contagione et eo maxime quia infecti de morbo se miscent cum sanis in plateis, ecclesiis, tabernis et etiam sub lozia, quod est oribile pur auditu...!' (1)

Again a team of health officials was elected to receive reports of disease from the Anziani, with full powers (possendi facere et exequi omnes quasque provisiones que ipsis utiles viderentur contra morbum et pro conservatione sanitatis civitatis). (2)

The disinfection orders also appear to have followed the Milanese model. The burning of infected houses was occasionally practised, at least until the Podestà ordered a suspension, on the grounds of a housing shortage, in 1448. It was felt that the practice was wasteful, especially as an infected house could be shut up et quod in diebus XL purgatur talis infectio. (3)

The practice of establishing temporary Health Offices during epidemics proved highly influential. Reference has already been made to the appointment of health officials in Brescia in 1427, 1438 and 1439. The same action was taken in the years 1428-9 (4), 1447-8 (5), 1450 (6), 1468-9 and 1478 (7), the officials being variously termed Deputati ad pestem, Deputati contra pestem, Deputati ad conservationem civitatis a peste and Deputati super provisiones pestis. In Bergamo health officials,

1. BBQ., Archivio Storico Civico, Num.489, f.156v (9 Jan 1439).
2. Ibid., f.157v.
3. Ibid., Num.494, f.150v (29 April 1448).
4. Ibid., Num.484, ff.113v, 128r, 236v.
5. Ibid., Num.494, ff.113v, 129v.
6. Storia di Brescia (edited by the Fondazione Giovanni Treccani degli Alfieri, 5 vols., Brescia, 1963-4), vol.2, p.66.
7. Paolo Guerrini, Le cronache bresciane inedite, vol.1 (Brescia, 1922), pp.1, 14, 17.

Deputati ad providendum contra pestem, were elected by the Maggior Consiglio in 1481 and 1482. (1) Verona had also been an important part of the Visconti empire. Health officials were appointed there in each year from 1449-1452, in 1458, 1463-4, 1478 (2), 1482-5, and in 1494. (3) They were variously referred to as the Provisores contra morbum, Deputati sopra morbum and Deputati ad provisiones faciendas pro civitate a contagione pestis conservanda. Similar appointments can be traced at Genoa in 1452 (4), 1468 (5), and 1493 (6); at Lucca in 1479 (7); at Padua in 1438 (8); at Udine in 1448, 1466, 1486, 1490 and 1493 (9); and at Venice in 1461. (10)

The readiness of so many governments to take measures against the plague, through the work of elected officials, reflects two aspects of the period. First, the spread of the disease was increasingly understood in terms of contagion. This enlarged the scope for action by the state, since limiting

1. Bergamo, Biblioteca Civica, Archivio vecchio del Comune, Azioni, Lib.3, ff.49r, 75r.
2. Antonio Rebesco, L'ufficio di sanità di Verona dalle origini fino ai primi decenni del secolo XVIII (Tesi di Laurea, University of Padua, 1939). I am grateful to the archivist of the Archivio Antico of the University of Padua for allowing me to see this thesis, which is not normally available for consultation, after the copy at the Archivio di Stato at Verona could not be found.
3. ASVerona, Ufficio di Sanità, Parte antica, Num.1, f.6r.
4. Antonio Luigi Bruzza, Sull'origine dei lazzaretti e dei magistrati di sanità (Genoa, 1874), pp.56-57. The text is given of a resolution of the Doge and Anziani of 18 April 1452.
5. ASM., Miscellanea Storica, Cartella 2, 3 August 1468.
6. Bartholomeus Senarega, 'De rebus Genuensibus' in L.A.Muratori (ed.), Rerum Italicarum Scriptores, vol.24 (Milan, 1738), col.533.
7. S. Bongi (ed.), Inventario del R. Archivio di Stato in Lucca (4 vols., Lucca, 1872-88), vol.1, p.216. In 1481 it was decided that the Anziani were to elect three citizens as health officers on any occasion when plague was present in the city or territory of Lucca.
8. ASP., Ufficio di Sanità, Reg.5, p.3. A decision of the Maggior Consiglio of Padua of 26 May.
9. Vincenzo Joppi, 'Frammenti d'un saggio storico medico sulla peste...in Friuli', Rivista Friulana, anno 3, 1861, pp.377-378. An article based in large part on the acts of the Consiglio of Udine.
10. See below, p.59.

the movement of persons and goods was a more tractable proposition than conditioning the state of the atmosphere as had been the aim in Florence and elsewhere in 1348. The Florentine records of the fifteenth century demonstrate the advance. The role of officials elected there to deal with the plague of 1448 was explicit:

'electi fuerunt quidam probi et notabiles cives qui super dicta materia haberent tractare ea que circa predicta viderentur utilia....occasione evitandi contagii quod dicitur esse periculosius in hoc aliqua alia re'. (1)

Similarly in 1464 when, after a decision of its Capitano, Podestà and Consoli del Mare, Pisa petitioned the government of Florence for its first lazaretto, it did so on the grounds that this was

'uno di migliori rimedii che si truovano a schifare la peste e obviare alla contagione, et maxime in quella città che, essendo marittima, è necessario che qui capiti ogni dì diverse generationi di persone, et però vi si porta più pericolo di contagione che nell'altre che non anno la marina'. (2)

The second aspect relates to the nature and frequency of the epidemics. From 1348 to the end of the century violent onrushes of plague swept through large areas of Europe, on average once in every decade. In the intervening years scarcely a mention of the disease can be found in contemporary chronicles and records. In the fifteenth century no such pattern is discernible. Outbreaks were more frequent, and more localised. In Venice the Senate noted in 1423 that the city was suffering from the disease almost annually. (3) Alfonso Corradi recorded 88 years of the fifteenth century in which there were outbreaks

1. Andrea Corsini, La moria del 1464 in Toscana e l'istituzione dei primi lazzaretti in Firenze ed in Pisa (Florence, 1911), p.31. The text is given of a decision of 3 October 1448 recorded in the Florentine Provvisioni, Reg.139.
2. Ibid., p.28. The text is given of a decision of 7 April 1464 recorded in the Florentine Provvisioni, Reg.155.
3. ASV., Senato, Deliberazioni miste, Reg.54, f.140v (28 Aug 1423).

of pestilence in Italy, and 55 years in which he could identify the presence of plague. (1) With certain exceptions, notably the years 1448-51, which saw heavy mortality throughout Italy, most outbreaks were of a localised nature. The pattern was the same elsewhere in Europe. Of the plague in fifteenth century France, Jean-Noël Biraben has written:

'elle apparaît omniprésente, et beaucoup trop disséminée pour être saisie à grands traits'. (2)

A recent work on England has shown from the obituary lists of Christ Church Priory, Canterbury, that of the fourteen years in which deaths from plague were recorded between 1413 and 1507, only four years coincided with national outbreaks of the disease. (3)

This is not to argue that plague was endemic everywhere in the fifteenth century. The constant movement of the disease and the frequent experience of infection coming to a city from outside were apparent to contemporaries and conditioned their response to the problem. The increased frequency of the outbreaks caused governments to take action, whilst the disease's attenuated ability to spread rendered it more subject to control. These were the conditions which favoured the rise of the Health Offices in the fifteenth century.

1. Corradi, Annali, op. cit.
2. Jean-Noël Biraben, 'La peste dans l'Europe occidentale et le bassin méditerranéen', Le Concours médical, 1963, 2nd February, p.781.
3. John Hatcher, Plague, population and the English economy, 1348-1530 (London, 1977), pp.17-18.

CHAPTER 3
THE ESTABLISHMENT OF THE VENETIAN
HEALTH OFFICE.

The fifteenth century saw the progressive adoption by Venice of measures against the plague. This did not come about quickly or easily. Advocates of plague control were opposed on financial grounds and frequently saw their schemes abandoned or postponed. By contrast with the Duchy of Milan, Venetian commitment to plague measures remained small. But in two respects a solid foundation was laid for the rapid extension of health measures in the following century. The lazarettos were founded, and in the last decade of the century a permanent Health Office was established.

The first known measure to prevent the outbreak of plague in Venice was taken in 1400, when refugees from the plague in Ragusa were refused entry to the city. (1) But not until 1423 did Venice formally adopt the policy, already practised by other states, of isolating outside areas infected by the disease. The legislation of 1423 was based on an analysis of the causes of the problem. Venice was said to be being infected with plague almost every year by the arrival of persons, by land and sea, from plague areas. The solution was twofold. The Signoria and Collegio were given powers to ban areas infected by the disease, and a plague hospital was established to admit cases of the disease discovered in the city or on board incoming ships. (2)

The foundation of the hospital, which came to be known as the Lazaretto Vecchio, was the more important outcome of

1. See above, p.36.

2. The full text of the decision is given in Appendix 3.

this legislation. In succeeding decades the success of the Lazaretto was acclaimed. It was enlarged and financial provision made for its upkeep. (1) There is no evidence however that great use was made of the power to ban plague areas. In 1430 the Collegio did order sailors from the *Delfina*, an infected ship from Tana in the Black Sea, to stay out of Venice. (2) But it was the Senate that continued to play the major role. In 1426 the Flanders galleys were warned to keep clear of plague in England. (3) In 1435, because of the epidemic at Constantinople and Trebizond, the Romania galleys were quarantined at Istria. (4) In 1437 Venetians were forbidden to attend the Treviso fair because of plague in the area. (5) At the same time, the state was becoming more closely involved during epidemics in the city. There is evidence that in 1423 the Signori di Notte kept a record of the mortality. (6) It is certain that the Senate ordered the daily mortality to be recorded during the plague of 1449, as had been done in a recent epidemic, presumably that of 1447 or 1448. (7) In 1447 the Senate also elected two noblemen, Pietro Valier and Francesco Foscarini, to persuade the sick to be admitted to the Lazaretto. (8) Yet despite the progress shown in these

1. See below, Chapter 7.

2. ASV., Collegio, Notatorio 6, f.91v (31 Dec 1430).

3. ASV., Senato, Deliberazioni miste, Reg.56, f.12r (14 May 1426).

4. F. Thiriet, Régestes des délibérations du Sénat de Venise concernant la Roumanie, vol.3 (Paris, 1961), p.49 (27 Dec 1435).

5. ASV., Senato, Deliberazioni miste, Reg.60, f.39r (8 Oct 1437).

6. BMV., MSS. Italiani, Classe VII, Cod.56 (=8636), Cronica Veneta di Marc'Antonio Erizzo, f.338v.

Ibid., Cod.321 (=8838), Cronica Savina, f.136v.
Marin Sanudo, 'Vite de Duchi di Venezia' in L.A. Muratori (ed.), Rerum Italicarum Scriptores, vol.22 (Milan, 1733), col.971.

7. ASV., Senato, Terra, Reg.2, f.110r (26 May 1449).

8. Ibid., Reg.2, f.36v (9 June 1447).

measures, the banning of plague areas remained no more than haphazard, whilst the insistence on patients' consent to admission to the Lazaretto suggests that the state was not yet committed to enforcing unpopular measures.

In the second half of the century the Venetian government paid far greater attention to the problem. That the years 1447-51 were a time of severe mortality throughout Italy may in part explain this development. Chronicles describe the Venetian plague of 1447 as worse than any in living memory, with mortality exceeding 300 a day despite a massive exodus to the mainland. (1) The epidemic was certainly serious enough to paralyse the Senate which was unable to muster the quorum required for important matters of state (2), and to cause the intervention of the Pope, who proclaimed an indulgence for Venetian priests and doctors willing to treat the sick. (3) The disease continued in the city until 1449. (4) In Milan the plague of 1450-1 was amongst the worst in its history. Surviving statistics of mortality for the period September to December 1451 trace the decline of the epidemic, but show that in September there had been over 100 deaths a day. (5) In Venice there was a new analysis of the causes of the disease in the city. From 1455 attention was focused on the consequences

1. BMV., MSS. Italiani, Classe VII, Cod.321 (=8838), f.437v. The sixteenth century Cronica Savina whose account of the plague is itself taken from a 'cronica antiquissima'.
2. ASV., Maggior Consiglio, Ursa, f.160v (29 June 1447).
3. R. Predelli (ed.), I libri commemoriali della repubblica di Venezia (8 vols., Venice, 1876-1914. Monumenti storici pubblicati dalla Deputazione Veneta di Storia Patria, serie prima, documenti), vol.4, p.307. The bull is dated 18th July, 1447.
4. See below, Appendix 4.
5. Decio, op. cit., p.27.

of immigration from the Balkans where plague was a constant hazard. This immigration was largely the result of pressure on the Venetian colonies in Dalmatia and Albania from the Turkish advance in the decades following the fall of Constantinople in 1453. (1) In 1455 a large number of destitute poor from Dalmatia (Sclavonia) were lodged by the state in one of the public warehouses at S. Biagio, and the sick amongst them sent to the Lazaretto. Financial provision was made for those willing to leave Venice. (2) In the following year the Senate declared that measures to preserve Venice from plague (a contagione morbi pestiferi) were made unworkable by the number of immigrants from the eastern Adriatic (ex copiosa conductione Sclavonorum et Albanensium). Immigration of this kind was therefore banned, and a close watch kept for illegal immigrants at the Lido and other landing places, and on the mainland. (3) Similar measures were taken in 1461. (4) The presence of destitute refugees in the city was understood as a general health risk. In 1471 refugees from the Turks dying on the streets of Venice from cold and famine were accommodated at Marghera, and later in the year a shelter was erected for them in the city in Campo Sant' Antonio. (5) In 1474 Albanian refugees were provided with bread and soup at the government's expense. (6) In 1478 pro periculo pestis Albanians dying of hunger under the porticoes of the Ducal Palace and at Rialto

1. Franz Babinger, 'Le vicende veneziane nella lotta contro i Turchi durante il secolo XV', La civiltà veneziana del Quattrocento (ed. Fondazione Giorgio Cini, Florence, 1957), pp.49-73.
2. ASV., Collegio, Notatorio 9, f.39r (8 Jan 1454 m.v.).
3. ASV., Senato, Terra, Reg.4, f.10v (26 June 1456).
4. ASV., Collegio, Notatorio 10, f.30v (20 June 1461).
5. ASV., Senato, Terra, Reg.6, ff.119r (8 Feb 1471) 153r (28 Dec 1471).
6. Brian Pullan, Rich and poor in Renaissance Venice (Oxford, 1971), p.212.

were shipped off to Istria. (1)

Whatever its causes, a new seriousness can be seen in Venetian reactions to the plague of 1456-7. This is all the more striking in that, as in all the plagues in Venice in the second half of the fifteenth century other than that of 1478, mortality was light. (2) Nonetheless, there was a major flight from Venice, causing security problems for the Council of Ten, which described the city as valde evacuata. (3) By the end of June 1456 the Collegio was said to be involved daily in the work of plague control. (4) In addition to the ban on immigration from the Balkans, the Senate decided on the appointment of a barber in each sestiere to treat the sick at government expense (5), instructed the Prior of the Lazaretto to burn all clothing of patients who died there (6), and ordered that other property of plague victims was not to be sold until a year after its owners had been infected. (7)

More importantly, the first moves were taken in 1456 that were to lead, more than two decades later, to the foundation of the Lazaretto Nuovo. It was thought dangerous to the city that those who recovered from plague in the Lazaretto Vecchio were sent straight back to Venice without any intermediate quarantine. It was also thought that separate accommodation should be provided for persons sent on suspicion to the

1. ASV., Senato, Terra, Reg.8, f.32r (20 Dec 1478).
2. See below, Appendix 4.
3. ASV., Consiglio dei Dieci, Reg. misto, 15, ff.103v, 111v, 117v (11 Aug, 24 Nov 1456; 23 Feb 1457); ff.120r, 121r, 131r, 140r (30 March, 20 April, 22 June, 10 Nov 1457).
4. ASV., Senato, Terra, Reg.4, f.10v (26 June 1456).
5. Ibid., f.15r (3 Aug 1456).
6. Ibid., f.30v (8 March 1457).
7. Ibid., f.31r (8 March 1457).

Lazaretto who proved not to have the disease. Accordingly, three nobles, Mafeo Michiel, Bertuccio Delfin and Matteo Vitturi, were elected to choose one or more places suitable for quarantine outside the city. (1) Ten days later Delfin urged the Senate to take over the leprosarium of S. Lazzaro for the purpose. (2) Michiel and Vitturi, on the other hand, proposed a quarantine centre at S. Pietro della Volta near Malamocco, and it was their motion which was passed by the Senate. (3) Nonetheless, the decision was not put into effect.

Throughout the second half of the century measures agreed in time of plague were regularly shelved or abandoned once the epidemic was over. At the end of August the lateness of the season, and the saving of expense, were the grounds for abandoning the project. (4) A temporary scheme advocated in the following year to establish tents on the Lido to provide a thirty day quarantine seems to have run foul of those who favoured a permanent solution, (5) whilst decisions in both 1457 and 1458 to revive the project at S. Pietro della Volta were themselves abandoned in turn. (6) Again in 1464 proposals for a quarantine centre were rejected on financial grounds. Commenting on this Gerardus de Collis, the Milanese ambassador, said of the plague in the city that:

'he miraculo che al pocho ordine et governo he sopra che la non facia molto maior processo'. (7)

1. ASV., Senato, Terra, Reg.4, f.12v (17 July 1456).
2. Ibid., f.13r (27 July 1456).
3. ASV., Procuratori di S. Marco de Citra, Collo LXIX, Sacco 163 (3 Aug 1456).
4. ASV., Senato, Terra, Reg.4, ff.15v, 17v (12 Aug, 31 Aug 1456).
5. Ibid., f.31r (8 Mar 1457); f.39v (12 May 1457).
6. Ibid., f.46v (28 July 1457); f.76v (24 July 1458).
7. ASM., Archivio Sforzesco, Carteggio delle Potenze estere - Venezia, Cartella 351, 24 May 1464.

After a further false start (1), the decision which established the Lazaretto Nuovo was finally taken on 18th July 1468. (2) By 1471 the Lazaretto Nuovo was built, and from this time the parallel functioning of the two lazarettos became the basic system for the control of plague in the city. (3)

The growing governmental concern with plague from the 1450's was also reflected in attempts to found a permanent Health Office. In 1423 the Signoria and Collegio had been given responsibility in this field. The responsibility of the Collegio was confirmed in July 1459 when, after ordering the quarantine of a number of incoming ships known to have plague on board, the Senate added that:

'iuxta solitum Collegium nostrum habeat libertatem in presentiarum et in posterum providendi super huiusmodi materia morbi et pro quibuscunque navigiis et locis morbo ipso affectis'. (4)

Other magistracies involved in minor ways were the Signori di Notte who recorded deaths in certain epidemics, the Procuratori di S. Marco de Citra who administered the endowments of the Lazaretto, and the Magistrato al Sal which provided additional finance for the Lazaretto and took charge of its routine administration. This system, which divided responsibility between a number of bodies each fully occupied with other duties, was challenged from 1459. In August of that year Paolo Morosini, Savio di Terra Ferma, pleaded for a determined solution to the problem of plague:

'nam quanta inconvenientia et intolerabilia damna sequantur ex huiusmodi pestilentis nullus posset exprimere'. (5)

1. ASV., Senato, Terra, Reg.6, f.27r-v (4 July 1468).
2. Ibid., f.29r.
3. See below, Chapter 7.
4. ASV., Senato, Terra, Reg.4, f.114v (28 July 1459).
5. Ibid., f.117v (13 Aug 1459).

He argued that the Signoria and Collegio propter alias occupationes could not take those measures which the situation demanded, and proposed the election in the Senate of three nobles of repute to preserve the city from plague. Morosini's motion was passed by the Senate almost without dissent. Those elected were to have power to command the Signori di Notte and the Capi di Sestieri, and to propose motions in the Senate. They were to serve for six months, after which time the Senate was at liberty to elect successors. Yet despite the unanimity of the Senate, its decision was never put into effect. This is clear from a motion before it in the following year when Matteo Vitturi, who as Savio di Consiglio and Procuratore di S. Marco never ceased to campaign in the interests of public health, joined with Paolo Morosini in further analysis of the problem and in condemnation of the government's inactivity:

'El non è da render in dubbio la contaminazione della peste, la qual è sparsa per questa terra, della qual è grandemente da temer l'anno futuro, esser processa dalla contagion delle persone venute qui di varii luoghi pestilenziali, alla qual cosa non è da dubitar, che altramente seria stà provisto, de quello e sta fatto, se la parte presa l'anno passato in questo Consiglio fosse stà mandata ad executione. E perche el sono manifestissimi i danni et inconvenienti vieno a questa città per la peste, sì dela morte de cittadini come de diminuzione de dazi, mancamento de trafegi, et spexe superflue se forza de far andando fuore per salvarse, et a remedio de tanti mali el sia da ponerli ogni diligenza e per provision possibile non restar de far ogni debita experientia de salvarne'.

They proposed that three noblemen di principal della terra nostra be elected on the terms proposed in 1459, but with the power to command the financial resources of the Salt Office, and a term of office of one year. But the real force of the motion was in its concluding sentences:

'E da mò sia preso che continuis temporibus debbiano sempre esser tre nostri solenni zentilhomeni designadi a questa vigilanzia de salvare questa città da peste per le forze sue. E questo perche l'è molto piu salutifero vigilar che la peste non entri in la città che dapoì intrada lamentare del danno allora irreparabile'. (1)

1. ASV., Senato, Terra, Reg.4, f.157r (30 Oct 1460).

The motion was passed by a substantial majority. Yet there is no evidence that any election of health officers took place in 1460. Early in June 1461 the Signoria and Collegio were taking responsibility as before. (1) Then on 29th June 1461 three nobles, Filippo Foscari, Zuan Gradenigo and Paolo Morosini himself, were elected as health officers. But their election was registered not against the decision of 1460, but against that of 1459. (2) It would seem that the Senate had reverted to its intention to create a temporary commission rather than a permanent magistracy. Nor was the commission long enough in office to leave any trace in the governmental records. The call for a permanent Health Office, sounded in 1460, was not answered for a further three decades.

The plagues of 1478 and 1485-6 were influential in reviving demands for a Health Office. The disease responsible in 1478 was referred to as peste, but it was also singular enough to gain in Venice the name mal di mazzuco from the intense headache it induced (3), and it was known by the same name in Brescia, where its unfamiliarity perplexed the medical profession. (4) Severe headache is present in bubonic plague, but in the Venetian death registers mal mazzuco, linked with petechie, petechial spotting of the skin, was the standard terminology for typhus. It is possible that the epidemic of 1478, which was general throughout Italy, marked the first appearance of this new disease in the peninsular.

Considerable effort was made in Venice to control the

1. ASV., Collegio, Notatorio 10, f.30v. (20 June 1461).
2. ASV., Senato, Terra, Reg.4, f.117v.
3. Giambattista Gallicciolli, Delle memorie venete antiche profane ed ecclesiastiche, (vol.2 (Venice, 1795), p.210.
4. P. Guerrini, op. cit., p.12ff., p.250.

epidemic. Even the Milanese ambassador, Leonardo Botta, was impressed. On 14th March he reported:

'Questa Signoria ha facto dignissima provisione per preservare questa città illesa da simile contagione et primo ha dilligenter investigato tutti li logi per il mondo infecti, et deinde ha in ogni passo e porto così marittimi così terrestri de questa città deputato barche et homeni assidui che non lassino venire ne condurre qua persona alcuna che venga de locho suspecto. Deinde ha con expressi comandamenti admoniti tutti i plebani et preti di questa città che sub pena privationis beneficii debiano sine temporis intervallo dare de dì in dì in nota alli Signori del Sale tutti quelli si infirmano de hora in hora nelle loro parochie, con ordinatione che quelli quali sono in suspicionem de morbo siano subito mandati al hospitale de lazaretto vechio, el governatore del quale debia havere ogni zorno dal datio del sale marcheti 16 per cadauno delli infermi. Li altri suspecti et non infermi siano mandati al altro hospitale del lazaretto novo, per cadauno delli quali el governatore di essi debia havere marcheti 14 dal dicto datio, et stato siano quaranta giorni in dicto loco, non sopravendoli infermità alcuna, siano licentati et mandati per qualche altri giorni fori della terra'. (1)

Impressive though they were, these measures came too late to prevent the infection of the city. For the disease had already appeared in Venice at the beginning of February. (2) Botta's despatches give a clear picture of the course of the epidemic. Until the end of May it remained insignificant. Then it spread rapidly. At the end of June there were up to sixty deaths a day; at the end of July up to eighty; at the end of August up to one hundred. In the first half of October the mortality reached its peak of up to 130 deaths a day, before entering a rapid decline. (3) The total mortality from late in May to the end of December was said to have been 10,825, comprising 6,662 deaths in the city and 4,163 in the lazarettos. (4)

1. ASM., Archivio Sforzesco, Carteggio delle potenze estere - Venezia, Cartella 365 (14 March 1478).
2. ASV., Senato, Terra, Reg.7, f.197v (6 Feb 1477 m.v.). Reference was made to the peste zà principiada in piu loghi de questa terra'.
3. ASM., Archivio Sforzesco, Carteggio delle potenze estere - Venezia, Cartella 365 (March-Nov 1478).
4. MCV., Raccolta Cicogna, MS.788, f.53v. A private notebook of historical memoranda, probably of the 16th century. The writer records a further 1,946 persons as having died in Venice during the same period d'altro mal.

These figures, which are consistent with Botta's despatches and other sources (1), may represent the exact totals recorded by the Salt Office. The way they are broken down leads to the same conclusion. Botta's despatches show that the Salt Office kept separate note of deaths in the city and the lazarettos, and also recorded deaths from other causes. The mortality was higher than that in any plague since 1447, and fifty years after its occurrence it was still regarded as the 'peste grande', the worst in living memory. (2)

The epidemic provoked a major flight of the nobility from the city. The Senate was unable to meet, and legislation had to be passed to recall absentees to compulsory sessions of the Senate and the Quarantie. (3) The disarray in the legislature was serious, for it delayed efforts to deal with a Turkish invasion of Friuli. (4) On 24th July when the Signoria could not muster enough members to receive ambassadors, 15,000 Turks crossed the Isonzo. (5) Nor was this the only problem. Crews could not be recruited in sufficient numbers for the Flanders

1. Domenico Malipiero, 'Annali veneti dall'anno 1457 al 1500', Archivio Storico Italiano, vol.7, 1843-4, p.667.
'Quest'anno a tempo nuovo ha principià la peste e ha durà fin al mese di Novembrio e ne son morti da 30 fin 80 al zorno'.
- Marin Sanudo, 'Vite de Duchi', op. cit., cols.1209-10.
'incominciò la peste in Venezia e morivano 30 e 40 al giornoIl morbo tuttavia lavorava in questa terra, e ne morivano al giorno quasi cento dieci, adeo che al consiglio venivano pochi Gentiluomini'.
2. ASV., Provveditori alla Sanità, Reg.2, f.5v (9 Oct 1528).
3. ASV., Maggior Consiglio, Regina, f.179r (28 June 1478); f.180v (2 Aug 1478).
4. Andrea Navagero, 'Storia veneziana' in L.A. Muratori (ed.), Rerum Italicarum Scriptores, vol.23 (Milan, 1733), cols. 1154, 1157.
5. ASM., Archivio Sforzesco, Carteggio delle Potenze estere, Venezia, Cartella 365, 24 July 1478.
'non essendosi questa Signoria per la carentia delli soy consiglieri, absentati per questa pericolosa condictione pestilentiale, congregato in numero sufficiente da potere dare audientia'.

galleys. (1) With the city crowded with refugees and so many leading citizens out of town, property was an easy target for theft and pillage. Houses, warehouses, even government offices were broken into. (2) Patrols of guards had to be formed, fifty men being deputed for the Piazza and Ducal Palace alone, an indication that the disorder threatened riot proportions. (3)

One of the most significant aspects of the epidemic of 1478 was the extension of the role of the Salt Office beyond responsibility for the lazarettos to the recording of mortality in the city. Writing to the Duke of Milan, Leonardo Botta even spoke of the Provveditori al Sal as 'Soprastanti delli infecti':

'Et non piglii admiratione la Sublimità Vostra se io gli scrissi de havere havuto informatione dalli soprastanti delli infecti, perche li soprastanti sono tre zentilhomeni Signori del Sale, li quali hano uno scrivano che notta tutti li infermi che gli vengono significanti dalli parrochiani'. (4)

This system, by which parish priests reported all cases of sickness in the city, provided a basis for action against the disease. The Salt Office, at least during epidemics, was steadily taking on the functions of a Health Office. This situation was ratified by the Senate during the plague of 1485. Plague broke out in Venice in May of that year, and was severe during the summer months (5), with mortality reaching 35 deaths a day at the end of August. (6) On the 20th June the Senate, recognising that it could not deal with the number of measures

1. ASV., Senato, Mar, Reg.10, f.189r (4 July 1478).
2. ASV., Consiglio dei Dieci, Reg. misto 19, f.72v (3 June 1478).
'fures incipiunt furari, et nocte preterita evacuaverunt domus totam unius de cha Balastreo et magazenum de cha Foscari, et in Rivoalto furati sunt in officio consulum mercatorum'.
3. Ibid., ff.72v, 74v, 79v, 92r-v, 98v (3 June-30 Nov 1478).
4. ASM., Archivio Sforzesco, Carteggio delle Potenze estere, Venezia, Cartella 365 (20 April 1478).
5. ASV., Provveditori alla Sanità, Reg.2, f.1r (7 Jan 1485 m.v.).
6. Domenico Malipiero, op. cit., cols.675-6.

needed against the plague, passed the whole problem to the Salt Office. (1)

This decision gave the Salt Office wide powers and responsibilities. It was to recruit the necessary staff, depute barbers for each sestiere, and organise the disposal of the dead. Its decisions on such matters were to have the same force as if resolved in the Senate. The Provveditori were also given criminal jurisdiction in this field. They might impose fines, corporal punishments, and even banishment, and could call on the police magistracy, the Signori di Notte, to execute their sentences.

Thus empowered, the Provveditori al Sal increased their activity. Staff were recruited on a large scale (2), orders were issued against the sale of second hand clothing, infected shops were closed, barbers were forbidden to visit the sick without a certificate from the physician in charge of the case stating that the malady was not plague. (3) But the epidemic of 1485 demanded more than the already busy Provveditori al Sal could give. Even before the Senate formally ratified the responsibility of the Salt Office for plague control, serious corruption had been discovered amongst the Salt Office staff which undermined the sanitary control of the city. Officials had been soliciting money from the sick to move them not into the lazaretto, but to other houses in the city, where they

1. ASV., Senato, Terra, Reg.9, f.146v.

'Quoniam in dies occurrit fiende multe et diverse provisiones causa morbi serpentis in hac civitate nostra, que quidem provisiones impossibile est ut particularites declari possent. Et necessarium sit dare libertatem uni officio quod facere habeat illas provisiones in hac materia que fuerint expedientes'.

2. By the middle of the following January the Provveditori were able to compile a list of no less than 30 persons who were retiring after recent service in the Lazaretto Vecchio alone, ASV., Magistrato al Sal, serie 2, Reg.2 (= Busta 291), f.115v (16 Jan 1485 m.v.).

3. Ibid., f.105v (22 June 1485), f.106r (28 June 1485).

frequently died without medical treatment or spiritual comfort. At the same time, a clandestine trade had been carried on in infected clothes. (1) By the end of the year the inadequacy of the Salt Office as an instrument of health policy had to be admitted. When the Senate met on 2nd January 1486 it acknowledged the need for further action against the plague, but with only one dissentient vote recognised that the Provveditori al Sal were too burdened with the central tasks of their office to undertake it. It was decided to bring proposals for a solution before a forthcoming Senate meeting, in which no other business might be treated until a decision on this matter had been taken. (2)

Such is the background to the Senate meeting of 7th January 1486. The plague had declined from its peak of the previous summer, but its continuance during the winter months was taken as a worrying sign. The task in hand was to obviate factors which were contributing to the unusual survival of the plague (remover li nutrimenti per li quali quella se potesse conservar).

(3) To carry out this task it was decided to elect a committee of three noblemen. In this decision the Provveditori alla Sanità saw the origin and basis of their Office. Subject to severe financial penalty, elected Provveditori might not refuse to serve. They were to hold office for one year, but during their tenure they were to be eligible for election to other offices of state. Their powers were to be extensive. They had the right, severally or as a body, to propose motions in the Senate relevant to their work. In unison they could wield

1. ASV., Senato, Terra, Reg.9, f.145v (14 June 1485).
2. Ibid., f.168r (2 Jan 1485 m.v.).
3. ASV., Provveditori alla Sanità, Reg.2, f.1r. See below, Appendix 6.

criminal jurisdiction. They could draw for their needs on the financial resources of the Salt Office. Decisions of the Provveditori alla Sanità in matters of health were to be as binding as those of the Senate.

How much did these early Provveditori alla Sanità achieve? Much of their work merely reflects the fulness of existing sanitary provision. They amended the statutes of the lazarettos drawn up by the Salt Office in 1482, (1) extended an existing ban on preaching in churches which brought the danger of crowds, continued the repression of staff corruption, prosecuted a priest who went without a black cross to indicate his connexion with the sick, and a man who removed from a house the cross which marked it as infected. (2) Only two measures stand out. One was an attempt at indirect supervision of the meat markets, and the other a regulation of prostitution. (3) If the record of achievement was slight, the reason is not far to seek. The plague did not fulfil the fears of the winter; by the end of April 1486 it was over, and the Health Office did not long survive it. (4) For, contrary to the impression given by its Capitolare of 1541, the Health Office did not rise fully formed

1. ASV., Magistrato al Sal, serie 1, Reg.8 (= Busta 6), f.162v-165v (13 Feb 1481 m.v.), f.176v (8 March 1486).
2. ASV., Provveditori alla Sanità, Reg.725, ff.1r-2r (27 Feb, 9 March 1486).
3. Ibid., Reg.2, f.17v (29 March 1486); ibid., Reg.725, ff.1v-2r (20, 27 March 1486).
4. ASV., Compilazione leggi, Busta 337, f.207r (28 Nov 1487). A Senate decision to reduce staff in the lazarettos, as 'per divina clementia za fa piu de uno anno e mezzo la terra sia libera da peste'.
The last reference I can trace to Provveditori alla Sanità in 1486 is ASV., Magistrato al Sal, serie 2, Reg.2 (=Busta 291), f.139r (18 July 1486).

in 1486. Its early history was hesitant, and its development slow. There is no indication that the Senate intended the Office to be more than temporary. That the Health Office eventually attained permanent standing was due not to the Senate, but to the diplomacy of the Provveditori alla Sanità and to the way in which the Office built up its role and proved its importance through its work.

With the disappearance of the Provveditori alla Sanità in 1486, the Salt Office resumed the work of plague control, and made it the responsibility of one official, Andrea Bombozo. But faced with a new epidemic at the outset of 1490, the Office recognised that Bombozo alone could not cope, and three days later the Senate reinstated the Provveditori alla Sanità on the same terms as before. (1) Again there is nothing to indicate that the Office was to be permanent.

Once again the epidemic did not justify early fears, but now the Provveditori alla Sanità, Luca Pisani, Marco Foscolo and Nicolò Muazzo, the latter of whom had held the same office in 1486, were reluctant to accept their dismissal. They pointed out to the Signoria the need for a permanent Office, which could take speedy action at the outset of an epidemic and so avoid a reaction of panic in the city. In exchange for continued existence, they agreed to save the government the financial burden of salaries by dismissing the whole of their staff. Only one officer, Jacobo Negro, was now to be allowed them as Fante

1. ASV., Senato, Terra, Reg.10, f.189v (9 Jan 1489 m.v.).
'quia impossibile est quod Provisores nostri Salis, qui aliis occupationibus multis sunt implicati, possint huic rei incumbere'.

and Masser, though they might also call on Bombozo of the Salt Office in time of epidemic. The running costs of the Office in terms of salaries were thus reduced to a mere three ducats per month, and the Signoria was satisfied. (1)

Such was the price paid by the Provveditori alla Sanità for survival. Nevertheless from this time the Office was established on a permanent basis, and a threshold laid for its development. Within a short time it was quietly expanding its staff, taking on two more Fanti, even though each could be paid no more than two ducats a month. But the problems of the new Office were severe. Their brief from the Senate did not state in which fields they were to operate, nor with what relation to other government departments. Much of the work for which the Provveditori came to be responsible was not new, but had long been carried out by other bodies which were reluctant to accept the transfer of their jurisdiction to the new Office. The early Provveditori alla Sanità had to establish areas of concern and rights to intervene in them against entrenched opposition. The fault lay in a lack of guidance from the central governmental organs. Whilst each office had its own Capitolare outlining

1. After 1490 there are only four years in which elections of new Provveditori alla Sanità are not recorded. These are 1491, 1496, 1501-1502. In the latter case the irregularity was one of extended length of tenure by the previous holders of the office. The same explanation probably holds true of the gaps in 1491 and 1496. Jacomo Venier was certainly in office for nearly two years from 1496 to 1497, see ASV., Provveditori alla Sanità, Reg.725, ff.30r (1 Feb 1495 m.v.), 30v (6 Oct 1497). Systematic records of elections to office in Venice date only from 1498, BMV., MSS. Italiani, Classe VII, Codici 813-871 (= 8892-8950). For a list of the Provveditori alla Sanità, see Appendix 7.
2. ASV., Magistrato al Sal, serie 2, Reg.2 (= Busta 291), f.227r (1 Aug 1490).

its authority and jurisdiction, there was no Capitolare for the whole government machine. Not planning, but circumstance and ad hoc decisions moulded the several Capitolari, whilst the Senate itself was geared to correcting immediate faults rather than to long term planning of an efficient system.

In time of health, at least until the mid-sixteenth century, the main aims of the Provveditori alla Sanità were to prevent the import of infection and to protect the city's food and water supplies and the quality of its air. Yet many factors relevant to this responsibility the Provveditori were never able to take under direct control. Street cleaning and care for the health of the lagoon remained with the Magistrato alle Acque. The city's water supply and the care of the canals remained under the Provveditori di Comun. (1) In these areas the Sanità could hope only to attempt indirect supervision, stepping in to correct the worst abuses. Other matters, such as the control of the quality of drugs in the city remained a field of dispute with the Iustitia Vecchia, the body responsible for the guilds, including the pharmacists. Here Sanità intervention could do no more than run parallel, rather than replace, existing effort. (2) But in the area of food supplies the Health Office established its control more effectively, though not without a struggle.

Control of quality in the meat trade was traditionally one of the functions exercised by the Ufficiali alle Beccarie. How

1. See below, p.126 ff.

2. In 1528 Sanità officials concerned with pharmacy were instructed to investigate the shops of the apothecaries with or without the cooperation of their opposite numbers from the Iustitia Vecchia, ASV., Provveditori alla Sanità, Reg.726, f.168r (27 Oct 1528).

that control passed to the Provveditori alla Sanità provides an example of the way in which the Health Office built up its powers. The early Provveditori, limited in staff resources, aimed at only indirect control of the meat trade through the Ufficiali; they wished to be informed of all cases of unwholesome meat, but contemplated no independent action. (1) But by 1493 the Provveditori were more confident. In that year they warned the Ufficiali that if existing control proved ineffective, they would step in. Only weeks later they did so, issuing their own legislation on bad meat, and bringing offenders before their own tribunal. (2) Though the Ufficiali retorted by sacking officers who had reported offences to the Sanità rather than to themselves (3), a precedent had been set; the Provveditori had established themselves de facto as a judicial body in this field. But judicial authority was not the same as control. The Sanità's few Fanti could not police regulations in this as well as in every other field. The Provveditori alla Sanità could only take full control of hygiene in the meat markets by enlisting a suitable staff. This was a problem, given lack of determined support from the Senate, which was still prepared to leave the Health Office without Provveditori for a full six months during 1495. (4) A solution was nonetheless found. Tradesmen were elected by the Provveditori as Soprastanti alle Vittuarie to investigate sanitary conditions in their various fields, and to report

1. ASV., Provveditori alla Sanità, Reg.2, f.17v (29 Mar 1486).
2. Ibid., Reg.725, ff.10v, 11v (1,11 Sept 1493).
3. Ibid., f.13r (11 Oct 1493).
4. Ibid., f.27r (10 Dec 1495).

offences. They were to have no salary, but could claim a share of the fines resulting from their activity. The first Soprastante alle Vittuarie, responsible for food in general, was elected in 1495. (1) There are hints that specialist Soprastanti alle Beccarie were active in 1498, but only in 1500 were the posts regularised, and their number fixed at three. (2) Effective Sanità control of the meat trade is therefore not apparent before the sixteenth century.

Whilst supplies of meat and grain to Venice were controlled by specialist Offices, other sections of the food trade were controlled by the guilds, under the indirect supervision of the Iustitia Vecchia. Guild control extended to concern for the quality and hygiene of produce. The Lughanegheri, sausage-makers, when applying in 1497 for permission to form a guild and draw up a mariegola, asserted their aim to promote the health of the town by preventing the use of unwholesome meat in their craft. (3) The Provveditori alla Sanità had accordingly to seek accommodation with a number of guilds, including the Frutaruoli (fruit), Herbaruoli (vegetables), Casaruoli (cheeses), Aquaroli (water), the Pescadori and Compravendi pesce (fish). This in turn meant coming to terms with the Iustitia Vecchia. As in the case of the meat trade, the Provveditori do not seem to have contemplated direct control until 1493. In that year they gave an ultimatum to the Iustitieri Vechi that if standards were not improved, particularly in relation to the sale of bad fish and adulterated wines, then their intervention would follow. (4) That

1. ASV., Provveditori alla Sanità, Reg.725, f.27v (10 Nov 1495).
2. Ibid., ff.39r (26 June 1498), 61r (5 Oct 1500).
3. ASV., Consiglio dei Dieci, Parti miste, Filza 11, f.194.
4. ASV., Provveditori alla Sanità, Reg.725, f.13v (23 Oct 1493).

intervention took the form in the fish trade of orders direct to the guild of the Pescadori. (1) The Gastaldo and other officials of the guild were to tour the fish markets twice or three times a day, and report offences to the Health Office. Later, as in the meat trade, this work was taken over by officials elected by, and responsible to, the Provveditori alla Sanità. The establishment of the Soprastanti alle Beccarie was paralleled by the creation of the Soprastanti alle Pescherie, perhaps as early as 1494. (2) In 1506 a third rank, the Soprastanti alle Frutte was added for the fruit trade, (3) whilst hygiene in other foods was controlled by the salaried staff of the Office, the Fanti. In the second decade of the sixteenth century the Provveditori alla Sanità were similarly concerned with the regulation of standards in pharmacy (4), and by 1528 the ranks of the Soprastanti had come to include three Soprastanti alli Spetieri. (5) These officers had the task of carrying out investigations in all the city's pharmacies to ensure the quality of drugs. In 1540, seeing that ill-prepared medicines were causing the death of patients rather than their cure, the Soprastanti were given increased powers. In pursuit of their work they might call on the aid of the Capitano and Fanti of the Office, and ^{that} of all other civic police. At the same time, apothecaries and their drugs were to be licensed by the Soprastanti, and in particular this was to include medicine chests made up for barbers serving in the fleet. (6)

1. ASV., Provveditori alla Sanità, Reg.725, f.15r (13 Nov 1493).
2. Ibid., f.17v (20 Feb 1493 m.v.).
3. Ibid., f.113v (10 May 1506).
4. Ibid., Reg.2, f.41r (6 Nov 1511).
5. Ibid., Reg.726, f.168r (27 Oct 1528).
6. Ibid., Reg.728, ff.29-31r (25 June 1540), 66r (30 June 1541).

In this way the Provveditori alla Sanità succeeded in carving out areas of jurisdiction. There were of course setbacks. In 1493 the Provveditori di Comun refused to register on its books a Sanità instruction on the grounds that the Sanità could claim no superiority to their own magistracy. (1) This was part of the process by which the new Office found its level in the hierarchy of the state. But by 1500 the Health Office had put down firm roots. Legislation had been passed on a whole range of issues: the quality of food and drink, the dangers of industrial fumes (2), the problems of refuse and sewage disposal (3), the difficulties of the poor and the problem of begging (4), the old scourge of leprosy (5), and the new one of syphilis. (6) Above all, the Provveditori alla Sanità had enlarged their experience of the plague, and formulated expedients to deal with it.

Probably no factor contributed more to the survival and development of the Office than the regular recurrence of plague during the early decades of its existence. (7) The periodicity of plague in Venice during the last decade of the fifteenth century and the first of the sixteenth may even suggest that the disease was endemic in the city at this time. But the outbreaks were mild, and appeared subject to control. They were plentiful enough to draw attention to the need for the Health Office, without being serious enough to raise doubts

1. ASV., Provveditori alla Sanità, Reg.725, f.13v (22 Oct 1493).
2. Ibid., Reg.2, f.25v (11 June 1498).
3. Ibid. Also ibid., Reg.725, f.51v (3 Aug 1499).
4. Ibid., Reg.725, ff.7r (3 April 1490), 15r (18 Nov 1493), 22v (7 Nov 1494).
5. Ibid., f.9r (5 Nov 1490). Lepers were not to be lodged in the city, but in the leprosarium of S. Lazzaro.
6. Ibid., f.49r (5 Sep 1498). The resale of oil in which syphilitics had bathed was forbidden.
7. See below, Appendix 4.

about its success. In his work on the government of Venice written in 1524, Gasparo Contarini wrote that:

'....dopo fu imposta questa cura a questo nuovo magistrato, mai più per largo dono d'Iddio questa città è stata gravemente molestata da morbo da simile maniera: quantunque alcuna volta, il che nella gran frequentia de gli huomini, che d'ogni parte qui si ragunano, non si è potuto schifare che molte case sieno infettate: ma per accuratezza di questo magistrato e per 'l soccorso prestatovi da Dio, il male ampiamente non ha potuto distendere le sue radici'. (1)

His verdict on the Provveditori is a witness to their success:

'without them', he wrote, 'life would be impossible'. (2)

The success of the Provveditori in establishing their role was reflected in the increasing number of their staff. By the end of 1509 the salaried staff comprised one Nodaro, one Scrivan, one Capitano and five Fanti. (3) Although salaries remained low (4), the value of their work was no longer doubted. In 1509 the Senate exempted them from the general halving of salaries demanded by the war effort,

'essendo quel offitio differente da tutti i altri, è etiam conveniente darli causa che, proposto ogni rispetto et pericolo, possino far el debito suo in preservar questa nostra citta da morbo'. (5)

Staff numbers naturally increased in time of plague, and this may have affected the staff complement in 1509. (6) Nevertheless

1. Gasparo Contarini, La republica e i magistrati di Vinegia (Venice, 1551), p.127.
2. Ibid., p.124. '....i Provveditori sopra la sanità della città di Vinegia, senza i quali non si potrebbe menar la vita'.
3. ASV., Provveditori alla Sanità, Reg.12, f.17r (15 Dec 1509).
4. Ibid., 'perche quelli attendono a detto offitio sono persone miserabili et hanno piccoli salarii...' The five Fanti shared a mere 11 ducats per month. The other officers each earned 4 ducats per month.
5. Ibid.
6. Sanudo, Diarii, op. cit., vol.9, col.425. 'Benche sia inverno, pur in varie contrade si moriva di peste in questa terra'. (Dec 1509).

in 1521, when no epidemic in Venice can be traced, a sizeable list of Health Office staff receiving salary from the Salt Office was drawn up. (1)

Nodaro	48 ducats annually
Scrivan	36 " "
Prior of the Lazaretto Nuovo	80 " "
Prior of the Lazaretto Vecchio	120 " "
Masser	48 " "
Comandador	12 " "
Capitano	48 " "
2 Fanti (24 ducats each)	48 " "
1 Soprastanti	24 " "
	<hr/>
	464 ducats
	<hr/>

Twenty years later in 1541, also a year free from plague, the Provveditori alla Sanità drew up an even longer list. (2)

Nodaro	4 ducats monthly
Scrivan	8 " "
Capitano	4 " "
Masser	4 " "
Fanti (five in number)	each 3 " "
Fante (one)	1 " "
Comandador	unsalaried
Prior, Lazaretto Vecchio	14 ducats monthly (3)
Prior, Lazaretto Nuovo	6 ducats 4 lire per month (4)
Medico per la terra	7 ducats monthly
Medico delli lazaretti	7 " "
Pizegamorti (three)	unsalaried in time of health
Guardian sopra navilli	unsalaried
	<u>contd</u>

1. ASV., Magistrato al Sal, serie 1, Reg.4 (= Busta 4), f.113v.
2. ASV., Provveditori alla Sanità, Reg.2, f.110v.
3. The salary of the Prior of the Lazaretto Vecchio was in fact 120 ducats per annum. The figure of 14 ducats per month probably includes the expenses of a servant, ASV., Provveditori alla Sanità, Reg.2, f.119r.
4. In addition the Prior of the Lazaretto Nuovo could dispose of a vineyard worth 25 ducats per annum, ibid., f.124v (28 Jan 1549 m.v.).

Guardian alli castelli	3 ducats monthly
Soprastanti alle spicciarie (three)	unsalaried
Soprastanti alle frutte (three)	unsalaried
Capellan per la terra	1 ducat monthly

Most of these officers were paid by the Salt Office. Others, such as the Guardian alli Castelli, who dealt with incoming shipping, were paid by the Health Office from its income from fines, whilst the Capellan per la Terra, who ministered to the plague sick, was salaried by the parish priests of the city. The Pizegamorti, who rowed the sick and the dead to the lazarettos, were unsalaried in time of health, but each was allowed to ply one of the city's ferries, the traghetti. Others, such as the Comandador, who announced the proclamations of the Office around the city, were paid piece rates. Some officers, such as the Scrivan and the Nodaro could derive a supplementary income known as the utilità of their offices from charges for particular services, according to an agreed tariff. (1) The regular staff, including the Scrivan, Nodaro, Masser, Capitano and Fanti, were based at the Office premises on the waterfront at San Marco known as terranova. The Nodaro and the Scrivan were the secretaries of the Office. The Scrivan was responsible for the payment of salaries, and for the issue of health passes and licences, such as those for burials. He also kept many of the records of the Office, including the books of the city's dead, and the register of areas banned by the Provveditori for suspicion of plague. (2) He also acted as

1. For the tariffs of each office in 1541, ASV., Provveditori alla Sanità, Reg.2, ff.108r-110r.
2. Ibid., Reg.726, ff.133r-134r (31 Mar 1528).
Ibid., Reg.2, f.105v (1541).
The record of plague infected areas is no longer extant. The Necrologi, the city's death registers, survive for the period 1537-9 and from 1550 onwards. ASV., Provveditori alla Sanità, Regs.794-828 cover the sixteenth century, with gaps.

accountant for the treasury kept by the Provveditori who acted in turn as treasurer, (cassier). (1) The Nodaro was a member of the Ducal Chancellory and had received a formal training before taking office. Whilst he too issued licences, such as those permitting Office staff to bear arms, his functions were primarily of a legal nature. He played an important role in the trials heard by the Provveditori, examining witnesses and recording verdicts and sentences. He also recorded the election of staff, and it is his records, the Notatorii, which form the only surviving internal source for the early history of the Office. (2) The Masser, who often served also as Fante, was in charge of the Office premises. In particular he was in charge of the Office prisons and their occupants, and of a special warehouse, completed in 1531, to house pledges collected or siezed by the Office in the course of its judicial activity. He also kept a register of pledges and auctioned those that went unredeemed. (3) The Capitano was the captain of the Fanti, a police force which carried out arrests and executed the penal sentences of the Provveditori where corporal punishment was involved. The Fanti also served in more general ways, such as accompanying persons to the lazarettos, and later carrying to the Priors the licence for their release. (4)

The development of the Office in the early decades of its existence was reflected in the role and status of the

1. ASV., Provveditori alla Sanità, Reg.2, f.56v (17 July 1545).
2. Ibid., f.108r-v (1541). The Notatorii from 1485 to the end of the sixteenth century survive with a few gaps as ASV., Provveditori alla Sanità, Regs.725-737.
3. Ibid., Reg.727, ff.15v (3 April 1529), 161v (14 July 1531).
4. Ibid., Reg.2, ff.109v-110r (1541).

Provveditori alla Sanità. The early Provveditori were chosen from amongst the leading men of state (i primi nobili nostri). (1) Of the six Provveditori who held office in 1486, Domenico Morosini served as Consigliere in 1484 and as Consigliere and Savio di Consiglio in 1486 (2), Nicolò Muazzo as Avogadore di Comun in 1485 (3), Antonio Grimani as a member and as Capo of the Consiglio dei Dieci in 1486 (4), Costantin di Priuli as Avogadore di Comun in 1485 and Savio di Terra Ferma in 1486 (5), and Giovanni Pisani as Avogadore di Comun in 1487 (6). In addition, Nicolò Mocenigo, Filippo Tron and Benedetto Trevisan, all Consiglieri in 1486, were elected as Provveditori alla Sanità but refused office. (7) The election of leading statesmen as Provveditori alla Sanità continued after the revival of the Office in 1490. Marco Foscolo, Luca Pisani and Girolamo Zorzi, who served as Provveditori between 1490 and 1493 had held the offices respectively of Consigliere (8), member of the Consiglio dei Dieci (9), ambassador to France and Avogadore di Comun. (10).

There can be little doubt that the status of the early Provveditori contributed substantially to the success of the Office in establishing its position. But the need for such distinguished Provveditori grew less as work became routine

1. ASV., Provveditori alla Sanità, Reg.2, f.1r (7 Jan 1486).
2. ASV., Consiglio dei Dieci, Reg. misto 23, ff.9v, 14v, 26r.
3. ASV., Collegio, Notatorio 13, f.90v.
4. ASV., Consiglio dei Dieci, Reg. misto 23, ff.52r, 68r.
5. ASV., Collegio, Notatorio 13, f.95v.
- ASV., Consiglio dei Dieci, Reg. misto 22, f.197r.
6. ASV., Collegio, Notatorio 13, f.145v.
7. Ibid., ff.134v, 135r. Mocenigo and Tron refused office after their election on 7 January 1486. Trevisan was elected on 13 January, but was not in office on 5 February - see ASV., Senato, Terra, Reg.9, f.168r (7, 13 Jan 1485 m.v.); ASV., Provveditori alla Sanità, Reg.725, f.1r (5 Feb 1485 m.v.).
8. ASV., Consiglio dei Dieci, Reg. misto 23, ff.9v, 14v (1486).
9. Ibid., f.37r (1486).
10. Ibid., f.9v (1486); ASV., Collegio, Notatorio 13, f.185r (1489).

rather than innovatory. The turning point may have been the year 1497, when the Senate transferred to the Maggior Consiglio the election of a number of magistrates, including the Provveditori alla Sanità, whilst keeping the right to elect to more important offices. (1) Of the five Provveditori elected between 1498 and 1499, none had served in the Collegio or Consiglio dei Dieci, although two had been Senators, two members of the Senate Zonta and the fifth, Francesco Capello, ambassador to France and Spain. (2) The offices previously held by five of the six Provveditori elected between 1503 and 1504 are recorded in the registers of elections. Not one of them had reached Senatorial rank, or even the Senate Zonta, but most had held magistracies of lower status belonging to the group known as the Sottopregadi. (3)

It was amongst the Sottopregadi that the Provveditori alla Sanità found a permanent place in the early years of the sixteenth century. Magistracies in this group were distinguished from those of lower rank by their right to sit in the Senate ex officio. But the Sottopregadi was not an homogeneous group. Whilst all magistracies which belonged to it could attend the Senate, only a few could both vote there and propose motions relevant to their jurisdiction. A larger

1. ASV., Provveditori alla Sanità, Reg.12, f.1r (17 Aug 1497). Andrea Da Mosto's statement in his L'Archivio di Stato di Venezia (2 vols., Rome, 1937-40), vol.1, p.211 that the election of the Provveditori alla Sanità was taken over by the Maggior Consiglio in 1537 is incorrect. The first extant register of elections shows that the Provveditori were already elected by the Maggior Consiglio in 1498, BMV., MSS. Italiani, Classe VII, Cod.813 (=8892).
2. BMV., MSS. Italiani, Classe VII, Cod.813 (=8892), ff.19r (5 June 1498), 70r (17 Feb 1498m.v.), 93r (26 June 1499). On Capello, Dizionario Biografico degli Italiani, vol.18 (Rome, 1975), pp.775-8.
3. BMV., MSS. Italiani, Classe VII, Cod.814 (=8893), ff.151r, 218r (19 Feb 1502 m.v., 18 Mar 1504). The offices held were those of Ufficiale alla Camera degli Imprestiti, Camerlengo di Comun, Ufficiale alla Rason Nuove, Ufficiale ai Dieci Uffici, and Sopracomito.

number, including the Provveditori alla Sanità, lacked the right to vote in the Senate, but could still propose motions appropriate to their work. (1) Others might vote but not propose motions, whilst a fourth section might neither vote nor propose motions. (2)

As these divisions imply, the Sottopregadi was a hierarchical group, and it was usual for noblemen to rise through its ranks, holding offices of increasing prestige before seeking election to the Senate or its Zonta. (3) The Provveditori alla Sanità were well above the lowest ranks of the Sottopregadi. The previous offices held by 63 of the 76 Provveditori alla Sanità elected between 1556 and 1575 are recorded. Of these 63, no less than 57 had already held office in the Sottopregadi. (4) After the first years of the sixteenth century the Provveditori alla Sanità were no longer of senatorial rank, but neither were they complete novices in civic administration.

One of Marin Sanudo's observations on the Provveditori alla

1. Marin Sanudo, Cronachetta (Venice, 1880), p.149. Sanudo wrote of the Provveditori alla Sanità in 1515, 'È homeni soto pregadi. Vano in pregadi, non meteno balota'.
2. Giuseppe Maranini, La costituzione di Venezia, (2 vols., Florence, 1974 - reprint of the edition of 1927-31), vol.2, pp.151-164.
3. Ibid., vol.2, p.117. The nature of the Sottopregadi hierarchy remains to be explored. Maranini divides the Sottopregadi into three hierarchical classes. However the cursus honorum through these classes which he describes is unsatisfactory, both because the number of offices in each class is irregular, and because the Provveditori alla Sanità, whom Maranini assigns to class 2, can be seen to have previously held offices from each of the three classes indiscriminately.
4. BMV., MSS. Italiani, Classe VII, Codici 825-828 (= 8904-8907). The offices which had most often been held by elected Provveditori alla Sanità in these years were those of Provveditori sopra Cottimi (10), Provveditori sopra Uffici (8), Provveditori sopra Banchi (8), and Provveditori sopra Datii (7).

Sanità was that they served without salary. (1) Furthermore, there was no casual income (utilità) to be derived from the office. (2) What then attracted the prospective candidate to the office? It might be argued that since the refusal of office was not possible without payment of a substantial fine, it is unnecessary to suppose that anyone served willingly. But this cannot be the case, for candidates were frequently proposed for office by friendly parties such as fathers or brothers. (3) One of the main attractions of the post was that it served as a step towards election as a Senator. It is significant that the Provveditori were drawn from a restricted age range. Of 37 Provveditori alla Sanità who served in the decade 1566-1575, the dates of birth of 32 have been traced. Their ages on election ranged from 30 to 58 years, the average being 44. (4) They were men of middle age, with a career before them. Furthermore, posts as Provveditori alla Sanità were particularly advantageous, for after their term of office, the Provveditori were exempt from the usual compulsory period of ineligibility

1. Sanudo, Cronachetta, op. cit., p.149.
2. ASV., Maggior Consiglio, Deda, f.107v. (24 Aug 1515).
'L'officio nostro di provedadori sopra la sanità e de quella importantia che cadauno intende et è senza alcuno salario et niuna minima utilità cum grandissima fatica, mediante la qual cum la gratia de nostro Signor Dio et de la sua madre verzene maria se tien resanata questa città'.
3. BMV., MSS. Italiani, Classe VII, Cod. 826 (=8905), ff.60r, 137r. Vincenzo Querini and Giacomo Minoto were both proposed for the office by a brother in 1562.
4. Having obtained details of parentage from the registers of elections cited above, the dates of birth of the Provveditori may be found in the ASV from the card indices (schedarii) to the Libro d'Oro in which births of male patricians were recorded from 1506.

for office (contumacia). (1) It was even possible for Provveditori to seek election to a higher post before completing the anticipated term of office of one year. Of 62 Provveditori alla Sanità who were in office between 1556 and 1575 and whose length of service has been traced, the term in office varied from one to fourteen months, the average being just under nine months. Seventeen Provveditori served for only six months or less before being elected to further offices. (2)

That the office led on to higher things is of considerable significance. Every decade some thirty to forty patricians gained experience as Provveditori alla Sanità. That experience they carried with them as they moved on to higher councils. The career of Girolamo Soranzo fu di Alvise provides a typical example of a Provveditore's advance to the highest councils of state:

1540	Provveditore sopra Dazi
1546	Provveditore alla Sanità
1547	Dieci Savi sopra le Decime member of the Senate Zonta
1548	Senator
1550	Provveditore alle Biave
1553	Savio di Terraferma
1555	Podestà at Verona
1556	member of the Consiglio dei Dieci
1558	Savio di Consiglio
1563	Consigliere

etc. (3)

Furthermore, Provveditori alla Sanità continued to show concern for plague control after retirement from the office. Vettor

1. The privilege probably lapsed after 1486. It was revived by the Maggior Consiglio in 1515, ASV., Maggior Consiglio, Deda, f.107r, and this was confirmed by the Senate in 1520, ASV., Provveditori alla Sanità, Reg.12, f.27r-28v.
2. BMV., MSS. Italiani, Classe VII, Codici 825-828 (= 8904-8907). The retiring Provveditore is named at each new election to the office.
3. Eugenio Alberi, Le relazioni degli ambasciatori veneti al Senato, series 2, vol.3 (Florence, 1846), p.66.

Morosini had been Provveditore alla Sanità from 1509-10 before becoming Provveditore alle Pompe in 1512. Whilst attending the Senate in the latter capacity in 1513, he spoke vigorously against admitting to the port the Alexandria galleys, which were said to have disease on board, and, by citing disastrous epidemics of the fourteenth and fifteenth centuries, narrowly overturned a motion for their admittance. (1) In this way, the political advance of individual Provveditori alla Sanità accelerated the process by which the Health Office gained support and acceptance in the first half of the sixteenth century.

Although the office of Provveditore alla Sanità was politically advantageous, it was no sinecure. It is true that the brevity of their term of office gave the Provveditori little opportunity to build up any specialised knowledge, and that attendance in the Senate took them out of the Health Office on at least two or three afternoons a week, requiring them to attend to, and possibly make speeches on, issues unrelated to public health. (2) This meant that the Health Office was heavily dependent on its permanent salaried staff. But the Provveditori alone were responsible for legislation and orders issued to the public. Their signatures were necessary to validate all important entries in the Office registers, as well

1. Sanudo, Diarii, op. cit., vol.16, col.193 (April 1513).
'...meteria il morbo in questa terra, et il primo morbo del 1478 fo per una cassa venuta di Costantinopoli di drapi amorbadi stada serada anni 20, e aperta infetò le persone. Item al tempo di missier Antonio Venier doxe morì 1600 zentilhomeni di peste e 65 milia persone in questa terra'.
2. e.g. the speech of Valerio Marcello in 1503, Sanudo, Diarii, op. cit., vol.5, col.121.

as various formal mandates. Theirs was the task of interviewing and appointing staff; theirs the task of hearing trials, passing sentences, and deciding the distribution of fines; theirs the responsibility for the Office treasury. Nor did they escape the routine of office, occasionally venturing out of doors to assess the danger to health from a reeking rubbish tip or a fetid canal. (1) Despite the brevity of their office, Provveditori could still develop their own understanding of the problems, and individual solutions. A motion put to the Senate by one Provveditore might even be opposed by his colleagues, as was Vettor Morosini's proposal to close the church of S. Sepolcro during the plague of 1509. (2)

Despite the decline in status of the post in the early years of the sixteenth century, the powers of the Provveditori alla Sanità were not formally diminished. The terms of the Senate decision which appointed the temporary Office of 1486 remained the central pillar of the Provveditori's authority, and were quoted whenever that authority was threatened. In this way the Provveditori maintained their independence of other departments of state, acknowledging only the Senate as having authority over them. In 1533 when the Consiglieri and Capi dei Dieci ordered the release of an influential flour merchant imprisoned by the Sanità, the Provveditori were able to reject

1. ASV., Provveditori alla Sanità, Reg.725, f.67v (1500); Reg.730, f.147v (1557).
2. Sanudo, Diarii, op. cit., vol.9, col.329 (Nov 1509). His colleague, Nicolò Memmo, spoke against the motion, and carried the vote.

the order on constitutional grounds. (1) The independence of the Provveditori was expressed in several ways. They elected their own staff. After the first years of the sixteenth century they took over from the Salt Office the right to elect staff for the lazarettos (2), and from the Ducal Chancellory the right to elect the Nodaro of the Office. (3) They also rejected the interference of the Presidenti sopra Uffici of the Quarantia Criminal, who appointed staff in other Offices. (4) Whilst not financially independent, the Provveditori kept their own treasury, and disposed of an income from fines, subject to the percentage which all Offices contributed to charities such as the foundling hospital, the Pietà. (5) In addition, they could issue commands to the public, and although important measures were normally brought before the Senate, they could promulgate their own legislation. In Venice law enforcement was in large part devolved among the government Offices according to their fields of concern. The Provveditori alla Sanità had the power to examine accused persons, and from 1504 could employ torture to establish the truth, provided they were all three in agreement. (6) They could conduct trials and

1. Sanudo, Diarii, op. cit., vol.58, col.238 (23 May 1533).
'I qual proveditori disseno non esser superiori loro altro che Consigli, et veneno in Collegio dai Savi a dolerse di questo, et li Savi mandono a dir a la Signoria che li proveditori sora la sanità haveano raxon per l'autorità loro, aliter sier Gasparo Malipiero vol el Pregadi. Siche non fo cavato de prexon'.
2. The right of electing the Priors of the lazarettos was in dispute between the two offices in 1501, ASV., Provveditori alla Sanità, Reg.12, f.4r (18 May 1501). Thereafter the Sanità appears to have taken charge.
3. The last of such elections took place in 1500, ASV., Provveditori alla Sanità, Reg.12, f.4r (19 July 1500).
4. Da Mosto, op. cit., vol.1, p.66. On the attempt of the Presidenti to intervene in Sanità elections, ASV., Provveditori alla Sanità, Reg.2, f.84r (31 Aug 1557).
5. ASV., Provveditori alla Sanità, Reg.726, f.98v (2 Aug 1525).
6. Ibid., Reg.12, f.9r (20 July 1504).

pass sentences. These might include fines, minor corporal punishments such as a beating from San Marco to Rialto, banishment, or incarceration in the Office's prison. (1) For more serious offences, calling for sentences such as the loss of life or limb, the Provveditori took on the role of advocates, having to present the case before higher judicial bodies. (2) One of the most formidable aspects of the power of the Provveditori alla Sanità was that until 1563 there was no right of appeal against their judicial sentences in matters of public health. (3)

In 1541 the Health Office drew up its Capitolare, a record of decisions and precedents concerning its jurisdiction and powers. (4) Its fine calligraphy and decoration, no less than its content, bore witness to the Office's pride in some fifty years' achievement. Although it took more than a quarter of a century from the first agreement to establish a Health Office in Venice to its foundation in 1490, and although in its early years the resources of the Office were few, in the first years of the sixteenth century the Provveditori alla Sanità established a permanent role within the state. Detailed legislation was passed to control standards of hygiene in the city, and measures were taken to prevent the introduction and spread of plague. (5) During the epidemic of 1528-9 the Office took charge of a new poor law. (6) In the wake of that epidemic

1. ASV., Provveditori alla Sanità, Reg.728, f.58r (15 Mar 1541).
2. Ibid., Reg.12, f.9r (20 July 1504).
3. Ibid., Reg.2, f.134v (23 Oct 1563).
4. The Capitolare survives as ff.1r-45r, 101r-111r of ASV., Provveditori alla Sanità, Reg.2.
5. See below, Chapter 5.
6. See below, Chapter 8.

its concerns were extended beyond the city to the whole of Venetian territory. (1) In 1539 it took on the regulation of prostitution. (2) The Provveditori whose crests were emblazoned on the Capitolare of 1541 had every right to be proud of an Office which had become an indispensable organ of state, and which was to survive even the fall of the Republic.

1. See below, Chapter 6.
2. See below, Chapter 8.

CHAPTER 4

PLAGUE TREATISES IN THE MID-SIXTEENTH CENTURY.

The ancient medical authorities either ignored contagion in relation to epidemics, or referred to it in the obscurest terms. During the Black Death the medical profession was therefore less ready to acknowledge it than were chroniclers or governments. (1) Subsequent centuries saw the accumulation of experience concerning contagion by the Health Offices. How did physicians respond, and how did they relate the role of contagion to traditional medical theories?

First, there was a large measure of continuity between plague treatises of the fourteenth and sixteenth centuries. During plagues in the sixteenth century a number of fourteenth century works were even thought worthy of new editions. The Consiglio contra la pestilentia by the Florentine Tommaso del Garbo, who died in 1370, was printed in Florence in 1522, in Venice in 1556, and there was even an edition published during the plague of 1576. (2) Likewise the Consilium pro peste evitanda written in 1398 by Gian Galeazzo Visconti's physician Pietro di Tossignano appeared in the many editions of Ketham's Fasciculus medicinae published in Venice between 1491 and 1522. (3)

1. See above, Chapter 1.
2. The Consiglio, with many other Italian plague treatises of the fourteenth and fifteenth centuries, is described by Karl Sudhoff, 'Pestschriften nach der Epidemie des "schwarzen Todes" 1348: IV, Italienische des 14 Jahrhunderts; V, Aus Italien (Fortsetzung) und Wien', Archiv für Geschichte der Medizin, vol.5, 1912, pp.332-396; vol.6, 1913, pp.313-379. The Consiglio is also printed in the Scelta di curiosità letterarie inedite o rare dal secolo XIII al XIX, dispensa 74 (Bologna, 1886; 1968 reprint).
3. Tossignano also taught medicine at Padua. The Consilium, with other Paduan treatises, is discussed by Edgardo Morpurgo, 'Lo studio di Padova, le epidemie e i contagi durante il governo della repubblica veneta', Memorie e documenti per la storia della Università di Padova, vol.1, 1922, pp.105-240, and by Giuseppe Mazzini, Vita e opera di maestro Pietro da Tossignano (Rome, 1926).

Continuity was particularly strong from the fourteenth century until late in the fifteenth. The De preservatione a peste by Michele Savonarola, who taught at Padua in the 1430's, was written between 1444 and 1449. In outlook it varied scarcely at all from del Garbo's treatise written a hundred years earlier. (1) Both works aimed to give practical advice on survival in time of plague. Del Garbo's Consiglio began with advice on flight from the area dominated by corrupt air and on the choice of refuge. For those unable to leave, he advised on the use of fires to correct the atmosphere (chapter 2), the time of day safest to go out of doors (chapter 3), materials to clean the house and person (chapter 4), conditions suitable for opening windows (chapter 5), fumigations (chapter 6), restricting dealings with others (chapter 7), measures to be taken by those tending the sick (chapter 8), diet (chapters 9-20), purgation (chapter 21), exercise (chapter 22), massage (chapter 23), sleep (chapter 24), the need for an untroubled mind (chapter 25), preventative medicines (chapters 26-31), and dress (chapter 32). Like del Garbo, Savonarola recommended flight from the corrupt atmosphere, regimen to keep the body free from superfluity, and a contented mental attitude. Much of his discussion was given over to advice on the rezimento de le cosse sei non naturale, six factors whose disturbance was thought productive of disease. These were the air, diet, repletion and evacuation, exercise and relaxation, sleep and waking, and psychological state (accidenti d'animo). Advice on these was common in the fourteenth century

1. Michele Savonarola, I trattati in volgare della peste e dell'acqua ardente, ed. Luigi Belloni (Milan, 1953).

treatises (1), and an important aspect of del Garbo's Consiglio. The second section of Savonarola's tractate was concerned with the symptoms of plague, and the third with their treatment.

The advice in these treatises was twofold. Corrupt air was to be avoided and the body kept free from any disposition to disease. Savonarola's De preservatione a peste had nothing to say on the subject of contagion, whilst del Garbo's Consiglio dealt with it sketchily in only two of its thirty two chapters. Authorities, not historical evidence and experience, continued to dominate the treatises at this time. There were exceptions, notably the late-fourteenth century Consilium by Pietro di Tossignano, which was commissioned by, and dedicated to, Gian Galeazzo Visconti, the pioneer of plague control. (2) But, in general, discussions of contagion were out of place in the traditional form which the plague treatises took.

From the end of the fifteenth century the humanist movement brought changes in all fields of medicine. Up to this time the influence of Avicenna was paramount. In Savonarola's tractate, for instance, there were constant appeals to the authority of Avicenna, whilst Galen was scarcely mentioned. But by 1493 Alessandro Benedetti could write of Galen that 'post divinam Hippocratem secundus inter medicos principes habetur' (3), and in the plague treatises of the mid and later sixteenth century the classical writers replaced Avicenna as the dominant influence. The humanist aim to return to the pure founts of classical wisdom was not as revolutionary as it might appear,

1. For instance, those of Francischino de Collignano written in Florence in 1382 and Johannes de Noctho written in Bologna in 1398.
Karl Sudhoff, 'Pestschriften...', op. cit., IV, pp.368,384.
2. Mazzini, op. cit., pp.70-71.
3. Alessandro Benedetti, De observatione in pestilentia (Venice, 1493).

since Avicenna was himself immersed in classical teachings. But whilst Galen and Hippocrates attributed the origin of plague to weather conditions and to terrestrial causes of bad odours, Avicenna also gave a role to earthquakes and planetary influences. These latter factors received far less emphasis in the sixteenth century than hitherto. Ludovico Pasini argued that there was no trace of any planetary conjunction which could have been responsible for the Paduan plague of 1555 (1), and Andrea Gratiolo developed the same argument in relation to the plague in Desenzano in 1567. (2) A number of doctors, including Alessandro Massaria (3) and Giovanni Battista Susio who was influenced by Pico della Mirandola, rejected the very notion of astrological causation of plague. In his treatise published in 1576 Susio gave instances of allegedly dangerous planetary conjunctions that had not been followed by epidemics, and of epidemics that had not been preceded by any notable celestial phenomenon. A significant aspect of his rejection of astrology was his belief that it was foreign to classical medicine. (4) Although there

1. Ludovico Pasini, De peste patavina anno 1555 (Padua, 1556), f.5r.
2. Andrea Gratiolo da Salò, Discorso di peste (Venice, 1576), p.19.
3. Massaria, op. cit., f.17r.
4. Susio, op. cit., ff.46r-48v.

'Et se Hippocrates et Galeno et tanti altri medici senza questa vanità et falsità astrologali diedero l'aperte et vere cagioni delle volgari et publiche infirmità et anche delle private, et discorsero quanto occorreva intorno alle mutationi de tempi et dell'aria, come di sopra dicemmo, per mostrar la generatione loro, ne siti osservarono ne congiuntioni ne aspetti ne altre favole di questa sorte, dovremo anche noi a loro imitatione acquetarci in quelle et piu tosto exercitarci per conoscere i presenti mali, et per prenosticare i futuri, senza andar vanamente per non dir ignorantamente in queste ciance vagando d'Astrologia da tanti huomini confutata, et in particolare dal lume et splendore delle lettere Giovanni Pico singularissima ornamento della Mirandola mia et di tutto'l mondo'.

were exceptions (1), in the sixteenth century physicians increasingly left astrological discussions to the astrologers.(2)

The decline of Avicenna's influence in no way aided the assimilation of contagionist ideas into medical theory. Increasingly, however, sixteenth century physicians sought ways in which classical teaching and the evidence of experience could be harmonised. This was in part achieved by the Veronese physician Girolamo Fracastoro in his book, the De contagione, first published in Venice in 1546. (3)

The De contagione was an unusual work, belonging to no traditional genre. It dispensed with the clutter of references to authorities that were a feature of medical treatises of the period, and it was informed by a fresh, investigative approach. In his dedication of the book to Cardinal Farnese, Fracastoro testified to the ongoing nature of scientific discovery, arguing that the ancients had neglected much that needed investigation in relation to contagion.

The De contagione opened with questions of definition. Contagion was described as 'an infection that passes from one thing to another', which was 'precisely similar in both the carrier and the receiver of the infection'. (4) The causative agents of contagion were minute particles (seminaria), which adumbrated the concept of germs. They were conceived as living

1. Notably Tommaso filologo da Ravenna (il Rangone), patron of the arts and one of the most successful practitioners in sixteenth century Venice, where he was Prior of the College of Physicians in 1564. He published astrological predictions early in his career, including a prognostication of a flood for the year 1524, one of the many prognostications based on the planetary conjunction of that year. See Lynn Thorndike, A history of magic and experimental science, vol.5 (New York, 1941), chapter 11.
2. For an astrologer's view of plague, Annibale Raimondo, Discorso nel qual chiaramente si conosce la viva et vera cagione, che ha generato le fiere infermità, che tanto hanno molestato l'anno 1575, et tanto il 76 acerbamente molestano il popolo de l'invitissima città di Venetia (Padua, 1576).
3. Girolamo Fracastoro, De contagione et contagiosis morbis et eorum curatione libri tres, text with translation and notes by W.C. Wright (London, 1930).
4. Ibid., p.3.

things, with the capacity to reproduce others identical to themselves. (1) Evaporating from a sick person, they could infect his neighbours by direct contact, just as corruption passed from one rotten fruit to its neighbour. The germs of certain diseases were also sufficiently viscous and sticky to attach themselves to warm and porous inanimate objects such as clothing, and these objects (fomites) could pass on the disease to those who touched them. Finally, germs could spread in the air and infect persons at a distance. (2) Not every disease could spread by all three methods of contagion. Their germs were not to the same extent 'acute', 'viscous' or 'sticky'. Some diseases, such as typhus, could spread only by direct contact, whilst others, including the plague, could be transmitted by all these methods.

These ideas were expressed in an impressively original manner and Fracastoro has been hailed as the originator of the germ theory of disease. But the nature of his achievement has often been misconstrued. From the practices of the Health Offices it is evident that the idea of contagion and the manner of its operation were well understood long before the appearance of De contagione. Indeed, the three forms of contagion had been described in relation to smallpox in the early medieval Salernitan writings. (3) When seen not as a middle term between Galen and Pasteur (4), but in the context of sixteenth century

1. Fracastoro, op. cit., p.35.

2. Ibid., chapters 2-5, pp.7-28 explore the three modes of contagion.

3. Charles and Dorothea Singer, The development of the doctrine of contagium vivum, 1500-1750 (London, 1913), p.3.

4. Fracastoro is all too often studied in the context of 19th rather than 16th century science, e.g. Francesco Pellegrini, Fracastoro (Trieste, 1948), p.47ff., and more recently Norman Howard-Jones, 'Fracastoro and Henle: a re-appraisal of their contribution to the concept of communicable diseases', Medical History, vol.21, 1977, pp.61-68.

medical literature, Fracastoro appears less as a revolutionary and more as a reconciler of classical theory and modern observation. For Fracastoro did not reject the classical theories of epidemics. Rather, he translated them into a new vocabulary through a series of powerful images. Even more than the biological image underlying his notion of germs, the atomistic vocabulary and concepts of Democritus and Lucretius ran through the De contagione. Galenic theory was expressed in terms of corrupt vapours and miasmas. Fracastoro saw through those vapours and described their constituent atoms. His notion of contagion at a distance, for instance, reflected Galen's concept of the corruption of the atmosphere, but what Fracastoro did was to describe the nature and cause of that corruption - the presence in the air of thousands of self-propagating germs.

One dominant image, that of putrefaction, links the De contagione with traditional theories, and reveals the continuity between them. Warm, damp conditions suitable for putrefaction were the conditions in which Hippocrates thought the air could grow corrupt. Amongst the Galenic causes of plague were local sources of bad odours such as corpses left unburied and stagnant marshes, and also bodily factors such as eating bad food which rotted in the stomach especially if the body were already troubled with 'plethora' and 'obstructions'. Putrefaction was the concept underlying these diverse factors. Similarly, the means to fight epidemics were sought in things which resisted putrefaction. Fire was used to dry the air. Vinegar, as a preservative, was constantly advocated, especially during and after the Black Death, both for internal use and for sprinkling about the house. Advice on diet stressed the avoidance of foods which easily went bad, while the medical preoccupation with laxatives and purgation derived from the need to evacuate the

body of all things which might putrefy if allowed to linger. (1)

Amongst widely reported portents of plague was the generation of living things from putrefaction. (2) In the medieval and early modern periods putrefaction was not regarded entirely in negative terms. It was sometimes compared with the functions of yeast, and was regarded as a process in which living things, especially worms, were created by spontaneous generation. (3) In his plague treatise of 1556 Vettor Bonagente compared the generation of fevers to the putrefactive processes which produced worms in corpses. (4) In doing so, he was probably influenced by Fracastoro whom he quoted several times. (5) For the De contagione treated putrefaction as the essential process in which germs were produced. Drawing again on classical atomistic theorists, Fracastoro defined putrefaction as 'a sort of dissolution of a combination due to evaporation of the innate warmth and moisture'. (6) This evaporating warmth and moisture took the form of hot, moist particles - the germs. From this basis Fracastoro stressed that 'without some form of putrefaction there can be no contagion', and even derived a definition of contagion as 'a precisely similar putrefaction which passes from one thing to another'. (7)

1. e.g. Marsilio Ficino, Consiglio contro la pestilentia (Florence, 1522), ff.7v-8r. This treatise, written in relation to the Florentine epidemic in 1478, advised on diet as follows:

'Item ti debbi astenere dalle cose che fanno oppilatione et insieme putrefattione perche danno materia alla febbre pestilentielle, che sono cose viscose e insieme fredde et humide maxime quando pigliono el caldo accidentale. Anchora le cose viscose et calde et humide, ove l'humido vince el caldo et è cotto male. In somma la humidità è madre di putrefattione. Et la cosa che fuori di noi si conserva poco in sua natura difficilmente si conserva dentro a noi. Fuggi adunque e pesci quanto puoi...schifa el latte e ricotte...fuggi le frutte'.

2. Ibid., f.47v, for example.
3. C. and D. Singer, op. cit., pp.6-7.
4. Vettor Bonagente, Decem problemata de peste (Venice, 1556).
5. Ibid., ff.4r, 12r.
6. Fracastoro, op. cit., p.7ff.
7. Ibid., pp.41-45.

The emphasis in the De contagione on the generation of germs is of particular importance. Fracastoro has often been thought to have obviated discussions of weather conditions and foul air as causes of disease by assuming the constant existence and movement of germs. In reality, Fracastoro regarded germs not so much as a species permanent in nature, but as being constantly generated de novo in precisely the localised conditions described by the classical authors as productive of disease. Hence his explanation of the typhus epidemic of 1528 was based on the causative role of humid atmospheric conditions, and on the Hippocratic argument that epidemics must derive from the air. (1) Elsewhere, he spoke of the generation of disease from internal factors - plethora, obstructions and a malignant condition of the humours. (2)

To suggest that Fracastoro's thought was more traditional than has generally been admitted is not to denigrate his achievement. The De contagione must be understood in its own terms. It was not a product of experimental science, nor did it offer much that was new in the way of scientific observation. It was a work of pure intellect, a re-expression of existing knowledge in a new, more productive idiom. Through an imaginative process which retains its importance in modern science, Fracastoro discovered an image for the spread of disease more appropriate than any previously used. The conceptual nature

1. Fracastoro, op. cit., p.105. 'But since these fevers were widespread, and were common to many persons at the same time, we must conclude that they had at that time a common cause, and that it was mainly contracted from the air, which seems reasonable enough. For, in the year 1528, there was first a winter of south winds and much rain, and in the spring many rivers overflowed their banks...'
2. Ibid., p.89. 'There is no reason why such a contagion should not often be produced first in some individual and presently be transmitted from that person to others'.

of this achievement was understood in the sixteenth century. Alessandro Massaria denied that Galen had been unaware of contagion in relation to plague, since in one instance he had mentioned the danger of associating with the plague sick who breathed out foul air. Massaria suggested that the agent of contagion could be expressed in Galenic language as a vapor or an expiratio, or in Fracastoro's terms as particulae putridae et malignae. The operation of contagion could not be perceived by the senses, and its nature could therefore be described in any manner which one might choose (aliquo quovis modo nominare velimus). (1) Likewise Bernardino Tomitano referred to odori pestiferi ò seminarii contagiosi, che dir vogliamo. (2) But the importance of Fracastoro's imagery was that it made possible the harmonisation of classical theory with a full doctrine of contagion. The conveyance of epidemic disease by inanimate objects, for instance, was not mentioned by the ancients. But by translating the image of corrupt vapours into that of corrupt particles which could stick to objects, Fracastoro made it possible for a Galenist to accept the contagiousness of objects without seeming to contravert classical theory.

Fracastoro's advice on survival during plague exemplifies the reconciliation he achieved between classical thought and contemporary experience. (3) Where plague was due to a taint in

1. Massaria, op. cit., ff.14v-15r.

'Qualis autem sit huiusmodi communicata infectio, sive alteratio, et qua ratione contingat, illud nos tam reconditum ac difficile esse existimamus, ut nihil certo sciri, nihil plane cognosci aut percipi posse videatur. Summa totius rei illa est, ex corporibus, rebus, locis male affectis, elevari tenuissimas quasdam particulas putridas et malignas, seu vaporem seu flatum seu spiritum seu expirationem, sive aliquo quovis modo nominare velimus, unde mirandum certe in modum sana corpora eandem infectionem suscipiunt'.

2. Copia di una lettera dell'eccellente M.B.T. per conservazione della vita humana in questi tempi calamitosi di peste (Venice, 1576), unpagged.

3. Fracastoro, op. cit., p.239ff.

the air, he advised flight. If this was impossible, he recommended purging the air with fire, shutting windows nearest to the source of the plague, and living on the other side of the house. These suggestions might have come from the pages of del Garbo or Savonarola. On the other hand, Fracastoro urged the avoidance of the sick, of crowds, and objects which the sick might have touched. He praised governments which made a policy of burning all furniture in infected houses and compensating the owners from public funds, drawing on experience of the plague in Verona during the German occupation in 1511. In this context it may not be going too far to say that Fracastoro showed how a Galenic physician could support, understand and even learn from the work of the Health Offices.

The De contagione had an immediate and long lasting influence. (1) Francesco Boccacini (2) and Niccolò Massa (3) were amongst those who took up Fracastoro's vocabulary in the plague of 1555-6. In dealing with the Desenzano plague of 1567 Andrea Gratiolo referred to Fracastoro's experience in 1511, and took up his analysis of the three forms of contagion. (4)

1. Charles and Dorothea Singer, 'The scientific position of Girolamo Fracastoro', Annals of Medical History, vol.1, 1917, pp.1-34.
2. Francesco Boccacini, De causis pestilentiae urbem Venetam opprimentis anno MDLVI (Venice, 1556), pp.8-10. He argued: 'vitiatur aer a seminariis pestilentiae quae ab affectis corporibus vel aliis rebus in quibus servabantur, interdum etiam ex una in aliam regionem a ventis per continuum in ipsum deferuntur'.
He also related the intensity of plagues to the number of germs in the air:
'Interdum vero minori malitia vitiatur aer tum quod seminariorum minor sit copia'.
3. Niccolò Massa, Epistolarum medicinalium tomus primus (Venice, 1558), f.171r. Referring to infected goods Massa wrote: 'quae res seminarium quoddam (ut ita dixerim) qualitatis pestiferae in se retinent'.
4. Gratiolo, op. cit., chapter 7. Cf. Lino Agrifoglio, 'Argomentazioni sulla peste in un libro di Andrea Graziolo, medico del XVI secolo', Rivista Italiana d'Igiene, vol.20, 1960, pp.492-499.

Writing of the plague of 1575-7 Giovanni Battista Susio, Girolamo Donzellini and Girolamo Mercuriale all praised Fracastoro directly or drew inspiration from his work (1), and in discussing contagion Alessandro Massaria also referred to him 'qui in particulari commentatio acute arguteque hanc rem ita tractavit, ut caeteri omnes illius doctrinam libenter suscipiant'. (2)

The relation between contagion and classical concepts in the thinking of mid-sixteenth century physicians may be traced in the treatises produced during the plague in Venice and Padua from 1555-7.

Early in March 1555 the Florentine ambassador alerted his government to the suspicion of plague in Venice. (3) Two sudden deaths had occurred in the parish of S. Niccolò and a further few people were ill. Domenico da Castello, the Health Office physician, carried out a post mortem examination and concluded that the deaths were due to plague. (4) Under cover of night the sick, the dead and their possessions were rowed out to the Lazaretto Vecchio. There, within a few weeks, the disease took a hold. Five members of staff, including the doctor and the

1. Susio, op. cit., f.42r.

Donzellini, op. cit.

'La peste è una qualità occulta, inimica della natura humana, venenata e mortifera. Nasce per lo più da putredine maligna overo che la produce et ha seco congiunta. Risiede in corpo sottilissimo et spirituosità come in proprio soggetto; il qual propriamente si chiama seminario della peste. E ogni corpo che facilmente riceve e ritiene tal seminario e non pate da quello, come lana, lino, pelli, seta et altre simile cose si dimanda fomite della peste. Questo seminario per sua sottilità facilmente diffondendosi et penetrando, porta seco la maligna qualità, onde segue la peste esser contagiosa'.

Mercuriale, op. cit., chapters 12-15 discuss contagion, with reverence for Fracastoro 'qui primus aperuit hominum oculos ad intelligendum contagium'.

2. Massaria, op. cit., f.14v.

3. ASF., Archivio Mediceo del Principato, Filza 2971, f.98r (7 March 1555).

4. ASV., Provveditori alla Sanità, Reg.730, ff.20r-22r (5 Aug 1555). A petition from Domenico da Castello summarising his work in the epidemic.

Prior were dead by the middle of April. (1)

In the city there was no further cause for alarm until 20th March, when some four to six new cases came to light. A proposal was discussed to isolate S. Niccolò from the rest of the city. (2) This was put into effect, the parish becoming an island on the fringe of Venice with its population in quarantine. (3) Internally, the parish was divided into zones (serragli) separating healthy from infected areas. The mortality remained low, but steady. Three deaths occurred on the night of 21st March, and three more on the 24th. (4) On 30th March the government resolved to evacuate the serraglio grande, the main infected area, sending the inhabitants with their goods to the island monastery of S. Anzolo di Concordia for forty days quarantine. (5)

Early in April, sickness broke out on the Giudecca. The Health Office physician, Ludovico Cucino, was sent there to examine two corpses (6), and on the following day the Ferrarese

1. ASV., Provveditori alla Sanità, Reg.730, ff.257v-262v. A summary of measures taken during the plague, drawn up in 1559 by the Scrivan of the Health Office.
2. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettera 25 (20 Mar 1555).
'In questa città si sono scoperte alcune case de pescatori infettate di peste, di verso la parte di S. Nicolò, di che questi signori ne stanno di mala voglia, et si ragiona ch'abbino a romper insino a'i ponti per vietargl'il commertio'.
3. Ibid., lettera 33 (23 Mar 1555). The ambassador reported that the parish had been 'posto in isola'.
ASV., Provveditori alla Sanità, Reg. 730, f.257v. An account of the plague by the Scrivan Antonio Scarpoiato.
4. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettere 32-34.
5. ASV., Provveditori alla Sanità, Reg.730, f.258r. In February 1556 a report to the Senate on the losses of a wine seller in S. Niccolò during the plague mentioned that some 350 persons had been sent to S. Anzolo, ibid., Reg.12, f.210v.
6. Wellcome Institute, MS.223, f.9r (7 April 1555). The in-letter book of Cucino as doctor to the Health Office, 1555-8, mainly consisting of instructions from the Provveditori alla Sanità. Cucino was given the office specifically for the emergency, having been attracted to Venice from Pesaro by a salary of 100 ducats per month.

ambassador reported the deaths to be due to typhus (petecchie), which he described as cugino della peste. (1) In Venice in the summer of 1528, when typhus and plague epidemics ran concurrently, it was typhus that proved the more significant cause of mortality. (2) But usually its virulence was lower. Typhus was virtually endemic in Venice, and its presence easily taken for granted. As the ambassador of Florence reported:

'è ben vero che alla Zueccha sono morti tre a i quali sono scoperte le petecchie, ma perche quasi ogn'anno in questa stagione in molti luoghi accascano simili accidenti, non se ne tien conto'. (3)

By the end of April 1555, according to the Health Office Scrivan, the parish of S. Niccolò had completed forty days isolation without further mishap. It was therefore declared open, with the exception of the evacuated serraglio. (4) In fact, the Scrivan glossed over several deaths which had continued to occur in S. Niccolò during April. (5) But the scale of the mortality no longer seemed to justify draconic measures. Some ten days later the evacuees on S. Anzolo began to come home.

In the lazarettos the situation remained grave. Disorder had followed the death of the Prior of the Lazaretto Vecchio.

1. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettera 40 (8 April 1555).
2. Bernardino Tomitano, Consiglio sopra la peste di Vinetia l'anno MDLVI (Padua, 1556), f.19v. Tomitano's statement is supported by the tables of mortality, based on Sanudo's Diarii, op. cit., drawn up by Brian Pullan, 'The famine in Venice and the new poor law 1527-1529', Bollettino dell'Istituto di Storia della Società e dello Stato Veneziano, vols.5-6, 1963-4, pp.201-2.
3. ASF., Archivio Mediceo del Principato, Filza 2971, ff.110 r-v (10 April 1555).
4. ASV., Provveditori alla Sanità, Reg.730, f.258r.
5. Wellcome Institute, MS.223, ff.16r, 19r.
ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettera 42.

Early in May the Prior of the Lazaretto Nuovo also fell sick and died. The infection of the Lazaretto Nuovo, which was not a plague hospital but a quarantine centre for the healthy, forced the Health Office to review its procedures and to use S. Anzolo di Concordia as a new quarantine station, or third lazaretto.(1)

But in the city the situation was hopeful. On the 27th April the Florentine ambassador gave his opinion that the plague was over, there having been no suspicious deaths in more than a week. (2) On 4th May, reporting the reopening of the serraglio grande in S. Niccolò, he repeated this view, although there had been a further case of typhus on the Giudecca. (3) But on the same day a child was found to have died in Biri, which included the parish of S. Cantian. Her corpse was sent to the Lazaretto Nuovo for examination by Ludovico Cucino, who diagnosed plague. Three days later a death from plague was also recorded in the Corte Contarina in the parish of S. Moise. (4) These occurrences in new areas of the city were disturbing (5), but again they were not followed by large scale mortality. On 12th June the ambassador of Ferrara reported that there had been no new cases for a month (6), and ten days later the

1. Wellcome Institute, MS.223, ff.12-28 (April - May 1555).
2. ASF., Archivio Mediceo del Principato, Filza 2971, ff.118v, 120r (27 April 1555).
3. Ibid., f.124v.
4. Wellcome Institute, MS.223, ff.26r-28v (4-7 May 1555). Cucino's letter book includes the vivid testimony of the father of the dead girl at S. Cantian to the circumstances of her case.
5. ASMan., Carteggio estero ad inviati, Filza 1488, 9 May 1555. The Mantuan ambassador reported that:
'Il maggiore pericolo che c'è è che la peste si scopre in diversi luoghi, ne si può haver certezza dell'origine'. He reported two further deaths in Biri, and many others from typhus (pettechie).
6. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettera 52.
'Della peste non è successo altro da un mese in qua se non che alli giorni passati fu chiusa una casa nella contrada di Sto Girolamo verso Murano, senz'altro dopo innovatione. Et v'hanno questi signori tanto buon governo che difficilmente può passare avanti'.

ambassador of Florence wrote that 'in questa città non si tien piu conto alla peste', and denounced the ban on Venice imposed by Ferrara. (1) In effect, from March to August 1555 plague was responsible only for a small number of deaths. Four deaths were reported late in July, and two more early in August, but by mid-August the plague appeared to be over. (2)

The attention of the authorities was now diverted by an outbreak of plague in Padua. Plague had appeared there late in April or early in May 1555 (3), but as late as 10th August it was referred to as non cosa di momento. (4) At this time there were three or four deaths from plague daily. (5) Thereafter mortality increased, and was a cause of real concern at the end of the month, but in mid-September the death rate was again said to be only three or four per day. (6) After the first half of October the city was healthy enough for Ludovico Cucino, who had been dealing with the sickness together with one of the Venetian Provveditori alla Sanità, to return to Venice. (7)

1. ASF., Archivio Mediceo del Principato, Filza 2971, f.177r (22 June 1555).
2. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettere 9 (26 July 1555), 13 (17 Aug 1555), 15 (12 Aug 1555). In the last of these despatches it was reported that:
'Qui poi non solo non vi è cosa alcuna di sospetto, ma ne anco dubbio che vi habbia a sorgere altro'.
On 3 September the ambassador of Mantua reported that:
'Qui si sta bene e non vi è una minima suspitione di peste et di altro male ne moreno pochissimi, di modo che li medici lo fanno male et dicono che questa terra non fu mai tanto sana quanto è hora', ASMant., Carteggio estero ad inviati, Filza 1488.
3. ASV., Provveditori alla Sanità, Reg.730, f.258v.
4. ASF., Archivio Mediceo del Principato, Filza 2971, f.223v.
5. ASMant., Carteggio estero ad inviati, Filza 1488, 9 Aug 1555.
6. ASF., Archivio Mediceo del Principato, Filza 2971, f.250r-v (31 Aug 1555); f.268r (14 Sept 1555).
7. Wellcome Institute, MS.223, f.58r. On his departure on 22 October, the Provveditori alla Sanità of Padua gave Cucino a testimonial to the success of his work:
'in modo che detta pestifera contagione la qual nel suo principio menasciava a questa città una estrema disolatione, s'è ridutta in termine. E hormai si spera che sarà totalmente estinta et fra pochi giorni saremo liberi d'ogni sospetto'.

Cucino's return to Venice was timely. Sickness broke out in October in the hospital of SS. Giovanni e Paolo, where a doctor and a pharmacist were amongst those who died. (1) By mid-November a number of parishes were infected, including Sta. Maria Zobenigo, S. Anzolo, S. Paternian, S. Zulian, S. Luca and S. Barnabà. The mortality, a maximum of four deaths per day, was insignificant enough for the ambassador of Mantua to insist:

'qui si vive tanto sicuramente et si conversa con tanta domestichezza come non ci fusse male al mondo'. (2)

But others were more anxious. The ambassador of Florence described the city as 'mezza sbigotita', and wrote nervously of the crowded, narrow calli where contact with passers-by could not be avoided. (3) Anxiety regarding the spread of the disease was justifiable, for by 27th November four of the city's sestieri were infected, and the sickness had even invaded noble households. (4)

Through the post mortems carried out by Cucino, the Provveditori alla Sanità sought to establish the exact cause of

1. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettera 31 (9 Oct 1555).
2. ASMant., Carteggio estero ad inviati, Filza 1488 (13 Nov 1555).
3. ASF., Archivio Mediceo del Principato, Filza 2971, f.344r (13 Nov 1555).
'le cose circa la sanità non vanno qua molto bene, perche ogni di ci si serra qualche casa di nuovo, et muor'qualch' uno, ma questi signori della sanità non si lassano intendere se si muoia di peste o di petecchie. Tutta via si dice affermativamente che molti muoiono di peste, et se bene s'usa una incredibile diligentia per smorzarla, non succede però infino a qua et li tempi vanno contrarissimi essendo sempre nebbia, caldo et humido, in modo che questa città e mezza sbigotita et molti cominciano a ragionar di partirsi. Io non ho mancato di ricordar a nostri corrieri che veggano come comersano et come et da che pigliano qua robbe, ma in questa città è cosa impossibile guardarsi tanto è popolata, et le strade tanto strette che non si può camminar che non s'urti continuamente l'uno nell'altro, però bisogna raccomandarsi a Dio, et andar innanzi'.
4. ASMant., Carteggio estero ad inviati, Filza 1488 (27, 28 Nov 1555). The households were that of the Consigliere Alvise Gritti at S. Martin and that of the future Doge Sebastiano Venier at Sta. Maria Formosa.

death in each case where plague was suspected. (1) There was matter for dispute and substance for rumour. The official view, expressed by the Doge, was that the disease was typhus (2), and this was reported again in December as the doctors' majority opinion. (3) On the other hand, the documents of the Health Office suggest that the presence of plague was assumed. On Christmas Eve sixty ducats were distributed amongst the Office staff for dealing with accidenti di peste in various parts of the city during November and December. (4) The Office treated the disease as plague, taking measures which would have been excessive if only typhus was involved. (5) Furthermore, in at least one post mortem, carried out in the first week of January

1. Wellcome Institute, MS.223, f.58ff. On 26 November the Provveditori alla Sanità wrote to Cucino that:
'L'opera che desideramo da voi è che visti diligentemente gli corpi che sono condotti de li ne scriviate particolarmente de tutti la vostra oppinione se sono con la peste et il tutto distintamente'.
2. ASF., Archivio Mediceo del Principato, Filza 2971, f.349r (20 Nov 1555).
'Dico che non sono anchora quattro giorni che il Duge dise all Ambasciatore di Mantova che secondo le relationi de medici, et de loro ministri sotto giuramento, non si può dir per cosa certa che in questa città sia morta anchora persona alcuna di peste, doppo la cosa di San Niccolò, ma si ha di petecchie, et di febbre pestilentielle'.
Important evidence in the Doge's view included the fact that no bubo (ghiaidussa) had been discovered.
3. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettera 51 (6 Dec 1555).
4. ASV., Provveditori alla Sanità, Reg.730, f.41r-v.
5. In cases of typhus, for instance, it was not normally the practice to evacuate infected houses, and in September 1555 the Rettori of Padua were rebuked by the Collegio for sending typhus contacts to the lazaretto:
'Sapendo noi che quelli che si mandano al lazareto o moreno o stanno in manifesto pericolo, al qual lazareto però sempre si ha havuto grande rispetto mandar altre persone che infetate o in suspicion manifesta del male, ma in altri casi com'è questo di petechie, si sequestrano le persone et robbe nelle case loro. Per la qual cosa vi dicemo che in simili casi di petechie basteria sequestrarli in casa',
ASV., Provveditori alla Sanità, Reg.12, ff.177v-178r (29 Sept 1555).

1556, plague was definitely diagnosed. (1)

A further complication was the mild epidemic, possibly influenza, which struck the city in the autumn of 1555. (2) On 26 October the number of the sick was put at over 22,000. (3) A fortnight later the situation was unchanged, but the illness was said to be rarely fatal. (4) Though this disease disrupted the business of government (5), it caused little alarm compared with the plague, which however declined with the onset of winter. Between December 1555 and May 1556 the only cause of concern which came to the notice of the ambassadors of Florence, Ferrara and Mantua was the poca sospitione che a questi di passati nacque di peste reported by the ambassador of Ferrara in the middle of March. (6) There is evidence that the disease did not altogether disappear during the winter (7), but it was

1. Wellcome Institute, MS.223, f.74v. On 6 February the Provveditori alla Sanità wrote to Cucino:
'il corpo che questa notte fu condotto da Santa Maria Formosa, che l'eccellenza vostra da per peste, non ci potemo imaginar di dove possa esser prociduto, per non havergli pratica alcuna ne di robbe ne d'altro. Vedemo tanto diversamente surgere questo male, hora in una contrada, hora in un'altra lontana che ne restamo ammirati'.
2. The epidemic may have been connected with the influenza which was present in Italy in 1554, and which in 1557 spread through the peninsular and beyond to the rest of Europe, Corradi, Annali, op. cit., vol.1 (1973 reprint), p.536. A mass epidemic of influenza also affected Venice in 1580.
3. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettere 36-37 (26 Oct 1555).
'Qua in Vinegia i malati sono in tanto numero che è cosa inaudita sendone per la discretione fatta 22m'.
4. ASMant., Carteggio estero ad inviati, Filza 1488 (13 Nov 1555).
'alla moltitudine delli amalati, che passano ventimila, ne son morti molti pocchi'.
5. ASV., Collegio, Notatorio 30, f.3v (15 Oct 1555).
6. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-V, lettera 28 (18 March 1556).
7. ASV., Provveditori alla Sanità, Reg.730, f.260r. The Scrivan wrote of the winter months:
'il male andò procrastinando un poco in qua un poco in la per la città, cioè poca cosa'.

not until the first week of May 1556 that it again became active. The focus of the infection was Corte Contarina in S. Moise, where Cucino had verified the presence of peste in the previous May. On 12th May 1556 the inhabitants of the Corte, said to number 300, were evacuated. (1) This however did not prevent the spread of the disease, and in a number of the dead, buboes (ghiandusse) were found. (2) According to bills of mortality issued by the Health Office there were seventeen suspicious deaths between 31st May and 6th June, and a further fourteen from 14th to 27th June. Most of these were said to be due to typhus. (3) Early in July the mortality rose to a daily total of ten to twelve deaths in the city, not including those who died in the lazarettos. (4) The city was again described as sbigottita, and many were fleeing to the mainland. (5) At the end of August there were still some ten deaths per day, and Burano and Mazzorbo were also infected. (6) By the beginning of October the rate had fallen to a maximum of five deaths per day, and from late October to mid-November it never

1. ASF., Archivio Mediceo del Principato, Filza 2971, f.536r (9 May 1556).
ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-V, lettera 37 (12 May 1556).
2. ASMant., Carteggio estero ad inviati, Filza 1489 (23 May 1556).
ASF., Archivio Mediceo del Principato, Filza 2971, f.558v (30 May 1556).
3. ASF., ibid., ff.562r, 583r-584.
4. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-V, lettera 45 (10 July 1556).
5. ASF., Archivio Mediceo del Principato, Filza 2971, f.591r (11 July 1556).
'la città è in sorte sbigottita, e si va molto votando, non si potrebbe creder il numero d'anime che da sei dì in qua si è partito'.
Since most ambassadors joined in the general exodus, their despatches are less informative from this date onwards.
6. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-V, lettera 50 (30 Aug 1556).

exceeded three deaths per day. (1) Dispute about the nature of the sickness continued. Many doctors denied the presence of plague:

'dicono non haver visto anchora segno vero di peste et che tutti sono morti di petecchie, ma che il fato di questa città ha voluto che si sia abbattuto in questo tempo a esser un magistrato debole della sanità, qual ha voluto creder a un medico da Pesero solo piu che a tutti gli altri insieme'. (2)

An outsider from Pesaro, Cucino came into conflict with the doctors of both Venice and Padua. It is probable, however, that his experience of plague was greater than theirs, and his post mortem diagnoses certainly influenced the Health Office. (3)

On 1st December the Provveditori alla Sanità paid off two of their doctors, essendo per la gratia del sumo Iddio le cose della città redutte in bonissimo termine in materia della mala contagione di morbo'. (4) By the middle of the month the sick in the Lazaretto Vecchio were reduced to a total of 54, two thirds of whom were out of danger. (5) By mid-February 1557 the only resident was Cucino himself. (6) During the rest of the year isolated cases of disease continued to appear. One suspicious death occurred in the parish of S. Marcuola during March, and S. Moise was again infected during April, when the Health Office staff were given further rewards for the work in the occorentie de presenti sospetti. (7) During July the

1. ASF., Archivio Mediceo del Principato, Filza 2971, ff.642r, 647r, 672r (3, 8 Oct, 14 Nov 1556).
2. Ibid., f.647r (8 Oct 1556).
3. Wellcome Institute, MS.223, f.56v (17 Oct 1555). The oppugnation de gli medici di quella città was amongst the reasons for Cucino's recall from Padua. Cucino wrote of the Venetian doctors that:
'si vergognano ch'io stia in Venetia, havendoli insegnato a conoscere una infirmità della qual loro non havevano nessun cognitione', ibid., f.83r (9 April 1557).
There had been no plague in Venice or its neighbourhood for over a quarter of a century, whilst Cucino probably had recent experience of the plague in Istria, ibid., f.3r (22 March 1555).
4. ASV., Provveditori alla Sanità, Reg.730, f.88v.
5. Ibid., Reg.12, f.210r (12 Dec 1556).
6. Ibid., Reg.730, f.116v (12 Feb 1556 m.v.).
7. Ibid., ff.137r-138v (16 -25 April 1557).

disease was present on Burano (1), and in September reference was made to the ardentissima peste that had occurred there in recent months. (2) During September the Lazaretto Vecchio was still receiving cases from Venice itself, from the parishes of S. Rafael and S. Samuele. (3) Once again a small mortality provoked a massive exodus from Venice. (4) In Cucino's view the survival of the disease, which he referred to several times as peste, was due to staff responsible for disinfecting clothing and other goods. He claimed that they were smuggling such items into Venice to buy sexual pleasures. (5) Not until the end of the year, when the Health Office staff were given a further reward essendo sta liberata questa città, could the disease be said to be over. This time Spring did not bring a relapse. In May 1558 after twenty months in the Lazaretto Vecchio, Cucino petitioned for his return to Venice, arguing that:

'sono già molti mesi che questa inclita città per la gratia del Signore Iddio è libera d'ogni sospetto di peste, et similmente li lazareti'. (6)

The Senate recognised that the need for his services was passed, and terminated his contract. (7)

It is impossible to give an exact figure for the mortality from plague and typhus in the years 1555-7. But it is clear that it was a matter of only a few thousands. This conclusion, which emerges from contemporary reports, is confirmed by the few statistics that are available. The population of Venice did not

1. ASV., Provveditori alla Sanità, Reg.730, ff.159r-161r (3-10 July 1557).
2. Ibid., ff.176r-178r (12-25 Sept 1557).
3. Wellcome Institute, MS.223, f.100v (26 Sept 1557).
4. MCV., Donà dalle Rose, Busta 411. A letter to Giovanni Battista Donà, Luogotenente in Cyprus, from his brother in Venice dated 18 July 1557:
'tutta la città è in fuga e è scapoladi sichè l'è ussite de qui anime 40000, el consegio non è più de 700 fin 800, e tamen per Dio grazia non muore più de 10 fin 12 al dì'.
5. Wellcome Institute, MS.223, f.82v (9 April 1557).
6. Ibid., f.102v (1 May 1558).
7. ASV., Provveditori alla Sanità, Reg.13, f.42r (31 May 1558).

notably decline as a result of the epidemic, but rose from 158,069 in 1552 to 168,627 in 1563. (1) The records of deaths in the city, extant for 85% of the days in 1555 and 1556, show that mortality was not greatly above the norm in these years. (2) Furthermore, the increase was due not only to plague and typhus. During the summer of 1555 food was in short supply and prices high. (3) In November there was an extreme shortage of grain, and many deaths were attributed to famine rather than disease. (4) The heaviest mortality, in 1556, was said to have accounted for only 3,000 deaths from March to October. (5)

The alarm caused by the epidemic was due to the potential, rather than the actual, mortality. Plague had been severe in Istria in 1553, reducing the population of Capodistria from 8,000 to 2,300 and it continued to affect the peninsular until 1558. (6) In 1554 the Provveditori alla Sanità of Venice took direct control in Capodistria. (7) It was widely assumed in 1555 that the outbreak of plague in Venice derived from Istria

1. Julius Beloch, 'La popolazione di Venezia nei secoli XVI e XVII', Nuovo Archivio Veneto, new series, vol.3, 1902, pp.5-49.
2. See below, Appendix 5. These records probably do not include deaths in the lazarettos, which were outside the city. But any large scale mortality would have been revealed in them, as happened in 1576, when more deaths from plague occurred in the city than in the lazarettos.
3. ASV., Provveditori alla Sanità, Reg.730, f.147v (29 June 1555). The maintenance allowance for inmates of the lazarettos had to be increased in view of the universal charestia de pan, de vino, de carne, de pesce, de ove et finalmente de ogni cosa, come a tutto è notto..
4. ASF., Archivio Mediceo del Principato, Filza 2971, ff.349r, 364v (20, 27 Nov 1555).
5. MCV., Donà dalle Rose, Busta 411, 27 Oct 1556. A letter to Giovanni Battista Donà in Cyprus from his brother Nicolò in Venice. On 27 January 1557 Donà wrote that the Senate had expended 200,000 ducats on the plague, at a rate of 25,000 ducats a month.
6. Bernardo Schiavuzzi, 'Le epidemie di peste bubbonica in Istria', Atti e memorie della Società Istriana d'Archeologia e Storia Patria, vol.4, 1889, p.42. In his relazione of 1577 Alvise Priuli blamed the plague of 1553 for Capodistria's decline.
7. ASV., Provveditori alla Sanità, Reg.12, f.162r. A Senate decision of 7 September 1554 granting the Provveditori the same powers in Capodistria as in Venice.

(1), and many of the Health Office's staff had to be recalled from there for service in Venice. (2) The spread of the plague to Padua in 1555 and to Udine in 1556 seemed to underline the danger. (3) The Provveditori alla Sanità therefore took extreme measures. After the death of two tailors, for instance, fifty homes of their customers were put into quarantine. (4) Action of this kind caused excessive alarm, and accounted for the rumours which twice caused Ferrara to impose a ban on Venice during 1555. (5)

But if the epidemic of 1555-7 cannot furnish a meal for the demographic historian, it is a banquet for the historian of ideas. As the first plague in the area for over a quarter of a century, it evoked enormous interest. Treatises on the subject by physicians who taught at Padua included those of Bassiano Landi, Francesco Frigimelica, Ludovico Pasini and Bernardino Tomitano. (6) Other important works included those of the Venetian physician Niccolò Massa (7), and those by Francesco

1. The Florentine ambassador, for instance, reported that the plague arose per conto di non so schiavina venuta di Cavo d'Istria, ASF., Archivio Mediceo del Principato, Filza 2971, f.98r (27 March 1555).
2. Wellcome Institute, MS.223, ff.11r, 17r (12, 17 April 1555).
3. The plague in Udine was said to have claimed 827 lives. An account of it, based on the chronicle of one of the Signori della Sanità of Udine, and on those of two members of his staff, is given in Corradi, Annali (1st ed.), op. cit., pp. 3062-5.
4. ASF., Archivio Mediceo del Principato, Filza 2971, f.335r-v (2 Nov 1555).
'sono morti 2 sartori e dicono di peste, li quali hanno fatto serrar 50 case perche questi signori hanno serrato tutti quelli che s'erano vestiti per le loro mani da 20 dì in qua, è anco morto un prete che insegnava a certi clerici onde tutti i suoi scholari sono stati riserrati in casa'.
5. See below, pp.155, 159-160.
6. Bassiano Landi, De origine et causa pestis Patavinae anno MDLV (Venice, 1555).
Francesco Frigimelica, Consiglio sopra la pestilentia qui in Padova dell'anno MDLV (Padua, 1555).
Pasini, op. cit.
Tomitano, Consiglio (Padua, 1556).
7. Niccolò Massa, Raggionamento, op. cit.
Massa, De essentia, causis et cura pestilentiae Venetiis grassantis anno 1556. (Epistolae XXXV and XXXVI in his Epistolarum medicinalium tomus primus, op. cit.

Boccalini and Vittorio Bonagente. (1)

The mildness of the epidemic was of particular significance. The Health Office had time to study minutely the disease and its movements through post mortem examinations and through inquiries into the circumstances in which each case of plague was contracted. (2) As a result the Scrivan of the Office was able to come to conclusions which had an important influence on policy. (3) For their part, physicians had the opportunity to relate classical theories to particular facts and incidents. There was also time for consultation between the state and the profession. In Padua, officials sought advice from the College of Physicians and the Studio. It was because he was unable to attend the meeting which followed that Frigimelica wrote his Consiglio, dedicated to the city's Rettori and claiming to be fatto a richiesta di questi illustrissimi Signori e di questa alma città. (4) In Venice the Provveditori alla Sanità went in person to the city's College of Physicians:

'dimandando che per commune opinione o vero scienza di quegli Ecc. Dottori, prima gli fusse detto se questo male era peste, o giandussa (come dicono i volgari), o pur altra sorte di male'. (5)

A committee was elected to deliberate and to examine symptoms. Massa's Raggionamento, addressed to Doge Francesco Venier, was conceived as additional advice. (6) Likewise his Epistola on the plague claimed to embody his discourse to a full meeting of

1. Boccalini, op. cit.
Bonagente, op. cit.
2. Wellcome Institute, MS.223, ff.26r-27r (May 1555).
3. See below, pp. 142, 201.
4. Frigimelica, op. cit.
5. Massa, Raggionamento, op. cit., f.2v. The Raggionamento was completed in December 1555. The consultation of the Venetian physicians probably took place in late November, Wellcome Institute, MS.223, f.61v.
6. Massa, Raggionamento, op. cit., f.3r.

the Doge and Senate on 24th August 1556. (1)

A striking feature of these treatises was the importance which they attached to theoretical considerations; in particular, to questions of causation. Physicians were divided on the causes of plague in these years. (2) A number of writings, including Massa's Raggionamento and Boccacalini's De causis pestilentiae, dealing respectively with the plague in Venice in 1555 and 1556, gave a traditional account of the origin of the disease, approached through an examination of atmospheric conditions. But the majority of doctors, including Landi, Frigimelica, Pasini and Tomitano took an opposite view, arguing that the disease derived purely from contagion.

The treatises by Massa and Tomitano are representative of the opposing viewpoints. Niccolò Massa (1485-1569) graduated in medicine at Padua and entered the Venetian College of Physicians in 1521. (3) He is best known as an anatomist and as a writer on syphilis. His Liber introductorius anathomiae (Venice, 1536), based in parts on dissections at the hospitals of SS. Giovanni e Paolo and SS. Pietro et Paolo in Venice, has been described as the best brief textbook of anatomy before Colombo's De re anatomica of 1559. (4) His Liber de Morbo Gallico (Venice, 1536) went through many Latin and Italian

1. Massa, Epistolarum medicinalium tomus primus, op. cit., f.169r.
2. Landi, op. cit. (unpaged).
'Animadverto enim medicos excellentes huius Academiae Patavinae diductos esse in duos sectas: Alii enim plane profitentur causam pestis, qua haec urbs confitatur, esse aerem reipsa putrescentem: Alii vero contendunt aerem esse integrum et nullam adhuc pati putredinem'.
3. BMV., MSS. Italiani, Classe VII, Cod.2342 (=9695), f.3v.
4. Charles D. O'Malley, 'Niccolò Massa', Physis, anno XI, 1969, pp.458-468.

editions. (1) On disease, in addition to his Raggionamento and Epistola of 1555-6, Massa was the author of De febris pestilentiali, petechiis, morbillis, variolis et apostematibus pestilentialibus (Venice, 1540), which was based in part on his experience of the epidemic of 1527-9.

Massa's Raggionamento, written at the end of 1555, stressed the causative role of weather conditions. The winter of 1554 and the spring of 1555 had been mild and damp. The succeeding summer had been humid and the autumn wet. With all four seasons dominated by humid, southerly winds the air had grown corrupt:

'per li quali inordinati tempi caldi et humidi si è causata la mala qualità nell'aere; talche si è fatto putrido et quasi corrotto, pieno di humidità straniera la qual ha mutato in parte la sua sostanza'. (2)

Breathing in corrupt air caused the bodily humours to putrefy. This did not happen in all cases, but affected persons disposed to the disease by their humoral balance or through the consumption of bad food (cibi di mala sostanza et facili da putrefarsi). (3)

Regarding means by which Venice could be freed from the disease, Massa recognized that little could be achieved by human effort. Purging the air with fire, used in the plague of Athens, could not be effective in a lagoon city such as Venice, 'dove sempre habbiamo mali vapori, che si levano da così grandi

1. Ugo Stefanutti, 'L'opera sifiloiatrica di Nicolò Massa', in his Fatti e personaggi di storia della medicina (Venice, 1959), pp.109-116.
2. Massa, Raggionamento, op. cit., f.4r-v. Massa justified these conclusions by reference to Hippocrates and Galen, and to experience of the relation of putrefaction to weather conditions:
'imperoche ne'tempi d'immoderata humidità, necessariamente le cose si putrefanno, come si vede ne i tempi di venti austrini quali sono caldi et humidi le carni et altre cose putrefarsi, et ne i tempi di venti boreali che sono freddi et sechi mantener longamente'.
3. Ibid., ff.6v-8v.

laghi et paludi'. Instead he urged prayer for a cold winter.

(1) Some measures could be taken to prevent the disease from worsening. A thorough cleansing of the city was needed to remove filth which might further harm the atmosphere, and special care required during the dredging of canals. (2) At the same time steps were advisable to prevent the sale of food, especially grain, flour and wine, which had gone bad.

Turning to private rather than government action, Massa suggested that indoor fires be kept burning with aromatic woods, and that rooms be sprinkled with perfumes or vinegar. North facing windows were to be kept open to admit cold, dry air. Sexual intercourse, which engendered warmth, and overeating were frowned upon. On the positive side, Massa recommended preventative drugs, both herbal and mineral. (3)

In discussing quarantine, Massa dissented from the policies of the Provveditori alla Sanità. During the plague of 1555-7 it was observed that the poor were particularly hard hit. (4)

1. Massa, Ragionamento, op. cit., ff.21v-23v.

2. Ibid., ff.23v-24r.

'Et prima quelli c'hanno il carico procurino che le strade, condutti, fosse et gatoli della città siano mondati frequentissimamente et tenuti netti da ogni immonditia et lordura che in quelle si vedono, et massime in alcune callicelle dove non sono altro che casupule habitate da poveri huomini. Questa medesima diligentia sia fatta in cavar i canali et rii che sono da cavare, et faresi che non si tengano tanto tempo serrati, perche da quelli fanghi putridi et misti con tante immondicie, et anchora delle acque morte serrate in quei si levano vapori putridi che corrompono l'aere. Siano anchora mondate le scovazzere frequentissimamente, accio che le immondicie che si mettono in quelle non piglino ultima malitia di putrefattione et con la sua evaporatione corrompino l'aere de i vicini luoghi, il qual aere così alterato da parte in parte alterando over corrompendo tutto l'aere sia poi causa di grandissimi mali'.

3. Ibid., ff.24v-29r.

4. e.g. ASF., Archivio Mediceo del Principato, Filza 2971, f.584 (27 June 1556). The ambassador commented on the dead recorded in the bills of mortality of the previous fortnight, 'tutti questi sono poverissimi'.

Massa noted that they were at risk since they had to buy the worst quality meat and fish, and because of their immoderate sexual habits, evidenced in their casupule piene di figliuoli.

(1) That the Provveditori alla Sanità isolated suspect families in their homes made matters worse since the poor, shut up in filthy hovels without sun or fresh air, easily fell sick:

'stando serrati s'infermano, perche in quel poco di luogo hanno la scaffa, il necessario, et ogni altra sorte d'immonditie della casa, di tal maniera che l'aere è quasi putrido'. (2)

Accordingly, Massa urged that healthy contacts of the sick should be allowed out of doors, provided that they carried a distinguishing sign. He also recommended that relatives and friends be allowed to visit and care for the sick, as they had in 1527 and 1528, when the malignity of the air was far worse. Above all, he argued that no household should be put into quarantine unless a majority of its members fell sick and died.

(3) These recommendations, consistent with the view that the danger lay in the air rather than contact with the sick, were at odds with the practices of the Health Office.

Bernardino Tomitano (1517-1576) studied medicine at Padua, probably under Francesco Frigimelica, and graduated c.1535. (4) From 1539 to 1563 he taught philosophy at Padua. His literary

1. Massa, Ragionamento, op. cit., f.20r-v.

2. Ibid., f.17v.

3. Ibid., ff.13r-15r. Concerning symptoms of the disease Massa wrote:

'ma siano questi segni come essere si vogliano, quelli che da tali mali s'infermano, se non sono in casa tutti infermi, ò la maggior parte, et anchora per la maggior parte non moreno, non si debbano sequestrare, ne togli le visitationi, così de parenti et amici come de medici, accio si possino prevalere et non morino per mancamento'.

4. Luigi de Benedictis, Della vita e delle opere di Bernardino Tomitano (Padua, 1903). Tomitano referred with approval to Frigimelica's Consiglio sopra la pestilentia in his own Consiglio.

and philosophical interests brought him into contact with Sperone Speroni, Gasparo Contarini, Tasso and Aretino and he claimed particular friendship with the families of Bembo, Sadoletto, Navagero and Fracastoro. As a physician, Tomitano advised on the illness of Doge Venier in 1556. (1) In addition to his Consiglio on the plague of 1556, he wrote a letter of advice on the plague of 1576. (2)

In his Consiglio Tomitano reviewed Galen's account of plague and considered specific arguments concerning the epidemic in Venice in 1556. He dismissed the view that humid conditions had corrupted the air. In fact, the spring of 1556 had been so dry that the flax, bean and other crops had been lost. Following Bassiano Landi (3), he also noted that weather conditions were common to the whole of the Veneto and could not account for phenomena confined to any one part of it. Furthermore, islands near Venice which remained healthy, such as Murano, could not have escaped had the air been corrupt. (4)

Tomitano's view was that contagion was the sole cause of the epidemic:

'Anzi dico, che questa pestilentia è puro e mero contagio, impresso per la prattica de gli infettati, overo per le robbe quà et là portate et nascose, come diligentemente hanno osservato questi Clarissimi Signori Provveditori'. (5)

In his opinion the only question was whether the plague represented a survival of the epidemic of 1555, venuta come si disse di Capo d'Istria, or resulted from a new infection, portata di Soria e di Levante, dove la febre è continua e

1. Tomitano, Consiglio, op. cit.
2. Copia di una lettera dell'eccellente M.B.T., op. cit.
3. Landi, op. cit.
4. Tomitano, Consiglio, op. cit., ff.17r-19v.
5. Ibid., f.18r.

famigliare. (1) In accordance with this view, Tomitano gave full support to the practices of quarantine used by the Provveditori alla Sanità, 'l'auttorità et providenza de quali potrebbe non pur scacciare la peste d'una città, ma del mondo'.

At the same time he gave detailed advice on preservative medicines. (2)

Differences between physicians were often expressed in robust terms. Ludovico Pasini was especially forthright:

'Supposito igitur pro firmo quod a contactu ortum habuerit haec tam dira egritudo. Et qui hoc negat, neget quoque nivem albam et ignem calidum, ac pro poena in Lazarettum trudatur, ut suo periculo certior fiat an sit pestis per contactum, an influxu coelesti, vel aere'. (3)

Yet the dispute between 'contagionists' and 'miasmatists' was not one of principle. The controversies of 1555-6 were not about plague in general, but concerned the factors responsible in one particular instance. A great deal of common ground was obscured by the contentious language which an academic tradition of disputation encouraged. (4) In reality, 'contagionists' did not deny that the corruption of the air was the ultimate cause of plague, or that bad air could be the main cause of mortality in other plagues at other times. Equally, 'miasmatists' did not deny that contagion could be a secondary cause of mortality. Tomitano, for instance, whilst insisting that the air in Venice was not corrupt, urged that every effort should be made lest it

1. Tomitano, Consiglio, op. cit., f.19v.
2. Ibid., ff.3r, 23v.
3. Pasini, op. cit., f.5r.
4. Bartolo Bertolaso, 'Ricerche d'archivio su alcuni aspetti dell'insegnamento medico presso la Università di Padova nel cinque e seicento', Acta Medicae Historiae Patavina, vol.6, 1959-60, pp.17-37. Professors of medicine at Padua in primo loco were matched by others in secondo loco, whose function was in part to engage in disputation with them. Examinations also took the form of disputations on specific subjects drawn by lot.

become so. (1) Accordingly he was at one with Massa in calling for a thorough cleansing of the city:

'Loderei incredibilmente che si mettesse ogni industria nel tener monda la città; e specialmente quei luoghi chiamati in Venetia gattoli. Perciochè io gli ho veduti alle volte si pieni di bruttura, e fetenti per la corruzione delle herbe e scorze di meloni, e altre si fatte cose putride, che io ne ho preso una grande meraviglia, come l'aere ogni anno non venga ad alterarsi e generare delle febbri pestifere'. (2)

So too, Tomitano urged that corpses be buried deep lest they putrefy the air, and repeated traditional advice on the avoidance of bathing, sexual intercourse and over-indulgence in food. (3) Equally, Massa's Raggionamento was a consideration of particular phenomena, open to modification as new facts came to light. Between December 1555, when the Raggionamento was finished, and August 1556, when he addressed the Senate, Massa's view of the plague was transformed. (4) In a second treatise, the De essentia, causis et cura pestilentiae Venetiis grassantis anno 1556, Massa accepted that neither astronomical phenomena

1. Tomitano, Consiglio, op. cit., ff.20v-21r.
'Dico adonque non solamente per la presente occasione di questa peste, ma per ogni futuro pericolo che egli potesse avvenire, circa la corrottione et putredine de l'aere, che a me parrebbe che di niuna cosa si dovesse haver più cura che de la conservatione de l'aer buono et prohibitione del cattivo'.
2. Ibid., f.21r. He also warned against the filth of the city's rubbish tips (scovazzere) and of the danger of fetid canals.
3. Ibid., ff.20r-23v.
4. Giovanni Filippo Ingrassia, Informatione del pestifero et contagioso morbo il quale affligge et have afflitto questa città di Palermo...nell'anno 1575 e 1576 (Palermo, 1576), pp.29-30, 291-2. Referring to Massa he wrote:
'il quale nell'anno 1555 nel mese di Dicembre non havendo ancor conosciuta la vera et prima cagion del morbo in Vinegia, diede tal ordine: cio è che non si sequestrassero le persone. Per cio che tenendosi rinchiusse massimamente le povere nelle loro casuzze, tanto più si infetterebono et le infettate piu si aumenterebbono nel suo morbo et piu finalmente si renderebbono pronte alla morte. Ma dipoi il detto Massa, havendo gia inteso la vera et prima origine del morbo essere stata certa roba portata dalla Illiria, mutò proposito. Et nel seguente mese di agosto scrisse tutto il contrario in un altro consiglio, cio è che si debbano barreggiare et sequestrare...'

nor bad air were responsible. (1) He now believed that infected goods from Capodistria had caused the outbreak. The disease had then spread by contagion, particularly amongst the poor whose wretched diet and conditions made them susceptible. (2) In De essentia Massa no longer opposed the Provveditori alla Sanità, but supported their work, urging a ban on the import and sale of second hand clothing which might carry infection and making recommendations for disinfection of houses and goods. (3) But like Tomitano he did not reject the possibility that the air might become corrupt. Therefore he continued to recommend the dredging of canals and urged the regular cleaning of the meat and fish markets. He advised strict control of the quality of foods on sale, and the cleansing of the city's pozzi to ensure a pure water supply. (4) He also denounced the squalor of living conditions among the poor (5) and even suggested that they be sent out of Venice for a period in the country or at

1. Massa, Epistolarum medicinalium tomus primus, op. cit., f.169r-v. The 'De essentia...', printed here as Epistolae 35-6, is properly a single work, as is evident from the manuscript in the Museo Correr, Raccolta Cicogna DCCCXLX.

2. Ibid., f.177r.

'illi qui ab hac lue primo in hac civitate correpti fuerunt, ea de causa correpti sunt, quod res infectas ex Iustinopoli civitate Illyrica habuerunt et tractaverunt. Hi tales per primo laborare coeperunt fere omnes periere, caeteri post hos per contagium a dictis vel per consimiles res infectas correpti sunt, et eo facilius quod erant corpora cacochyma ex malis cibariis nutrita, et ex alio malo regimine'.

3. Ibid., ff.177r-178v.

4. Ibid., ff.174r-175r.

5. Ibid., f.175r.

'Nam in una domuncula aliquando et saepissime plures simul cohabitant, ut quandoque viginti et plus etiam sint diversorum (ut ita dixerim) generum; quippe cum sint et mares et foeminae et pueri maiores et minores omnia ibi operantes comedentes et egerentes, neque habent nisi unam tantam latrinam, et aliquando non habent, in qua omnes immundicias et ventris excrementa deponunt, et quamplurimas alias sordicies, hae igitur angustae calles inter caeteras domusque et latrinas necesse est ut mudentur et expurgentur ita ut loca omnia calles domunculae et latrinae in eis sint ab omnibus imundiciis et foetore prorsus mundaee, ne aerem vicinum corrumpere valeant'.

the seaside.

It is not certain that Massa's De essentia implied a retraction of his views in the Raggionamento. Possibly he considered the epidemics of 1555 and 1556 to be separate phenomena with different causes. He certainly argued that pestilential diseases were caused sometimes by the air and sometimes by other factors. (1) Whatever the case, Massa's treatises reveal the flexibility which was a remarkable feature of the epidemiology of the period.

Close study of the plague treatises of 1555-6 shows that the physicians of the time cannot be divided into categories of 'contagionists' and 'miasmatists'. Taught by Fracastoro, physicians, who remained universally loyal to Galenic 'miasmatic' theory, could also expound a developed theory of contagion. Whether they did so or not depended on the circumstances of each particular epidemic. For, as in other fields of medicine, experience and observation were becoming important. During the 1540's, when Fracastoro's De contagione was published, there were remarkable developments at the University of Padua. Vesalius held the chair of surgery and anatomy and was carrying out the anatomical research on which his De humani corporis fabrica (Basel, 1543) was based, and on which his successors,

1. Massa, Epistolarum medicinalium tomus primus, op. cit., f.171r.

'Supponam morbos pestilenciales in duo distingui genera, quorum primum et praecipuum est illud quod a corruptione aeris et influxa corporum coelestium fit...secundum vero illud est, in quo caeteri morbi pestilentes ab alteratione interiori vel ex contactu causati continentur, ut sunt praesentes morbi'.

Colombo, Falloppia and Fabricius, were to build. (1) The University's botanical garden, the first of its kind, was founded in 1545 in order to further botanical research and to improve the quality of drugs. (2) Giovanni Battista da Monte, who held the chair of theoretical medicine, was reintroducing clinical instruction, teaching his students at the bedsides of patients in the hospital of S. Francesco Grande. (3) In epidemiology the same trend was evident in the critical observation of weather conditions and phenomena such as the healthiness of Murano during the plague in Venice. Bassiano Landi, successor to Da Monte at Padua, even devised a primitive experiment to show that the Paduan epidemic did not derive from putrid air. He exposed bread, milk, egg and wine overnight and showed that they remained perfectly fresh despite their natural tendency to putrefaction. (4)

1. C.D. O'Malley, Andreas Vesalius of Brussels 1514-1564 (Los Angeles, 1964).
2. ASV., Senato, Terra, Reg.34, ff.57v-58v (31 July 1545).
'li dottori et scolari di medicina hanno con molta instantia supplicato che si debba ritrovar in Padoa uno luogo idoneo nel qual si possa comodamente plantar, disponer et conservar li simplici, accio che con il senso et la investigatione si possa perfettamente et con facilità acquistar tale scientia per universal beneficio delli homini...'
3. Giuseppe Cervetto, Di Giambattista da Monte e della medicina italiana nel secolo XVI (Verona, 1839).
4. Landi, op. cit. (unpaged).
'Primum itaque si nos consideremus corpora prona ad putredinem aeri exposita, deinde ea quae degunt in aere, postremo corpus ipsum aereum, facile intelligemus nullam adhuc putredinem pati aerem Patavinum. Si quidem aeri, nocturno praecipue, ut humidiori, humidum autem seminarium est putredinis, exposuimus saepe tum medullam panis, tum lac, tum vitellum ovi exemptum a putamine, tum etiam vinum, nullam tamen haec corpora senserunt putredinem, nec panis mucorem aliquem contraxit, nec ovum imputruit, quia nullum tetrum sive gravem odorem mane exhalabat. Quam facile lac et ovum putrescant, notius est quam ut a me demonstretur'.

Influenced by Fracastoro and informed by observation and experience, the majority of physicians concluded that the epidemic of 1555-6 was caused by contagion, and that the air in Padua and Venice remained pure. This was not to contradict Galen, since an origin of the disease in corrupt air in some distant area was still supposed. (1) But in practice it developed the classical theory to such an extent that Galen would not have recognised it. Not all physicians were content with this. Massa believed that the presence of corrupt air was integral to the concept of plague (pestis) which, properly speaking, was a disease of the air and not of human beings. (2) Accordingly, in his De essentia, whilst accepting that the Venetian epidemic of 1556 was caused by contagion alone, he denied that it could be called true plague (pestis seu pestilentia vera). (3) This terminological question came to the fore in the plague of 1575-7, when it proved a cause of confusion to governments and a focus of conflict between the medical profession and the Health Offices. (4)

1. Alessandro Massaria, in his De peste, op. cit., likewise considered the plague of 1575-7 in Africa, Sicily and the rest of Italy as a unit. He assumed an origin through corrupt air in one distant area followed by a general spread of the disease by contagion alone. (f.26r)
2. Massa, De essentia, op. cit., f.169r.
'Et ut omnia cum ratione dicamus, primum scire operaepretium erit, quod pestis proprie dicta nil aliud est quam corruptio substantiae aeris nos ambientis, quam multi antiquorum sapientes pestilentiam etiam vocarunt. Ex qua definitione videre est pestem aeris passionem, vel affectionem ipsum corrumpentem et non animalis esse'.
3. Ibid.
'dixique aegritudines presentes, morbos pestilentiales dictos, pestem seu pestilentiam veram non esse, cum non primum ab aeris corruptione in se ipso facta oriantur'.
4. See below, Chapter 9.

CHAPTER 5.
DEFENDING VENICE AGAINST PLAGUE

Venetian regulations on plague had three aims: to prevent its originating in Venice, to prevent its importation, and to check its spread should it break out in the city.

The first of these aims depended on classical theories, which sought explanations for disease in local factors such as the effect on the air of weather conditions, stagnant pools and decaying matter. In the centuries which followed the Black Death epidemics came to be viewed less parochially, but the idea that plague could arise locally in insanitary conditions remained unchallenged. For this reason, until well after 1600, fear of plague inspired legislation for civic hygiene.

The health of Venice depended primarily on the lagoon. Fynes Moryson, who visited Venice in 1594, compared its canals to veins in the human body. (1) The sea, ebbing and flowing through them carried away the city's filth and sewage with each tide. But the lagoon could not be taken for granted. Many physicians believed that the city's low-lying, marshy site was unhealthy and that only the drying effect of the city's fires, especially the furnaces on Murano, kept the air in good condition. (2)

One of the main problems was the silting of the lagoon. This threatened the city's defence, its port and system of transport, and also reduced the cleansing action of the tides. Banks of evil-smelling mud built up and areas of stagnant water were formed. Malaria ensued, particularly where salt water was

1. Fynes Moryson, An itinerary, 4 vols. (Glasgow, 1907), vol.1, p.163.
2. e.g. Alla Serenissima Sig. Loredana Mocenica duchessa di Venetia consiglio del magnifico cavaliere et eccellentissimo fisico M. Tomaso Filologo Ravenna come la duchessa e i Venetiani possano vivere sempre sani (Venice, 1570), f.3r.

sweetened by the rivers. As in the case of plague, fifteenth and sixteenth century administrators were often resourceful enough to take action against malaria even in the absence of a fully accurate epidemiology. (1) Nevertheless, the disease may have been on the increase in Renaissance Italy, aided by the introduction of rice cultivation. (2) Rice growing, introduced at Legnago in the early 1570's, was blamed by successive Rettori for the malaria and depopulation to which the fortress was subject. (3) Istria, especially Pola, was severely affected in the sixteenth century. (4) In the Venetian lagoon Mazzorbo and Torcello became depopulated, and Andrea Marini (d.1570), who practised medicine in Venice, also described the unhealthiness of places where the tides were sluggish, such as Sant'Erasmus, Treporti, and the abandoned island of San Marco Boccalama. (5) The ambassador of Milan, who resided on the islands of Sant'Elena and San Clemente to escape the epidemic in Venice in 1478,

1. In the mid-fifteenth century, for instance, Zuan Contarini overcame the unhealthiness of Durazzo by flooding a local marsh with sea water, Giuseppe Valentini, op. cit., Pars tertia, vol.19, p.227. A Senate decision of 20 Oct 1446.
2. In Pisa as early as 1468 rice growers sought guarantees against the prospect of land drainage, an important remedy for malaria. See Michael Mallett, 'Pisa and Florence in the fifteenth century' in Florentine studies, ed. Nicolai Rubinstein (London, 1968), p.431.
3. ASV., Collegio (Secreta), Relazioni, Busta 49, Relazioni of Bernardo Soranzo (1573), Girolamo da Canal (1583), Giustinian Morosini (1584), Pietro Venier (1592), Lunardo Valier (1597), Bernardo Malipiero (1605), Pietro Vitturi (1608).
On a tour of the walls Girolamo da Canal found the soldiers at each post so weak from fever that they could neither stand nor manage their arquebuses. The condition of the moat was also thought to be a cause of sickness in Legnago.
4. Bernardo Schiavuzzi, 'La malaria in Istria: ricerche sulle cause che l'hanno prodotta e che la mantengono', Atti e memorie della Società istriana di archeologia e storia patria, vol.5, 1889, pp.319-472.
B. Benussi, Pola nelle sue istituzioni municipali sino al 1797 (Deputazione Veneto-Tridentina di storia patria, miscellanea di storia Veneto-Tridentina, vol.1, Venice, 1925), especially p.384ff.
5. Quoted by A. Canalis and P. Sepulchri, 'Il malaere e le febbri intermittenti in Venezia dominante e nelle isole lagunari', Annali della sanità pubblica, vol.19, 1958, p.1054.

soon succumbed to malaria (febre terzana) which his doctors blamed on the mud banks revealed at low tide. Within a month all members of his household were affected with the tertian or quartan forms of the illness. (1) Venice itself was to some extent affected. Marini claimed that the air at Santa Marta and Santa Maria Maggiore was not as healthy as that at San Marco or on the Giudecca towards San Giorgio Maggiore. The city's death registers probably conceal the presence of malaria by the use of the term febre for a range of febrile ailments. Entries for patrician deaths, however, are sometimes more detailed, and commonly refer to febre terzana and quartana. Tertian and quartan fevers were certainly amongst the ailments from which the quack Aurelio Stichiano made his living in Venice up to 1572 (2), and, three years later, arguing that Venice was free from plague, many doctors declared that the only fevers current were of the single or double tertian variety (terzana o simplici o doppie). (3)

Venetian administrators, conscious that their city was situata miracolosamente nelle acque (4), knew that only prodigious efforts kept the miracle in being. On several occasions in the fifteenth and sixteenth centuries it was acknowledged that unless measures were taken to improve the city's

1. ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 365 (Aug-Oct 1478). On 31st September he reported 'io mi ritrovo havere la famiglia mia tutta inferma de febre, chi di terzana, chi di quartana'.
2. ASV., Santo Uffizio, Busta 31.
3. ASMant., Carteggio estero ad inviati, Filza 1509 (6 Aug 1575).
4. ASV., Provveditori di Comun, Reg.2 (Capitolare 1), f.291v (5 July 1535).

air, Venice could become uninhabitable. (1) Care for the lagoon had a long administrative history. In the sixteenth century the Savi ed Essecutori alle Acque were responsible, whilst the Provveditori di Comun had charge of the city canals. The principal measures taken were regular dredging of canals and the diversion of rivers which flowed into, and silted, the lagoon. Extensive engineering work had been carried out in the mid-fifteenth century to divert the river Brenta and the smaller Botenigo (2), and further work was carried out in the sixteenth century. (3) But the rivers were not the only problem. In 1494

1. ASV., Senato, Terra, Reg.3, f.36v (6 Sept 1452).

'Cum antiqui progenitores nostri et antiqui sapientes super aquis et etiam sapientes nuper electi super aquis et denique tota civitas semper cognoverint et cognoscant quod aqua fluminis brente, veniens in nostras salsas lagunas induxerit malum aerem, paludes, caneles, mussones, atterationes et denique faciat periculum cum tempore dishabitandi istam civitatem.....'

Ibid., Reg.9, f.152r (22 July 1485).

'se al presente non se li prevede non sara in faculta de cadauno andar nedum habitar in questa città per le immunditie et extrema atterratione che ognhora appar'.

ASV., Savi ed Essecutori alle Acque, Reg.345, f.50r (13 June 1565).

'Essendosi talmente amunita questa nostra laguna con li suoi contorni et amunendosi sempre piu, crescendo in esse le barene et velme di maniera che non facendosi presto qualche gagliarda provisione, questa nostra città potria farsi inhabitabile per la mala qualità dell'aere.....'

2. ASV., Senato, Deliberazioni miste, Reg.60, f.104r (26 Sept 1438).

ASV., Senato, Terra, Reg.1, f.2r (13 Oct 1440); Reg.3, f.36v (6 Sept 1452), f.76r (31 Aug 1453), f.127r (5 Sept 1454).

ASV., Collegio, Notatorio 10, f.31r (30 June 1461).

In 1454 following work on the Brenta the Senate gave similar instructions for the Botenigo:

'L'è chomuna sententia de tuti che a voler salvar questa terra, el sia necessario proveder che nisuna aqua dolce vegni in le salse vicine ala città nostra. E che cussi come l'è ordinato de la Brenta, cussi sia provisto del Botenigo.....'

3. ASV., Savi ed Essecutori alle Acque, Reg.344, ff.4v-5r (27 April 1540); f.70v (1552).

it was stated that whereas the city's canals formerly needed dredging every thirty years, now it had to be done every ten years because of the volume of refuse (scovazze) thrown into them. (1) Legislation against disposal of refuse in this way had constantly to be reiterated, (2) and alternative means of disposal made available.

In the fifteenth century street cleaning was carried out in each sestiere by entrepreneurs, contracts for the work being put up to auction by the Capi dei Sestieri. The cleaners (scovadori or mundadori) were equipped with carts and boats and had to clean their sestieri twice a week. (3) From 1486 the auctions were held by the Provveditori di Comun, whilst the Magistrato alle Acque supervised the work. (4) In addition, householders were expected to transport their refuse to dumps (scovazzere) mainly sited on the city's squares. From these it was removed in boats. (5) Material such as builders' rubble (ruinazzi) was used on ships as ballast or employed to strengthen dikes, (6) and much of the rest was used for compost in the vineyards and gardens on the Lido. (7) These procedures were the responsibility in the sixteenth century of the Magistrato alle Acque. (8) But despite the enormous bulk of legislation designed to protect the lagoon, constant dredging continued to be necessary. The discharge of sewage into the canals made this inevitable,

1. ASV., Senato, Terra, Reg.12, f.41r (7 Feb 1493 m.v.).
2. ASV., Provveditori di Comun, Reg.2, f.227r (1 Aug 1516), f.352v (10 Sept 1555), f.359v (18 Aug 1558).
ASV., Savi ed Essecutori alle Acque, Reg.343, f.69r (28 July 1536); Reg.345, f.52v (13 June 1565); Reg.346, ff.68r-69r (21 Sept 1583).
3. ASV., Senato, Terra, Reg.1, f.126v (28 April 1444)
ASV., Collegio, Notatorio 11, f.21v (20 April 1468).
4. ASV., Senato, Terra, Reg.9, f.172r (11 Feb 1485 m.v.); Reg.12, f.41r (7 Feb 1493 m.v.).
5. ASV., Collegio, Notatorio 10, f.128r (2 Aug 1465).
6. ASV., Savi ed Essecutori alle Acque, Reg.344, f.60v (3 Jan 1549 m.v.); Reg.345, f.1v (5 Aug 1560).
7. Ibid., Reg.345, f.52v (13 June 1565).
8. Ibid., Reg.344, f.38v (20 May 1545).

particularly in view of the vast population of Venice in the sixteenth century. (1) Operations were therefore on a very large scale. In 1565, for instance, no less than 3,000 workmen were brought in to dig out mud banks in the lagoon. (2)

Almost every decision of note relating to the lagoon was justified, at least in part, by the need to protect the city's air. Malaria may have been the major concern, but it cannot escape notice that the stagnant conditions in which malaria arose were also believed capable of inducing plague. It is possible that Hippocrates' theory of the causes of epidemics derived from his experience of malaria. (3) Probably, too, familiarity with conditions in which malaria arose provided an analogy which promoted the survival of classical theories of plague in the fifteenth and sixteenth centuries. In Venetian legislation, fear of malaria and fear of plague therefore went hand in hand. In this way in their efforts against plague the Provveditori alla Sanità supported the Magistrato alle Acque and the Provveditori di Comun, taking action, for instance, in the case of stagnant canals which represented a health risk. (4)

Every effort was made by the Provveditori alla Sanità to obviate bad smells which could affect the air and induce plague.

1. ASV., Savi ed Essecutori alle Acque, Reg.344, f.77r (7 Nov 1553).
'Et perche si conobe etiam per l'esperientia che oltra il proveder et remediar ale acque dolce che non descendessero in questa laguna, era cosa più che necessaria al continuo proveder ala excavatione di essa laguna per le atterration continue che si fano in quella si per la natura come per diverse et infinite cause che nascono, per la grandezza della città et per il numero grande del popolo, et molti altri accidenti, de che causaria etiam l'infettatione del aere..'
2. Ibid., Reg.345, f.50r (13 June 1565), f.59v (9 Aug 1565).
3. Hirst, op. cit., p.36. Hirst points out that it was natural to attribute similar causes to plague and malaria since the same atmospheric conditions favoured fleas and mosquitoes.
4. ASV., Provveditori alla Sanità, Reg.730, f.147v (25 May 1557). After examining the riolo di S. Sebastian the Provveditori ordered it to be filled in.

Legislation had been passed in the fifteenth century to ensure that sewers were channelled underground (1), and this was enforced by the Provveditori. There were regulations to forbid the emptying of chamber pots and other waste from balconies and to prevent household waste and sewage pipes from discharging on to the streets, cosa oltra che la sii vergognosa et puzolente e etiam periculosa de generar vari morbi. (2) Rubbish tips were also supervised. The tip on Campo S. Stefano, for instance, was closed in 1501 because of the intolerable smell. (3) Shopkeepers and street salesmen were enjoined to remove their refuse daily, and ordered not to block the drainage channels (gattoli) in the streets. Particular regulations governed the main markets. In the fish markets, for instance, innards and other waste were not to be thrown on the ground, but kept in bins to be emptied nightly on dry ground behind S. Giorgia or in other remote areas. (4) By the same token the Provveditori enforced and extended legislation passed since the thirteenth century to zone industries which produced noxious smells outside the city. This included tanning, which came to be centred on the Giudecca, and the manufacture of varnish, saltpetre, cinnabar and other chemicals. (5)

1. ASV., Senato, Terra, Reg.2, f.171r (8 Feb 1450 m.v.). In some cases open sewers at ground level had emptied into canals et aliquando in barchis super caput et vestis transeuntium.
2. ASV., Provveditori alla Sanità, Reg.2, ff.25v, 27r-28r (26 June 1498, 17 July 1504).
3. Ibid., Reg.725, f.63v (5 Jan 1500 m.v.).
'Cognoscendo che tra le altre provision che se pol et die fare per tenir questa terra sana principalmente è rimuovere al piu che possibile sia tute quelle cause che rendono fectori et puze...'
4. Ibid., Reg.2, ff.24v-25r (22 Feb 1530 m.v., 3 Feb 1533 m.v.).
5. Many documents on this subject have been published in Nicolò Spada, 'Leggi veneziane sulle industrie chimiche a tutela della salute pubblica dal secolo XIII al XVIII', Archivio Veneto, 5th series, vol.7, 1930, pp.126-156.

A large proportion of the Health Office's work was concerned with the quality of food and drink. In the medical literature of the period it was often stated that a poor diet, especially the consumption of unwholesome food, predisposed the poor to plague. Some writers, such as Fracastoro, went further, arguing that bad food could rot in the stomach, setting up a fermentation which could produce plague. The latter view was shared by the Provveditori alla Sanità, and their detailed legislation on drink and foodstuffs can be seen to have been motivated in large measure by the threat of plague.

The water supply in Venice was largely drawn from the pozzi. These were not wells, but cisterns which collected rain water draining off roofs and squares. The water was filtered through sand before passing into the cisterns, but even so the pozzi were prone to flooding with sea water and to pollution with filth from the city's squares. The authorities did their best to ensure a good water supply. The Provveditori di Comun, who were in charge of the pozzi, dispersed barrel makers, greengrocers and other tradesmen who plied their trades in the open squares and often spoiled the pozzi with their refuse. (1) For their part the Provveditori alla Sanità passed laws to keep pigs off the streets, since these had been a cause of pollution, (2) and prosecuted in various other cases where pozzi were polluted. At the same time, they kept an eye on the guild of Aquaroli, which ferried from the mainland a supplementary supply of water for sale around the city (3), and they tried to ensure that cheap wine was

1. ASV., Provveditori di Comun, Reg.2, ff.343r-v (10 Sept 1551).
2. ASV., Provveditori alla Sanità, Reg.725, f.70r (9 Sept 1502).
3. Ibid., Reg.2, f.39v (28 July 1494). Water was imported only from the river Brenta.

available for the poor. (1)

Legislation for the meat trade had an explicit purpose:

'per obviar chel non si vende carne marze puzollente et triste, le qual causano diverse infermità a quelli le manzerano et facilmente per causa di quelle si potria contagiar et infettar questa città de pestifero morbo'. (2)

No animal might be used for meat which had died of natural causes rather than by slaughter. Animals would normally be brought to Venice for slaughter, but in exceptional cases carcasses could be imported provided they carried a certificate from the Rettore of the place where they had been slaughtered. (3) Meat which went bad was immediately to be removed from sale. (4)

In the fish markets fish had to be approved by a guild official or a Soprastante of the Office before going on sale. (5) Freshwater fish had to come from running rather than stagnant water, and had to be alive at the time of sale. (6) Crabs could not be warehoused before sale (7), whilst malpractices such as mixing fresh and stale fish, and putting blood on them to give the appearance of freshness, were repressed. (8) Cooked fish might not be sold by retailers around the city, except in the inns, since cooking was a means of concealing its defects, and, as was pointed out, facilmente per tal causa potria contagionarsi questa città di pestifero morbo. (9)

1. ASV., Provveditori di Sanità, Reg.725, ff.21v-24v (July 1494-Jan 1495 m.v.). Licences to sell wine in small quantities were issued by the Provveditori, 'et questo per la povera zente et mendica zente la qual per la incomodità del poder compere vin in grosso non sia constretta beber aqua, la qual seria et torneria in grave prejuditio de la loro sanità'.
2. Ibid., Reg.2, f.20v (12 Oct 1530).
3. Ibid., f.21v (3 April 1532).
4. Ibid., f.19v (4 Jan 1515 m.v.).
5. Ibid., f.22r (13 Nov 1493), f.23r (29 Nov 1504).
6. Ibid., ff.23v-24r (11 June 1512).
7. Ibid., f.24r (8 May 1518).
8. Ibid., f.23r (7 Aug 1499).
9. Ibid., ff.22v-23r (23 Nov 1495).

Similar legislation was designed to ensure quality in poultry, sausages, eggs, cheese, fruit, flour and other foodstuffs. The poor were always at risk. In 1494 it was noted that bad, smelly flour was being sold to them as a bargain in the fondaco della farina. (1) In 1512 they were buying damp and fetid grain for their own consumption sotto pretexto de tuorli per galline, a practice which might infect the city with disease (cosa pericolosissima de infettar questa città de morbo). (2) In general bad produce was destroyed rather than allowed to be consumed by the poor. On the orders of the Provveditori there were regular bonfires between the two columns on the Piazzetta, and barrels of bad wine were poured into the Grand Canal from the Rialto bridge.

These measures were enforced partly through the guilds, partly through the Health Office's Fanti and Soprastanti alle Vittuarie, and partly through the denunciation of offences by the general public. Much of the judicial work of the Provveditori alla Sanità was concerned with small offences involving bad sardines, sausages or other produce. Each case, however, was taken seriously as not merely a lapse in hygiene, but as a crime carrying with it the risk of plague. In 1543, for instance, in a typical sentence, Bernardo, a butcher, was fined one ducat for selling bad meat. The Provveditori declared that they would not tolerate such offences accio questa città non si infeta di pestifero morbo. (3)

1. ASV., Provveditori alla Sanità, Reg.2, f.35r (12 June 1494).
'nel fontego della farina el se vendo farine marze et che puzano, cosa che facilmente potria infettar questa città da pestifero morbo rispetto alla povera zente che quella comprano per haver mior mercato'.
2. Ibid., (6 April 1512).
3. Ibid., Reg.729, f.31r (29 May 1543).

The second aim of Venetian health legislation was to prevent plague from being imported from areas known to be infected. Venetian commerce involved a serious risk of transmitting the disease. Constantinople, for instance, to name only one city with which Venice was in regular contact, and from which she imported wool, hides and other goods, liable to infection, suffered plague in most years in the second half of the sixteenth century.

(1)

To protect herself, Venice needed a constant flow of information on health conditions throughout the area in which Venetians travelled and traded. A law passed in 1500 obliged individuals who heard of plague outside Venice to report it to the Health Office. (2) Ambassadors abroad were also expected to report outbreaks. In addition they replied to specific enquiries from the Provveditori alla Sanità and sometimes carried out investigations on their behalf. (3) A Senate ruling of 1528 obliged Rettori on the mainland and overseas to send reports daily to the Provveditori alla Sanità when there was plague in their jurisdictions or when news of an outbreak elsewhere came to their attention, (4) and this order was added to the instructions (commissioni) given to each Rettore on

1. ASV., Senato, Dispacci di Ambasciatori, Costantinopoli, Filza 1A, 2B, 3C; Rubricari D1-D6 (c.1554-99). These despatches and summaries include reports on plague in Constantinople in each of the years 1554-7, 1560-69, 1575-76, 1578-80, 1584, 1586-88, 1590-93, 1595-98, and note particularly heavy mortality in 1556, 1561, 1586, 1590, 1595 and 1598. Aymard, also using Venetian despatches, has calculated that there were at least 94 months of plague in Constantinople between 1561 and 1598, Maurice Aymard, Venise, Raguse et le commerce du blé (Paris, 1966), p.139.
2. ASV., Provveditori alla Sanità, Reg.725, f.53r (17 Feb 1499 m.v.).
3. e.g. ASV., Senato, Dispacci di Ambasciatori, Archivio Proprio Germania, No.2, lettera 133; No.4, lettere 62-63. Letters to the Provveditori alla Sanità on plague at Ingolstadt and in the Imperial camp near Ulm (1546), and on rumours of plague in Vienna (1550).
4. ASV., Provveditori alla Sanità, Reg.12, f.53r-v (22 July 1528).

appointment. (1) As the sixteenth century progressed, it also became common for information to be passed by one Health Office to another. Finally, the Provveditori alla Sanità could make their own investigation, as in 1553 when they sent an officer to Salzburg to enquire into rumours of disease there. (2)

Once an area was known to be infected, it was possible for Venice to place it under a ban prohibiting travel to and from the area including all commercial relations. This policy, adopted by Venice in 1423, was put into effect with increasing frequency. Between 1490 and 1499, for instance, the following were amongst the bans declared by the Provveditori alla Sanità:

- 1490 Capodistria, Pirano (Istria)
- 1493 Trent, Rome, Genoa, Valona (Albania), Constantinople
- 1494 Rome, Rimini, Fano, Terni, Merano, Bolzano, Rovere della Luna (near Trent)
- 1495 Salonica and other parts of Turkish territory, Vienna, Salzburg, Rothenburg and the whole of Bavaria, Germany, Hungary, Florence and Siena.
- 1497 Villach, Carniola, Gemona, Trieste, Capodistria, Ravenna and the Marche
- 1498 Gorizia, Udine, Grado, Muglia, Umago and Pirano (Istria)
- 1499 Zara, Pola, Lugugnana (near Portogruaro) (3)

Penalties for breaking bans at this time included fines and periods of exile. Merchants were threatened with the loss of their goods, and boatmen with the loss of their boats. Later, the death penalty was also invoked, and rewards were offered for denunciations. (4) But enforcement posed particular problems for Venice. From the fifteenth century the walled mainland cities regularly tried to defend themselves by controlling entry through

1. e.g. BMV., MSS. Italiani, Classe VII, Cod.2525 (=12295), ff.43v-44r. Commissione of Pietro Loredan, Rettore at Paphos in Cyprus, 1566.
2. ASV., Provveditori alla Sanità, Reg.729, f.243 (21 Mar 1553).
3. Ibid., Reg.725 passim. A substantial, although incomplete, list of bans compiled from the Notatorii in the eighteenth century may be found in ASV., Provveditori alla Sanità, Reg.9, f.146r ff.
4. Ibid., Reg.729, f.82r (11 Aug 1545).

their gates. Venice had no such defence, but she could control entry from the sea into the lagoon and police the chief mainland routes towards the city. In 1500, in view of plague in Zara, the Provveditori alla Sanità stationed watchmen with boats at the entrances to the lagoon including the Castelli del Lido and Malamocco (1), and from this time these approaches were regularly guarded when plague was feared. Similarly by 1523 guards were being stationed on the mainland at Lizzafusina, controlling the route from Padua via the Brenta canal, and at Marghera. (2) By 1555 there were also guard posts at Fosseta (towards Treviso), Torre di Caligo and Schiocho e Corte, and eleven guards (soprastanti or custodi) were available for service. (3) The Provveditori alla Sanità of Venice took responsibility for the immediate approaches to the lagoon, leaving the establishment of guard posts in more distant areas to the appropriate local authorities.

The guard posts were staffed only when plague was feared on the routes which they controlled. An exception, however, was that at the Castelli del Lido, the main approach to Venice from the sea. Here, at least from 1540 and probably earlier, a permanent Guardian alli Castelli was on duty day and night. The importance of this post was recognised by the Provveditori alla Sanità particularly in view of the constant outbreaks of plague overseas (rispetto che dalli parti da mar quasi sempre si ha qualche nova di morbo). (4) There was a constant danger from the arrival of infected ships. Between 1504 and 1534 the Health

1. ASV., Provveditori alla Sanità, Reg.725, f.52r (8 Feb 1499 m.v.).
2. Ibid., Reg.726, f.54v (4 April 1523).
3. Ibid., Reg.729, f.252r (13 May 1553); Reg.730, f.31r (5 Oct 1555).
4. Ibid., f.183r (10 Nov 1557).

Office had to deal with ships known to have plague on board, sometimes still carrying the dead in their coffins, from Constantinople (1504, 1522, 1533), Syria (1504) and Rhodes (1525). In 1522 the Barbary galleys arrived from north Africa with a major epidemic on board, and in 1534 the Beirut galleys were infected.

(1) Sanudo believed that the minor epidemic in Venice in 1523 originated from the Beirut galleys and was reinforced after the arrival of a ship from Constantinople. (2) For these reasons the Guardian alli Castelli, who maintained a list of infected areas and interviewed the passengers of all ships entering the lagoon, was vital to the protection of Venice.

In the early modern period trade was to a large extent channelled along a restricted number of routes, both because of the state of the roads and the limited number of navigable waterways, and because traders were sometimes obliged to take specific routes for tax purposes. This facilitated plague control. Similarly by sea there was an advantage in that shipping making for Venice normally put in at Venetian ports on the eastern Adriatic, and also called at Istria to take on pilots for the crossing to Venice. From the constant traffic in the Gulf, Venice often had warning of the approach of foul ships. She could also issue general instructions to the Rettori of her Adriatic colonies to prevent the movement of ships from infected areas. From the fifteenth century attempts were made to stop infected ships at Istria and to quarantine and disinfect them there. According to instructions drawn up in 1541 officials were sent to meet every ship suspected of carrying disease. They took statements from

1. ASV., Provveditori alla Sanità, Reg.725, ff.85v ff, 97v (1504); Reg.726, f.34v ff (1522), f.92v (1525); Reg.727, ff.280r (1533), 285r (1534).

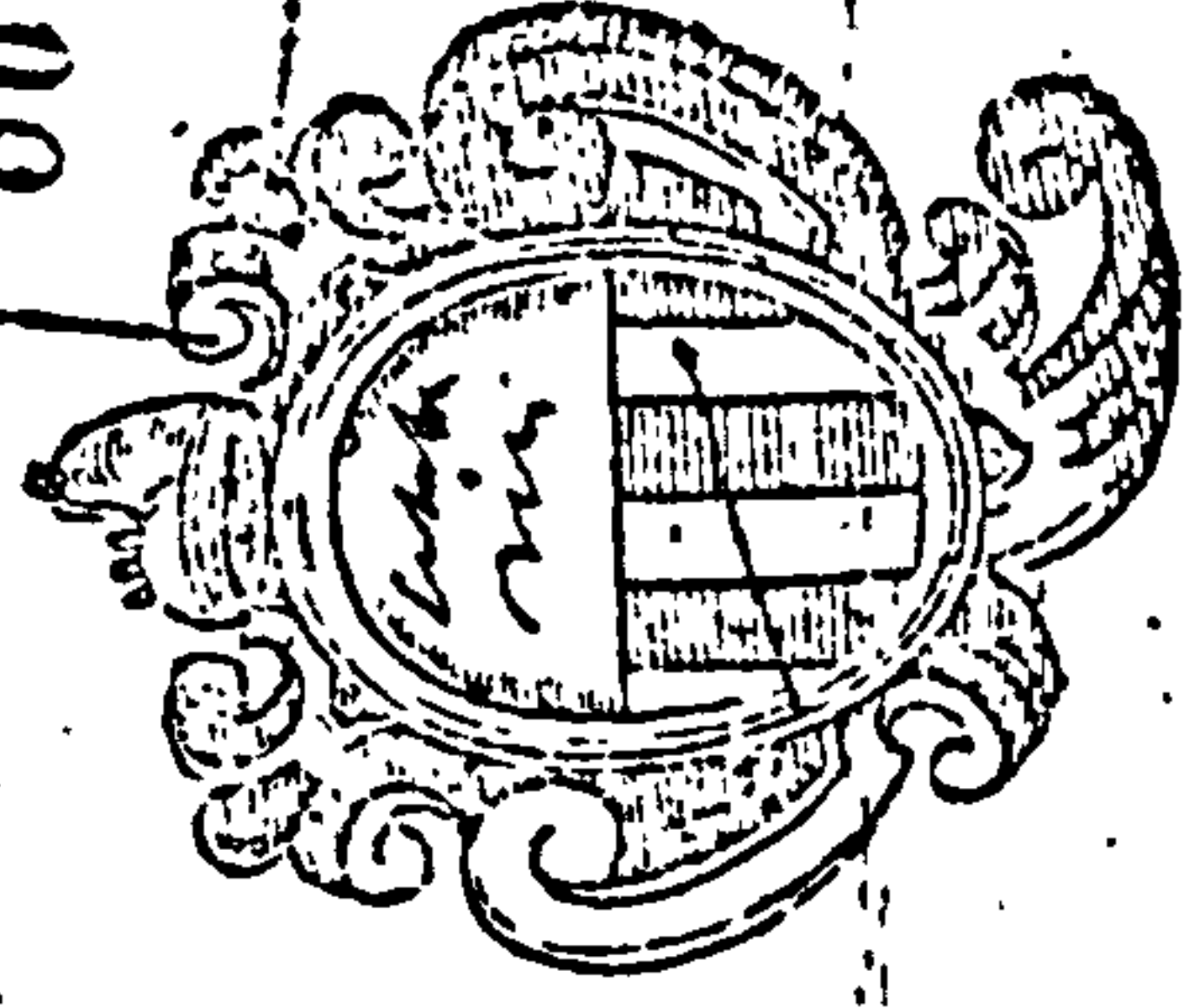
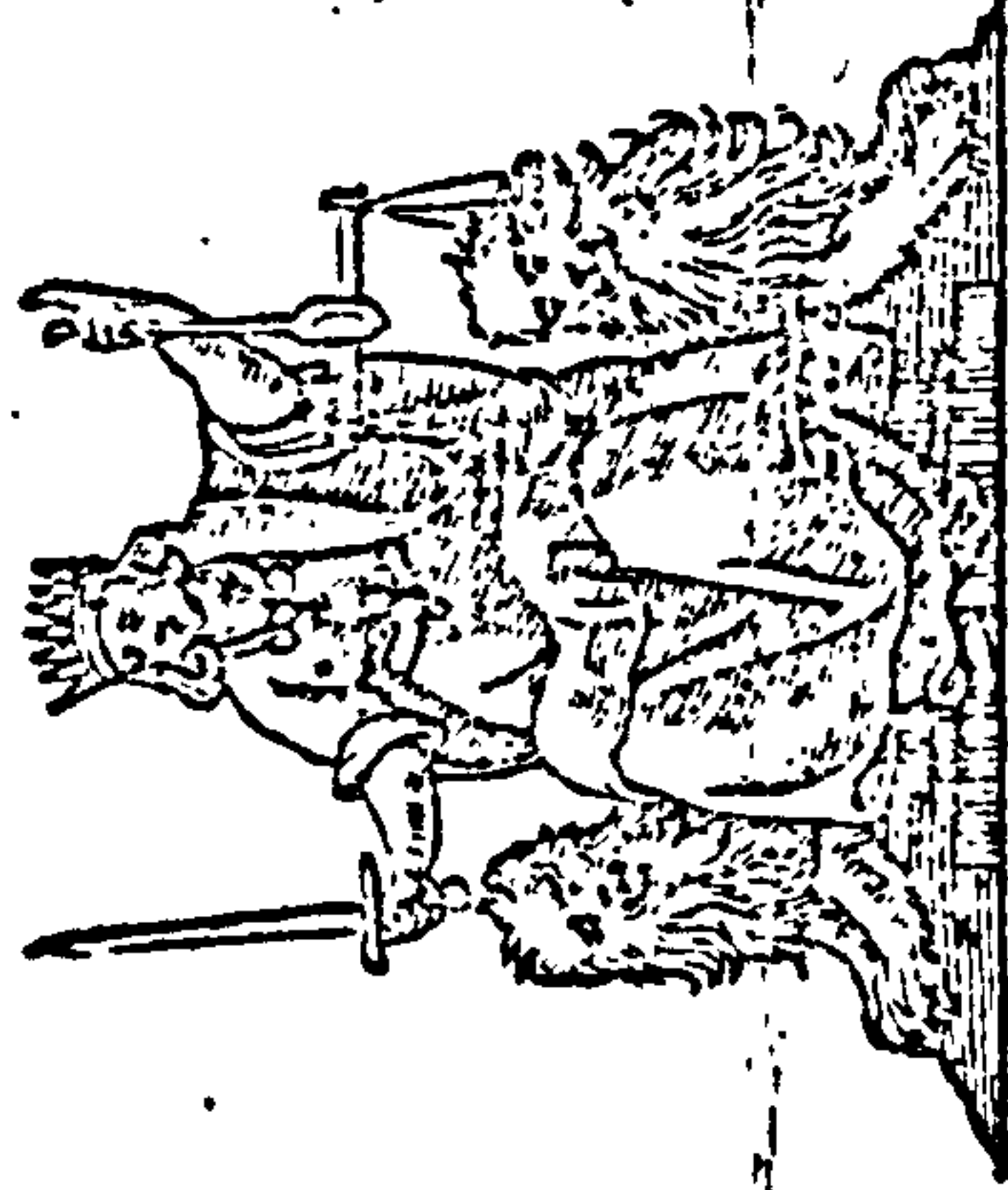
2. Sanudo, Diarii, op. cit., vol.34, cols.280 ff, 301.

those on board, noting health conditions in the port of departure and on the ship. They also made a note of the cargo, checked the ship's books to see that the full complement was accounted for, and gave orders that no one was to approach or leave without permission. (1) These procedures were frequently carried out at Istria, but if an infected ship reached the Castelli del Lido, then the Guardian alerted the Health Office and the matter was dealt with in Venice. In such cases the sick and their goods were sent to the Lazaretto Vecchio, and the healthy with their goods to the Lazaretto Nuovo, whilst the ship was quarantined and disinfected. Where a ship came from a suspect area but with no sickness on board, passengers underwent fifteen days' quarantine on the ship whilst cargoes liable to infection were sent to the lazarettos. (2) At least one Guardiano was stationed on every ship throughout its quarantine. (3)

Fundamental to preventing the spread of plague and enforcing the banning of plague areas was the system of health passes widely used in Milanese territory in the fifteenth century and generally adopted by the Venetians in the first half of the sixteenth century. Whenever there was a risk of plague health passes were issued in Venetian towns and villages to any person needing to travel. The passes (bolletini or fedi di sanità) named the traveller, often with a brief description, and stated the point of departure. Increasingly they also described goods and merchandise, sometimes with copies of the owners' marks on

1. ASV., Provveditori alla Sanità, Reg.2, f.101v ff.
2. On the lazarettos and the treatment of goods, see below, Chapter 7.
3. The number of these Guardiani rose steadily in the second half of the sixteenth century from 12 in 1552 to 21 in 1554 and to 60 in 1578. They served on a rota basis, ASV., Provveditori alla Sanità, Reg.2, ff.66v (1552), 73r (1554); Reg.3, f.39v (1578).

G R A T I S .



COMUNE DI CREMONA
000005

D **D** **Nos Prouifores Salūtis Venetiarum .**

V **N**umeris, & singulis, facciamo ampla, & indubitata fede, qualmente s'estrazeno da questa Città sana (Iddio gratia) & libera d'ogni sospetto di mal contagio g'infrascritti colli, a quali, & robbe, che entro vi sono, come qui sotto si dice, se li potrà in cadaun luoco doue capiteranno, dar libera, & sicura pratica .

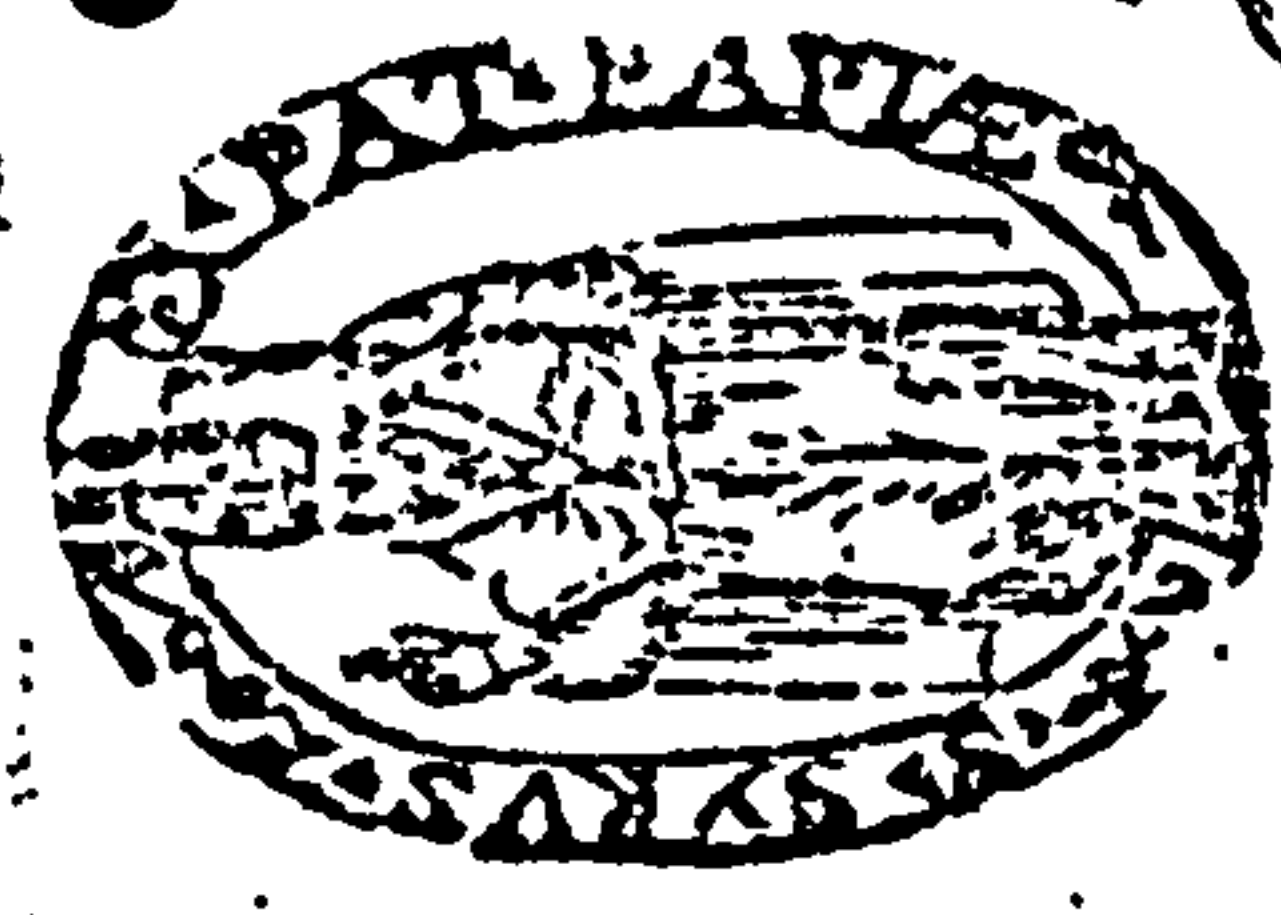
Dall'officio della Sanità di Venetia, li 26 *luglio 1629*

Ant. Calc. Riccio. N. ...
105005 del ...
M. Antonius Balanzanus Scrib. Off. Sal. Ven.

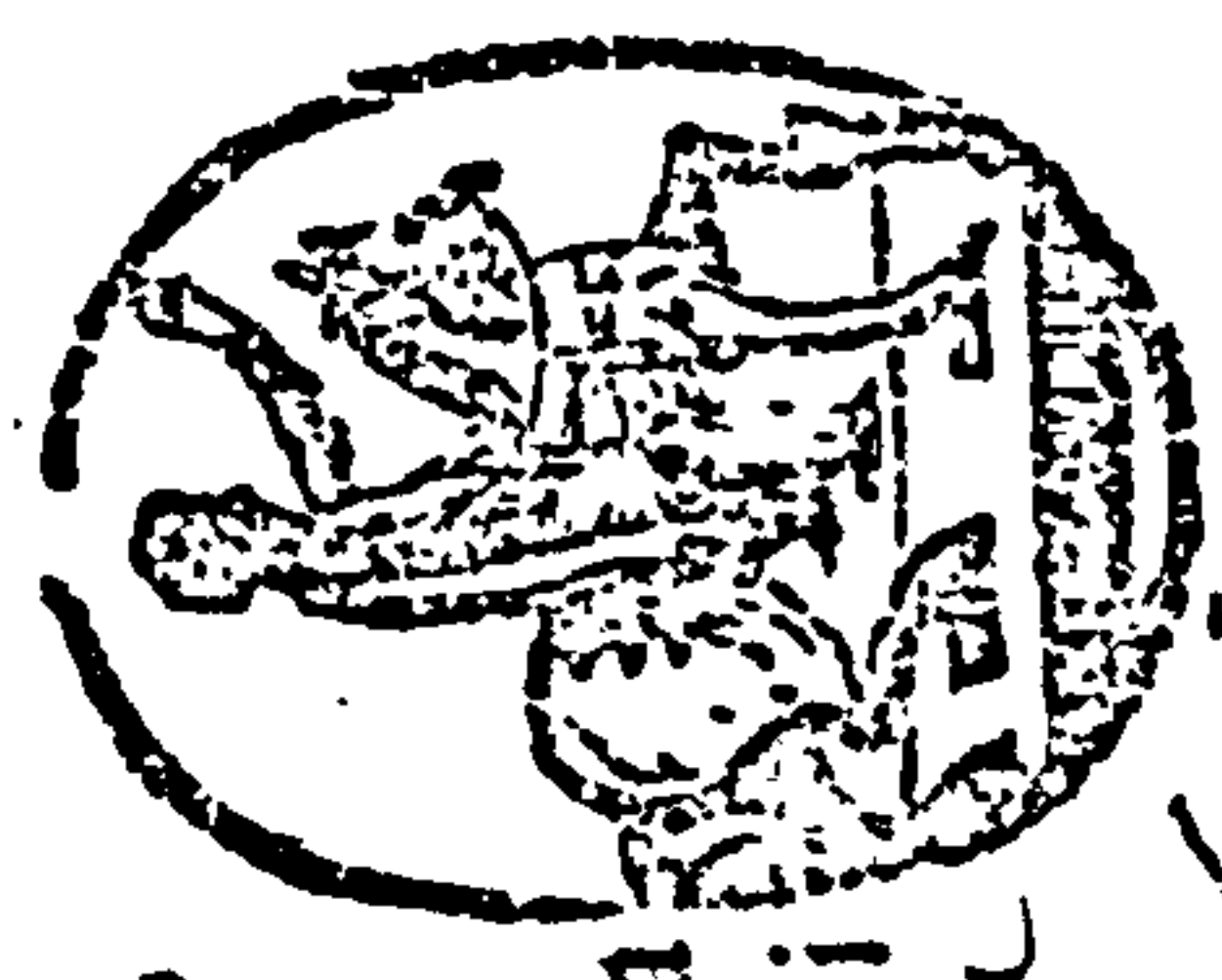
Illustration one:
a health pass
for merchandise,
issued in Venice,
1624

(AS Cremona,
Archivio Storico
Comunale,
Inventario 16,
Busca 135,
Carta 5)

Illustration two:
 a health pass
 for travellers,
 issued in Pavia,
 1624
 (AS Cremona,
Archivio Storico
Comunale,
 Inventario 16,
 Busta 135,
 Carta 7)



CONSERVATORES SANIT.
 Ciuitatis, & Principatus Papiæ.



Si parte da questa nostra Città (sana
 l'IDIO gratia, & libera da ogni
 sospitione di peste, per Cremona

Gio. Giacomo Benigno d'anni 50. barba nera

Statua grande Botteghe calzari, d'anni:

38. barba castagna statua comune. Bernardino

Orta d'anni 27. barba castagna statua comune

Mario nostro d'anni 20. barba nera Statua comune

Bernardino grande d'anni 17. barba

Papiz, ex Off. Sanit. die 11 mens. SEPTEBRIS 1624.

comune et Bernardo susforghio d'anni 18. con

la sua. carica de anni 18. con

Allegro Antonio Belle 17

COMUNE DI CREMONA
 000007

individual bales. Travellers had to present their passes at the various guard posts which they encountered en route. Those travelling to Venice also needed their passes in order to cross the lagoon, since boatmen were strictly forbidden to take on any passenger without one. (1)

The same system applied to passengers on ships, and even to the ships themselves. Passes for ships bound for Venice, for instance, were made out by the staff of the Venetian Bailo in Constantinople (2), countersigned by the authorities in each port where the ships called, and presented to the Guardian alli Castelli on arrival. He in turn sent them to the Health Office whereupon licences might be obtained admitting the ships to port. In this way the fedi di sanità emerged as travel documents showing the itinerary that the bearer had taken. Without them travel was impossible.

The third aim of the Provveditori alla Sanità was to restrain any outbreak of plague which occurred in Venice. It was vital for this purpose that a close watch be kept for the first hint of the disease. During the epidemic of 1478 all cases of disease were notified to the health authorities by the parish priests (3) and this system was taken up and developed by the Provveditori alla Sanità. (4) In 1504, for instance, physicians were ordered to report all cases of illness to the parish priests, who in turn were to inform the Health Office (5), and special arrangements were made for Jews to report illness direct. (6)

It is possible that these early regulations were put into

1. ASV., Provveditori alla Sanità, Reg.726, f.48r (17 Nov 1522).
2. Ibid., Reg.727, f.88r (16 Oct 1530).
3. See above, p.62.
4. ASV., Provveditori alla Sanità, Reg.725, f.2v (3 Feb 1489 m.v.).
5. Ibid., f.88v (27 May 1504).
6. Ibid., Reg.726, f.2v (14 April 1516).

effect only in time of epidemic. Nevertheless, in the first half of the sixteenth century a system was developed which enabled the Health Office to keep a permanent watch on diseases in the city. In order to obtain a burial licence, parish priests were obliged to report all deaths to the Health Office, with information on the length of illness and the cause of mortality. General registers of deaths reported in this way were kept by the Provveditori alla Sanità from at least 1526. (1) When presenting information on a death, the priest or sacrestan normally took along his parish register for scrutiny by the Health Office. Scrivan. (2) Special arrangements were also made for reporting deaths in monasteries, convents and hospitals, and the amount of detail in the registers was also increased to include, where appropriate, the name of the physician in charge of the case, and that of the pharmacist who supplied the medicines. (3)

If any death was reported which appeared suspicious, especially if it occurred suddenly, the Health Office would send its own doctor to examine the corpse for evidence of plague (apostema, carbon, over altro segno). (4) Notes of such examinations appear in parish records and in the registers of

1. The earliest extant register is that for 1537-1539, ASV., Provveditori alla Sanità, Reg.794. But a register of deaths amongst the nobility, 1526-1616, ASV., Avvogadori di Comun, Busta 159, compiled from this series when earlier registers were extant, includes a stray leaf of a general Health Office register for 1527.
2. ASV., Provveditori alla Sanità, Reg.2, f.105v (1541).
3. Ibid., Reg.731, f.82v (23 Nov 1568).
4. Ibid., Reg.2, f.103r (1541).

the Health Office. (1) In exceptional circumstances, as in 1535 when it proved difficult to find the cause of a virulent pneumonic epidemic (pleuresi or mal di punta), post mortem anatomies were carried out. (2)

This system, which gave early warning of any plague outbreak in Venice, depended for its success on the parish priests (piovani), whose relationship with their parishioners in the small Venetian parishes was a close one, and who served as an important link between state and people. (3) Their role was recognised as vital by the Provveditori alla Sanità. In 1542, for instance, the Provveditori championed the piovani against the clergy of the cathedral church of S. Pietro di Castello, who claimed responsibility for foreigners throughout Venice, including

1. e.g. Archivio parrocchiale di S. Pantalon, Morti 1550-93.
5 Agosto 1555
Julia fia di Jacomo furlan anni 3 e sta amala zorni 2. Faccio fede io Ludovico Cucina alli Clar.mi SV aver visto il preditto corpo, il qual non e di mal contagioso.
(The records of this church remain in the custody of the parish).
ASV., Provveditori alla Sanità, Reg.796 (30 Nov 1554).
'De mandato delli Mag.ci et Clar.mi Provedadori della Sanità depono io Appollonio Massa doctor phisico haver visto uno corpo morto di uno vecchio d'anni 70 et piu per mio iudicio el qual non e di alchuno suspeto et iudico fermamente lui esser morto de apoplexia, et sopra il corpo suo non era nachula alchuna come il nostro capitano del ditto officio potra far fede del tuto et questo il vidi venire damattina a hora 19 che e adi 30 al presente mese, et li fu dato licentia che'l fusse sepulto'.
2. British Library, Cotton MSS, Nero B VI, f.149r. A letter from Bernardino Sandro in Venice to Thomas Starkey, 13 April 1535, claiming there had been 10,000 deaths, including a more realistic total of 40 deaths in his own parish. An account of the anatomies at which as many as eighty Venetian physicians and several professors from Padua, including Francesco Frigimelica, were present, and a treatise by the Paduan professors survives as ASV., Provveditori alla Sanità, Reg.727, ff.293r-306v (March-April 1535).
3. As well as reporting deaths, the piovani served the Health Office in announcing its decrees in their churches, in the execution of the poor law, and in providing information on which the issue of health passes was based. On behalf of other Offices they also checked tax returns for both tanse and decime. The piovani were expected to obey Sanità orders, and were brought to trial and sentenced by the Provveditori if they failed in their duty.

the duties of administering the sacraments and holding funerals for them. The Provveditori argued that to allow any but the piovani to hold funerals could bring disaster (la ruina di questa città), especially as foreigners were the group which presented the greatest health risk to Venice. (1)

When a house was discovered to be infected with plague it was immediately put into isolation whilst health officials carried out an investigation. Each of the inhabitants was interviewed to ascertain the source of the outbreak, whether, for instance, foreigners had been lodged there or any goods received from outside Venice. At the same time information was taken about those who had visited the house, including doctors and priests, and about the location of any goods which had recently left the house. A report on the interviews was signed by witnesses including the parish priest or his sacristan, and despatched to the Health Office. (2)

The next step was to evacuate the house. The sick were sent to the Lazaretto Vecchio, the healthy to the Nuovo, and household goods were removed for disinfection. Contacts of the sick were confined for between fifteen and forty days in their homes, the doors of which were boarded up by carpenters. (3) Houses where plague had occurred were then disinfected. They were thoroughly cleaned, after which, with doors and windows closed, they were fumigated. Fires were burned with a mixture of sulphur, myrrh,

1. ASV., Provveditori alla Sanità, Reg.729, ff.1r-4v (May-June 1542). The Provveditori ordered the clergy of S. Pietro not to interfere in the work of the piovani on pain of ten years' exile from Venice.
2. Ibid., Reg.2, f.103v (1541). Four inquisitori to carry out these investigations were appointed in 1556, ibid., Reg.730, f.77r (12 Oct 1556).
3. Ibid., Reg.2, f.103v (1541). For example, if a barber had treated a plague case he was quarantined for forty days, and his bottega and workmen for fifteen days.

pitch and other substances, filling the rooms with smoke so dense and acrid that even the rats were said to flee. (1) Finally, the walls were whitewashed or washed down with water and vinegar. (2)

Through careful observation and inquiry the Health Office developed extraordinarily impressive methods of disease control. In the autumn of 1555, for instance, when evacuating houses in which plague had appeared, the healthy were made to strip naked and wash in vinegar. They were then given new clothes and sent for twenty two days' quarantine in boats moored separately one from another outside the Lazaretto Nuovo. Anyone who fell ill was removed to the Lazaretto Vecchio and his companions made to change clothes and move to a new boat. According to the Scrivan of the Office this system, which he described as an ordine santo, proved an extraordinary success; 99% of families sent from plague houses to the boats survived in perfect health. (3)

Measures were also adopted in time of plague which affected the general life of the city. Assemblies of all kinds, including schools, concerts, fairs and markets were forbidden, and so too were trades involving old clothes and second hand goods. (4)

When plague became severe, as in the years 1576-7, the plague measures were carried into effect on a colossal scale with the full resources of the state. During this time medical services were organised, over 50,000 corpses were removed and buried, thousands of houses emptied and fumigated, endless goods disinfected and listed. Tens of thousands of Venetians were cared

1. MCV., Raccolta Cicogna N.3682, Successo della peste l'anno 1576.
2. ASV., Secreta, Materie miste notabili, Reg.95, f.59r (3 Aug 1576), f.105r (26 Oct 1576).
3. Ibid., Reg.730, f.259r ff.
4. Ibid., Reg.726, ff.58v, 82v. (26 June 1523, 9 April 1524).

for and fed in the lazarettos, on boats and islands in the lagoon, or in quarantine at home. All this was carried out by a massive workforce, involving deputies in every parish and workmen drafted in from the mainland, and it was enforced with the threat of the death penalty and the full rigour of the law.

(1)

There were however a few unusual measures, such as a wholesale slaughter of cats and dogs which were considered able to carry the disease. (2) More importantly, resort to a general quarantine (sequestrazione general) became common. Whole cities or districts in which plague was widely dispersed might be put into quarantine for a fixed period during which time only doctors and important officials might venture out of doors. A preliminary measure of this kind was ordered in August 1576 (3), and from 8th October the inhabitants of half the city (Castello, Cannareggia and S. Marco) were quarantined in their houses for eight days and provisioned by the state. This was put into effect after the Senate noted that similar action had proved valuable in other cities. (4) Finally, there was a growing recognition of the need for a wider social policy. The poor law, which had been promoted in large measure by the risk of disease, was concerned with the worst forms of destitution. The medical

1. A detailed résumé of measures taken during this plague has been published by Ernst Rodenwaldt, 'Pest in Venedig', Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Klasse, 1952, pp.1-263.
2. ASV., Secreta, Materie miste notabili, Reg.95, f.33r (30 June 1576).
'essendo in questi tempi di suspetto che possino portar il mal di una casa nel'altra'.
3. Ibid., f.59v ff (3 Aug 1576). Each parish was to be isolated from its neighbours for fifteen days, and noone was to enter any house other than his own. A census was to be taken to assist the control of movement and supply information for provisioning. The order for these measures was later rescinded.
4. Ibid., f.87v ff (21 Sept 1576). A general quarantine was also enforced during October in Milan, La Cava, La peste di S. Carlo, op. cit., p.116 ff. A nightly curfew was also enforced in Venice.

profession on the other hand maintained that the poor in general through their diet and crowded living conditions were a threat to the city's health. Niccolò Massa argued in 1556 that the poor should be taken from their wretched housing for a holiday by the sea or in the country, and that camps for the purpose should be maintained until the end of the epidemic. (1) Girolamo Mercuriale believed that the poor were tinder (fomes) to the disease, to be removed from towns as soon as plague was suspected. (2) In 1576 he pressed for a measure of this kind in Venice, arguing that it was better for the city's workforce to be removed temporarily rather than permanently. (3) In August 1576 the Venetian Senate accepted the view that the spread of the disease was due to poor housing conditions (conoscendosi chiaramente dell'esperienza che tal aumento nasce principalmente perche questo afflito populo si trova per lo più habitar in casette molto ristrette et anguste), and resolved to move out of town the poor from the worst hit areas. A site was chosen at Lizzafusina able to accommodate ten thousand persons, and provision made for a supply of tents and barracks. (4) In the event, the rapid growth of plague quickly absorbed the full resources of the state in the immediate work of plague control, and the plan was not carried into effect.

1. Massa, De essentia, op. cit., ff.175r-v.

2. Mercuriale, op. cit., p.74.

'Verus et praecipuus pestis fomes est populus ipse, plebs, pauperes, qui et propter domos angustas et pravam victus rationem maxime omnium contaminatur, maxime omnium pestem dilatant'.

3. BMV., MSS. Italiani, Classe VII, Cod.806 (=9557), f.9r.

4. ASV., Provveditori alla Sanità, Reg.3, ff.29v-30v (6-8 Aug 1576).

How do the measures of plague control employed in Venice compare with practice elsewhere in Europe? The sanitary ordinances for public hygiene, outlined at the beginning of this chapter, were not exclusive to Italy but, to a greater or lesser extent, were an aspect of civic life throughout medieval and early modern Europe. Plague control based on contagionist theory, on the other hand, appears to have developed earliest in Italy and spread later to the outside world. In the fifteenth century, as has been seen, it was the Duchy of Milan which led the way. Before the mid-sixteenth century, however, the methods developed in Milan were being put into force throughout Northern Italy. There are no essential differences between the Venetian methods outlined in this chapter and Milanese legislation on plague control codified under Francesco Sforza II in 1534, and under Imperial rule in 1541. (1)

North of the Alps there was also a steady advance in plague control, a development which is reasonably well documented in relation to France and England. In France isolated measures of plague control are discernible in the fifteenth century, including the appointment of health officials in time of epidemics, the foundation of plague hospitals, and, in one instance, the issue of health passes. (2) These measures, however, only became widespread in the sixteenth century. In this period health officials were

1. Nicola Latronico, 'La medicina e l'igiene nei libri e nei documenti del Magistrato di Sanità dello Stato di Milano', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, series 2, anno 4, 1938, pp.273-292.

Nicola Latronico, 'Leggi, gride e usanze sanitarie nello Stato di Milano durante la dominazione straniera', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, series 2, anno 6, 1940, pp.28-45.

2. This information, and that which follows, is taken from Jean-Noël Biraben, Les hommes et la peste en France et dans les pays européens et méditerranéens (2 vols., Paris, 1975-6), vol.2, pp.85-175.

frequently elected during epidemics, as in Orange in 1502, Montpellier in 1506, Troyes in 1507, Paris in 1531, Lyons and Grenoble in 1564, Chambéry in 1577 and Angers in 1583. Guards were regularly employed at city gates to prevent contact with infected areas. Health passes also came to be used, being adopted at Lyons in 1582, and, also in the 1580s in the Auvergne, in Brittany and in Champagne. (1) Attempts to isolate the sick also became common. In general, temporary accommodation, (cabanes), outside the town, were used for the purpose, as at Amiens in 1545, Saint-Malo in 1563, Lyons in 1564 and Avignon in 1580. In some cases, however, there were permanent plague hospitals, such as that built at Toulouse between 1508 and 1514 (2), and at Marseille in 1526. (3) Paris, on the other hand, remained ill-equipped, with no permanent plague hospital before the seventeenth century. (4) In general it may be said that in the later sixteenth century France was rapidly catching up with Italian practice. It was not, however, until towards the mid-seventeenth century that the French Bureaux de Santé became permanent establishments able to enforce and coordinate plague control on the scale and with the resources available in Venice and Northern Italy by the mid-sixteenth century.

England remained backward in comparison with France or Italy. Health Offices do not appear to have been established during the

1. The use of health passes was not, however, so familiar to Frenchmen as to Italians, since Montaigne and other French travellers in Italy in the 1580s noted Italian practice with curiosity and suspicion. See below, p.180 and Biraben, Les hommes et la peste, op. cit., vol.2, p.89.
2. Joseph Roucaud, La peste à Toulouse (Toulouse, 1918), p.44.
3. Evariste Bertulus, Marseille et son intendance sanitaire (Paris, 1864), p.19 ff.
4. See below, p.189.

period of bubonic plague. Prior to the seventeenth century health passes were scarcely issued and there were almost no permanent plague hospitals. Nevertheless civic authorities were concerned with the problem of plague, and there is evidence that measures employed on the Continent were increasingly adopted in the sixteenth century. In 1563, for instance, Shrewsbury issued a ban on London, and in 1578 Londoners were forbidden to attend the Michaelmas fair at Canterbury. (1) In most towns, as in Lincoln in 1550 and London in 1563, 1577 and thereafter, infected houses were closed up with the sick and well within. (2) This measure, which has been described as a 'tragically mistaken policy' (3), was contrary to Italian practice. Increasingly, however, towns attempted to remove the sick to specially appointed institutions. In 1550 York set aside certain houses for the reception of the sick. In 1587 Bury St. Edmunds used tents pitched in fields outside the town. Similar methods were used in Durham in 1589, and in Cambridge in 1593. In the latter year the Queen and her council noted the success of this practice at Kingston, and suggested that it also be applied to London. (4) At the close of the sixteenth century therefore England, too, was having recourse to methods of plague control pioneered in Italy.

The comparative examples of France and England help to place the importance of Venice in the history of plague control. Venice was not a unique pioneer as has sometimes been alleged, since much of Venetian technique was learned from Milan. But from the sixteenth century Venice was in the forefront of development, well placed to serve as an example to states outside Italy. A

1. Shrewsbury, op. cit., pp.200, 217.

2. Ibid., pp.183, 190, 215, 539.

3. L.F. Hirst, op. cit., p.411.

4. Shrewsbury, op. cit., pp.226, 242, 246.

Portuguese mission is said to have been sent to Venice in the early sixteenth century to study the techniques employed. (1) In 1626 a former ambassador to Venice, Sir Dudley Carleton, argued in the English Parliament for a bill on plague control, pointing out the success of plague measures in Paris and Venice, and putting his knowledge at the country's disposal. (2) In the eighteenth century English and Dutch alike learned from the Venetian example. (3) If Venice did not invent the basic measures of control which she employed, she nevertheless played an important role in disseminating them to a wider world.

1. Ricardo Jorge, 'Les anciennes épidémies de peste en Europe comparées aux épidémies modernes', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.368-370.
2. Historical Manuscripts Commission, 13th Report, appendix, part VII, The manuscripts of the Earl of Lonsdale (London, 1893), p.10.
3. See below, pp.209-210.

CHAPTER 6

COOPERATION, CONFLICT AND CONTROL.

'O motor verus, qui moves omnia mundi,
 Tu sanos Patavos conserves, ipse paterque
 Qui vivis aeternus nec pestes porrigas ipsis:
 Haec Venetis veniant, attingant et Sarracenos'. (1)

That a Paduan of the second half of the fourteenth century could pray for plague to fall not only on distant Saracens, but also on his neighbours in Venice, shows a parochial attitude to the risk of disease that was not uncommon at that time. A narrow self-interest, and a disregard for the welfare of neighbouring states, underlay the early plague regulations. From 1397 persons arriving in Ragusa from infected areas had an alternative to quarantine. They could remain at liberty provided that they spent a month in a healthy area outside Ragusan territory. Similarly, in 1428 provision was made for shipping which was refused access to Ragusa to continue on to less particular ports outside her dominion. (2) In 1430, when the owners of the *Delfina*, which was about to arrive in Istria from the Black Sea with disease on board, complained at the expense they would incur if the crew were quarantined, the Venetian Collegio agreed that the sailors could be allowed to go where they pleased on arrival in Istria, provided that they kept clear of Venice. (3)

In the course of the fifteenth and sixteenth centuries governments became less able, and less willing, to ignore the

1. Karl Südhoff, 'Pestschriften...', op. cit., V, p.334.
2. Gelcich, op. cit., pp.140-2.
3. ASV., Collegio, Notatorio 6, f.91v (31 Dec 1430).
 'sit in eorum libertate eundi quo eis placuerit, dum modo non veniant Venetias infra duos menses'.

state of health of their neighbours. The geographical expansion of the dominions of Milan, Venice and Florence helped to break down parochialism, and created larger administrative units in which the plague could be more effectively controlled. Effort came to be concentrated less on guarding the gates of individual cities than on protecting whole geographical areas at borders and frontier passes. In this development the smaller states were at a disadvantage. Sixteenth century Geneva, for example, was handicapped in its dealings with the disease by an inability to monitor events outside its frontiers, and by the lack of an adequate hinterland in which to enforce a cordon sanitaire. (1) In Italy, where the need for a territorial plague strategy was increasingly recognised, minor states came to play their part through cooperation with their neighbours.

As early as 1467 the Milanese authorities were in correspondence with Modena concerning policy there in relation to plague in Bolognese territory. (2) Nine years later, Brescia was receiving information from Milan on the plague in Rome, and seeking Milanese permission to coordinate defence measures with the Rettori of Cremona. (3) Cooperation at this time was nonetheless limited by the uneven development of the Italian states in relation to plague control. Milan in particular was disproportionately ahead of her contemporaries. In 1479, for instance, complaint was made to Venice over the issuing of

1. Léon Gautier, La médecine à Genève jusqu'à la fin du XVIIIe siècle (Geneva, 1906), includes a detailed survey of plague in the city.
2. ASM., Miscellanea Storica, Cartella 2. A letter to the Duke of Milan, 14 May 1467.
3. Ibid. A letter from the Rettori of Brescia, 21 May 1476.

health passes. The latter do not seem to have been in general use at this time in Venetian territory, but, to satisfy Milanese regulations, they were issued at Bergamo and Crema to Venetian subjects wishing to enter Milanese land. Enforced cooperation did not prove satisfactory. As the Deputati alla Sanità of Milan informed the Duke on 31 March 1479:

'molte volte le habiamo avisate come ad Bergamo et Crema se facevano bulletini ad ciascuno che veneva da parte et loci infecti, senza quella necessaria consyderatione che bisogna'.

Neither the frequent Ducal letters from Milan to the Venetian Rettori, nor remonstrances to the Venetian ambassador in Milan had brought improvement. (1)

In the sixteenth century Italian states showed a greater readiness to take action against the disease. This is clear from the increase in the number of Health Offices, and from their tendency to become permanent institutions. In addition to those whose activities in the fifteenth century have been discussed (2), Health Offices were at work in Pesaro in 1531 (3), in Trieste in 1542 (4), in Modena, Bologna, Mantua and Reggio Emilia in 1555, and in Ancona and Genoa in 1564. (5) The Florentine government resolved to make its Office permanent in 1527 (6), although a letter of 1555 suggests that the Florentine officials had to be appointed afresh at that time in response to the plague in Padua. (7) The archives of

1. ASM., Miscellanea Storica, Cartella 2. A letter from the Rettori of Brescia, 31 March 1479.
2. See above, pp.44-49.
3. ASV., Provveditori alla Sanità, Reg.727, f.118v.
4. Ibid., Reg.729, f.14r.
5. ASF., Ufficiali di Sanità, Num.45, ff.1v-2v, 19r, 83v.
6. Cipolla, Public health, op. cit., p.13. Prof. Cipolla assumes that the decision was put into effect.
7. ASF., Ufficiali di Sanità, Num.45, f.1r-v.

the Florentine Office document its activities in the years 1555-7, 1560, 1562-7 and demonstrate its permanent standing from 1576. (1) Lucca made its Office permanent in 1549 (2), and the same development appears to have taken place in the course of the century in many of the major cities subject to Milanese and Venetian control. Treviso, for instance, received permission to acquire land and build an Office for its Provveditori alla Sanità, a move which strongly suggests the permanence of the organisation. (3) At the same time, those cities which did not have permanent Health Offices increasingly appointed temporary officials at the slightest danger. No longer was it necessary for plague to reach a city or its territory before measures were taken. Vicenza, for instance, which did not have a permanent Office until late in the sixteenth century, appointed three Provveditori alla Sanità in 1561 because of plague in Vienna. (4) This meant that even in the smaller towns officers were appointed with considerable frequency. Elections of Provveditori alla Sanità in Vicenza can be traced in 1522 (5), 1539 (6), 1542 (7), 1555 (8), 1561, 1564 (9), and so on. Provveditori were also active in the town in 1529, 1530 and 1556. (10).

The coexistence of so many offices created a rich potential for cooperation. At the same time there was an increasing recognition that states were as interdependent in matters of

1. ASF., Ufficiali di Sanità, Num.45 and ff. This series of the officials' copy letters continues to the end of the eighteenth century.
2. Bongi, op. cit., vol.1, p.216.
3. ASV., Provveditori alla Sanità, Reg.12, f.142v. A Senate decision of 13 May 1553.
4. Vicenza, Biblioteca Bertoliana, Archivio Storico Civico, Num.864, Libro Parti, Num.2, f.183v (6 Dec 1561).
5. Ibid., Num.795, Libro Provvisioni, Num.2, f.927v (30 Sep 1522).
6. Ibid., Num.863, Libro Parti, Num.1, f.47r (19 July 1539).
7. Ibid., f.117r (4 Jan 1542).
8. Ibid., f.618r (18 Aug 1555).
9. Ibid., Num.864, Libro Parti, Num.2, f.332r (13 Aug 1564).
10. Ibid., Num.256, ff.1r (1529), 9r (1556); Num.863, f.47v (1530).

health as in matters of trade and economics. Indeed, the one followed from the other. In an age of plague controls and cordons sanitaires commercial loss was certain if plague broke out in neighbouring states. A Florentine letter of 1555 to the Governors of Faenza, Imola, Forlì and Perugia argued that Florence was as concerned for the health of its neighbours as for its own citizens, since their dealings were so close. (1) In the same year the Doge of Venice protested the same concern for the health of the Ferrarese. (2) In 1556, in a long discourse with Girolamo Faletti, the Ferrarese ambassador to Venice, Vettor Grimani and Antonio Capello stressed again that the two states were interdependent 'ne l'uno patere senza l'altro'. (3)

One of the main areas in which cooperation was possible was the pooling of information. With this in mind, the Florentine officials wrote to their opposite numbers in Modena in 1555:

'offerendoci dare avviso alle S.V. d'ogni minimo accidente che occorressi dalle bande di qua, a cio che quelle possino fare le provvisioni opportune. Saraci grato che anchor quelle ci diano alla giornata nontia del seguito a Padova...' (4)

Extensive series of correspondence survive in the archives of the Health Offices of Padua, Verona, Milan and Florence to show that the sharing of information was standard practice by the end of the sixteenth century. It was normal for a Health Office to publicise any ban which it declared. In Milanese and Venetian territory such decrees were frequently printed and despatched to the Health Offices of other states. (5) More generally, it was

1. ASF., Ufficiali di Sanità, Num.45, f.3r (14 Sept 1555).
2. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettera 41. A letter of 9 November 1555.
3. Ibid., fasc.91-V, lettera 24 (6 March 1556).
4. ASF., Ufficiali di Sanità, Num.45, f.1r (4 Sept 1555).
5. ASM., Sanità, Parte antica, Num.7, for example, comprises a file of decrees issued in Venetian territory, 1567-1760.

common for an Office to pass on any reliable information which came its way. The Ufficiali di Sanità of Florence, for example, in the years 1576-7 were sending regular reports on the plague in Venice to Lucca, Genoa, Ancona, Bologna, Ferrara and Naples. (1)

The pooling of information led on naturally to cooperative action. News that an area had been banned by one Health Office was sufficient to provoke similar action on the part of others. In 1567, for example, the Provveditori alla Sanità of Bergamo wrote to the Milanese officials:

'Dalle sue amorevolissime de dì 8 instanti habbiamo inteso li novi casi occorsi in la valle levantina, dil che infinitamente li ringratiamo. Habbiamo per virtù di quelle subito di novo bandito essi lochi et dattone avisi ai passi.....' (2)

Not uncommonly the call for reciprocal action was explicit.

This was the case late in December 1591, when the Conservatori di Sanità of Genoa notified the Ufficiali di Sanità of Florence of their ban on southern France (Linguedoche). The Ufficiali wrote to the Duke of Tuscany of their eagerness to oblige the Genoese,

'per andar uniti con quelli, come habbiamo fatto sempre, per la reciproca nostra corrispondenza, et per rimediar a danni'.

Before the Florentine ban was issued, printed bans on the same area, published by the Venetian and Milanese Offices, were available for the Duke's inspection. (3) Consultation between states prior to the lifting of a ban was also common. In January 1556, for instance, Florence refused to yield to pleas

1. ASF., Ufficiali di Sanità, Num.46, ff.92r, 106r, 112r.
2. ASM., Sanità, Parte antica, Num.279 (12 April 1567).
3. ASF., Ufficiali di Sanità, Num.134, ff.6r-8r.

that its ban on Venice be lifted until it had consulted with the Health Offices of Bologna, Ferrara, Mantua, Modena and Reggio Emilia. (1)

Cooperative action brought its own problems. The more effectively a state was blockaded by its neighbours and trading partners, the greater were its economic difficulties. Small states acting alone could have a serious impact. Ferrara, for example, controlled the direct routes overland between Venice and Rome, and could interrupt traffic on the Po between Venice and the Milanese. It did so in 1555, 'non lasciando pur passar un ocello' as the Doge complained to the Ferrarese ambassador. (2) In cooperation with neighbours such as Mantua, its ability to disrupt communications was even more considerable. Economic losses through plague control were all the greater because plague most often struck in the summer months when roads were passable and commerce at its peak. (3) Certain areas were particularly sensitive to any threat of isolation. Bergamo was alarmed in 1556 at the prospect of being banned by Milan, since it drew a considerable part of its food supply from Milanese territory. (4) Many states, including Venice, were unable to be self-sufficient in food supplies, and when plague coincided with years of shortage or famine, as it did in 1555 and 1575, there were additional difficulties. (5) But the policy of cooperative isolation was most crippling when a city or small area was cut off by both alien states and by authorities within the same

1. ASF., Ufficiali di Sanità, Num.45, f.26r (6 Jan 1555 Florentine style).
2. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettere 48-9 (24 and 28 Nov 1555).
3. ASV., Provveditori alla Sanità, Reg.12, f.199r. The tax farmers of Padua explained their heavy losses during the plague of 1555 in these terms.
4. Ibid., f.204r-v.
5. On the shortages and price rises in Venice in 1555, ibid., Reg.730, f.14v (29 June 1555). On the shortages in 1575 in Trent, ibid., Reg.13, ff.160v, 163v-165r (29 Sept, 17 Oct 1575).

jurisdiction as itself. The sequence of events was then inevitable. The collapse of trade brought production to a close, leading to mass unemployment, famine and even to rumours of political disaffection. The valley of Valcamonica north of Brescia was banned from the summer of 1549 until the following Easter. Apart from the ravages of the disease and the expense of the plague measures, the valley suffered the collapse of its trade in iron goods on which it mainly depended, the ruin of workers forbidden to travel to Lovere for the wool industry, and the loss, during the winter, of its livestock, which was not allowed out of the valley to pasture on lower ground. Tax farmers were amongst those ruined as trade came to a standstill.

(1) When Padua was banned in 1555, Pero Gelido, Florentine ambassador in Venice, reported that more were dying there of famine than of plague, and was astonished that Venice was offering no relief. As he wrote, the ambassador of Mantua came in with news that broadsheets had appeared in Padua calling for imperial aid, 'con dir si noi non possemo spender monete di San Marco, noi spenderemo monete imperiale'. Rumour had it that Venice was preparing to send in 500 men-at-arms, though whether, as Gelido half suspected, the story was an invention of the French to embarrass the Emperor was not clear. (2) Allegiances certainly were strained in times of plague. In the previous year the garrison in Capodistria had been doubled because of the plague there, even though Venice had been quicker on that

1. ASV., Provveditori alla Sanità, Reg.12, ff.116v-126r.
2. ASF., Archivio Mediceo del Principato, Filza 2971, ff.250r-v (31 Aug 1555).

occasion to institute an aid programme. (1)

The weakness of the plague regulations was that as policies of isolation became more effective, the greater was the temptation for a state to cheat its neighbours by concealing any cases of plague which came to light. As early as 1498, when Venice cancelled its annual Ascension fair because of an outbreak in the parish of S. Maria Maddalena, the Senate ordered that the presence of plague in Istria, the Marche and elsewhere was to be given as the official explanation. (2) Likewise, on 11th July 1510, even though eleven persons were taken sick or dead to the lazaretto, the Senate postponed a decision to close the city's markets 'per non dar fama'. (3) The same policy prevailed in Venice in 1556. Writing of the suspicion of plague, the Ferrarese ambassador had cause to report 'è ben vero che si tiene tanto occulta quanto si può'. (4) Even when the presence of plague in the city was apparent, the Venetian authorities tried to play down its extent. In the spring of 1576 Venetian citizens in Rome scoffed at rumours of the seriousness of the situation in Venice. (5) A request for clarification addressed by the Papal authorities to Giambattista Castagna, Nunzio in Venice, only revealed the deviousness of the Venetian government. As Castagna reported:

'perche questo è un danno incredibile alla città per infinite cause, massime perchè le mercantie non escono, ne entrano, questi Signori fanno la diligentia possibile per far li rimedii in modo che spaventati quanto meno sia possibile il populo, et esca manco rumore che si può'. (6)

1. 'Senato Mare. Cose dell'Istria', Atti e memorie della Società Istriana di Archeologia e Storia Patria, vol.9, 1894, pp.302-8.
 2. ASV., Provveditori alla Sanità, Reg.12, ff.161r-167v.
 3. Ibid., Reg.725, f.37r (10 May 1498).
 4. Sanudo, Diarii, op. cit., vol.10, col.756.
 5. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-V, lettera 28 (18 March 1556).
 6. Nunziature di Venezia, vol.11 (Rome, 1972), p.514 (24 March 1576).
- 'quasi ridendo si meravigliano di chi dice che vi sia cosa d'importanza'
6. Ibid., p.527 (14 April 1576).

In particular the Nunzio found it difficult to establish the overall mortality. In view of the policy that 'si manda a lazzaretto et non si lassa morire in Venetia', deaths in the lazarettos were thought to represent more than half the total at this time. Yet on the technicality of their occurring outside the city they were being carefully omitted from the daily bills of mortality. (1) In the same year when the Venetian Cardinal Cornaro, who was in charge of plague prevention in Rome, requested weekly reports on the plague in Venice from the Nunzio there, the latter replied that the Cardinal's own relatives in Venice would be a better source of information, since the truth was kept from him as a result of his despatches on the subject to Bologna, Romagna and Ancona. (2) But the most damning criticism of Venetian concealment came from the Bishop of Amelia, Nunzio in Venice at the time of the plague in Friuli in 1598:

'Havendo io mandato a intendere all'offitio della sanità se v'è cosa di nuovo, m'han fatto rispondere non esservi altro. Han per dogma inviolabile di celare et negare ogni cosa ai ministri di Prencipi. Io intendo da altra parte che nella sodetta terra di Cividale n'erano morti dodici o quattordici'. (3)

Economic motives led to further threats to the control system. Where a plague outbreak was slight, a government might quietly impose control without declaring a formal ban. For much of 1555 there was no Venetian ban on Padua, mainly to secure food supplies to Venice, according to the Mantuan ambassador, (4) but also to give no invitation to outside states to isolate the area. But the same effect was achieved by restricting the issue of health passes in Padua, without which travel was

1. Nunziature di Venezia, vol.11, op. cit., p.527.

2. Ibid., p. 565 (23 June 1576).

3. ASVat., Dispacci del Nunzio a Venezia, Filza 33, ff.129v-130r (9 Sept 1598).

4. ASMant., Carteggio Estero ad inviati, Filza 1488 (15 Aug 1555).

impossible. The Florentine ambassador was amongst those not taken in by such expedients. (1) Where adjoining territories were affected with plague, joint concealment of the facts was even possible. This happened in 1575 when Venice, Verona and Mantua were each affected, apparently with the complication of typhus in the latter two cities. Reports of plague in Mantua were passed off as calumnies of the Jews (2), whilst, as a singular favor to the Serenissima, Mantua refused to ban Venice despite threats from Ferrara that she herself would be banned if she did not do so. (3) In return, Venice promised to restrain Brescia and Vicenza in their attempts to ban Mantua. (4) When Verona abandoned the pretence and formally banned Mantua, Paolo Moro, the Mantuan ambassador in Venice felt the irony of the situation:

'parmi l'haver Verona bandito Mantova più ridicolosa metamorfosi che quella nel ritratto del mondo alla riversa, ove l'amalato tocca il polso al sano'. (5)

Given the welter of duplicity and concealment, correspondence between Health Offices in no way replaced the role of ambassadors in reporting the plague. On the contrary, this was an ambassadorial task par excellence, calling for skills in observation, in diplomacy, and in discriminating between rumour and reliable information. One of the main problems was that action to prevent the disease's spread had to be taken at the first hint of danger. Yet this was an area in which rumour and alarm were widespread. In 1555 Girolamo Faletti, the Ferrarese ambassador in Venice, was accurately reporting that the plague there was of little significance, accounting for only occasional

1. ASF., Archivio Mediceo del Principato, Filza 2971, f.250r (31 Aug 1555).
2. ASMant., Carteggio Estero ad inviati, Filza 1509 (2 Nov 1575).
3. Ibid., 29 Oct 1575; 12 Nov 1575.
4. Ibid., 12 Nov 1575.
5. Ibid., 19 Nov 1575.

deaths. (1) Yet on the basis of rumour, the Health Office in Ferrara banned Venice, probably on 16th June. Ignored at home, Faletti received on 17th June vehement reprimands from the Doge (2), and the disdain of the Venetian government 'parendo a questi senatori che quel Duca tenga poco conto di questa Repubblica tenendoci un tale Ambasciator'. (3) Even his fellow ambassadors laid the blame on Faletti as being 'troppo diligente'. (4) The ban remained in force for eight days, until the Duke of Ferrara was better informed. In November the Ferrarese Health Office accused Faletti of deceit, and reinstated the ban 'a relationi simplici di cianciatori' as Faletti complained. (5) Events followed as before, the ban being moderated early in December. (6) When even a state's own ambassador was distrusted, there was little hope that the word of alien governments could be relied upon. States ceased to cooperate with their neighbours as soon as plague struck their own territory. Then, cooperation gave way to conflict.

The internal affairs of the northern Italian states also reflected the policy of dealing with plague on a territorial rather than a municipal basis. Capital cities paid increasing attention to dependent areas. In Milanese territory, the plague measures originated from Ducal initiative and were therefore subject to centralised control from the outset. This was not the case in Venetian territory. Through their experience of Visconti

1. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-III, lettere 32-54 passim. (20 March- 15 June 1555).
2. Ibid., lettera 55 (18 June 1555).
3. ASF., Archivio Mediceo del Principato, Busta 44, f.177r (22 June 1555).
4. ASMan., Carteggio Estero ad inviati, Filza 1488 (5 July 1555).
5. ASMod., Archivio Segreto Estense, Ambasciatori a Venezia, Busta 44, fasc.91-IV, lettera 45 (16 Nov 1555).
6. Ibid., lettera 51 (6 Dec 1555).

rule, practices of plague control were well established in the terraferma cities when they fell into Venetian hands. (1) Far from directing their efforts, the new capital had much to learn from her dependents. Accordingly, throughout the fifteenth century plague control on the Venetian mainland functioned as an aspect of local administration with little interference from central government. Health officers were elected by and were responsible to local councils: the Consiglio Cittadino in Brescia (2), the Maggior Consiglio in Bergamo (3), the Consiglio di XII et L in Verona (4), and the Maggior Consiglio in Padua. (5) Milan continued to be influential. In 1485, when no Health Office existed in Venice, the Brescian Health Officers were in correspondence with their Milanese counterparts, addressing them with respect as 'fratres maiores'. The information which they freely supplied on the plague in Venice, Padua and Vicenza suggests that Venetian interests were not their primary concern. (6)

↓

The creation of the Provveditori alla Sanità in Venice did not at first bring any change in policy towards the mainland. The earliest register of their decisions, covering the years 1486-1507, reflects purely civic concerns. Where measures were taken against plagues which occurred outside the state, such as that in Turkish territory in 1495, the danger was expressed in terms of the threat to the city of Venice rather than to the state in general. (7) Plague control began at the margins of the

1. See above, Chapter 2.
2. BBQ., Archivio Storico Civico, Num.489, f.90v (1438).
3. Bergamo, Biblioteca Civica, Archivio Vecchio del Comune, Azioni, Lib.3, ff.49r, 75r (1481 and 1482).
4. ASVerona, Ufficio di Sanità, Parte antica, Num.1, f.6r.
5. ASP., Ufficio di Sanità, Num.5, p.3 (1438).
6. ASM., Archivio Sforzesco, Carteggio delle Potenze estere - Venezia, Cartella 1268 (8 June 1485).
7. ASV., Provveditori alla Sanità, Reg.725, f.28v (13 Nov 1495).

lagoon. The reaction of the Provveditori to the problem of pilgrims arriving from infected areas of Germany and Hungary en route for Rome was merely to order the city's boatmen to refuse them transport to the city. (1) Even more striking was the way in which Venice ignored the interests of the mainland during plague in the city in the year 1490. Persons who had been in contact with the sick were dealt with simply by exiling them from the city for a month. (2) Travellers reaching Venice from plague areas were dealt with in the same manner. (3) When a new arrival from Rome fell sick in 1494, his companion was not quarantined, but merely driven out of the city on pain of death if he returned. (4) Writing in 1524, Gasparo Contarini attributed purely civic functions to the Provveditori, whom he described as 'Provveditori sopra la sanità della città di Vinegia'. (5)

A change of policy came after the first quarter of the sixteenth century. A number of factors were influential. Venetian attitudes to its mainland were changing at this time, partly as a result of the War of the League of Cambrai, in which Venice for a time lost control of her entire mainland, and more especially because reverses in maritime trade were leading to greater investment in land. The epidemic which affected the whole of Italy between the years 1522 and 1529 was a further factor. (6) The disease struck the Italian cities with varying severity, Milan and Florence being amongst the hardest hit. It

1. ASV., Provveditori alla Sanità, Reg.725, f.30r (30 Dec 1495).
2. Ibid., f.3v (20 Feb 1489 m.v.); f.5r (23 Mar 1490); f.8v (7 Aug 1490).
3. Ibid., f.21r (9 July 1494); f.26r (20 Oct 1495).
4. Ibid., f.20r (24 June 1494).
5. Contarini, op. cit., p.124.
6. Corradi, Annali (1973 reprint), op. cit., pp.391-401.

also spread along the eastern shore of the Adriatic, affecting the whole of Dalmatia in 1527. (1) In Venice the representatives of Spalato reported in October that out of a population of 8,000 only 1,000 remained alive in their city. They pleaded for the despatch of at least fifty soldiers to contain the looting that was rife. (2) Famine and typhus exacerbated the problem in the years 1527-9. Venice was affected at this time, and the disease lingered in the city until January 1531. (3) Though the mortality proved less severe than elsewhere, the city was conscious that the situation was more serious than it had been for decades. A motion before the Senate recorded that from the peste grande of 1478 until 1527 the city suffered plagues every seven or eight years. These had been comparatively straightforward to deal with, since surrounding areas remained in good health. But in 1528 the whole of Italy was affected at one time. (4) Recognition of the scale of the problem paved the way for determined action. The substantial increase in the number of the Italian Health Offices, to which reference has already been made, is largely attributable to the plague of these years. In Venice the disease gave new scope to the Provveditori alla Sanità. With the concurrent famine it led to new developments in social welfare in the poor law of 1529 which they were to administer. (5) In addition, they gained experience of cooperating not only with colleagues abroad, but with the Health Offices of dependent cities. In the years 1530-1, the

1. ASV., Provveditori alla Sanità, Reg.12, f.47r (9 May 1527).
2. Ibid., f.50r (4 Oct 1527).
3. Ibid., Reg.727, f.111v.
4. Ibid., Reg.12, f.56r (9 Oct 1528).
5. Pullan, 'The famine in Venice and the new poor law, 1527-9', op. cit., passim.

Provveditori corresponded with Health Officers in Florence, Pesaro, Vicenza, Brescia, Padua, Treviso, Chioggia and Mestre as well as with the Podestà of all the main Venetian towns. (1) They emerged from the plague with a new awareness of their responsibilities to the mainland, and a determination to enforce their authority throughout Venetian territory. In the years 1531-2 they wrote to the ambassador in Rome requesting news of the plague in Florence, Loreto and Romagna, and to the ambassador in Milan concerning the disease in Genoa. To both they expressed their new conception of their role:

'essendo advisati per debito del magistrato nostro, mediante lo aiuto divino, non solum conservar questa vostra et nostra città ma et tutto il dominio nostro illeso da pestifero morbo'. (2)

Their immediate task was to establish control over the provincial Health Offices. At the very least they expected to be notified of all plague occurrences. In 1530 in a letter of reproof to the Brescian Deputati sopra la Sanità for failing to report a case of plague, they declared that 'certo saria stato officio vostro avisarne di cio come siete tenuti'. (3) More strident claims to authority by the Venetian Health Office were made in 1532 in a letter from the Venetian Provveditore alla Sanità Matheo Malipiero to Zuane Badoer, the Podestà of Padua. Protesting that a criminal sentence passed by the Provveditori alla Sanità of Padua had been quashed on appeal to the Vicario of the Podestà, Malipiero made use of a minor issue to express broad principles:

'credemo v.m. sappia che le sententie fatte per cose di morbo essendo fatte per tutti tre zudesi d'accordo sono inapellabili, non essendo di membro o de vita, come per la

1. ASV., Provveditori alla Sanità, Reg.727, ff.73r, 81r-v, 90v, 102r, 114r, 118r-v, 137r, 138r (4 Oct 1530-May 1531).
2. Ibid., f.135r (16 Apr 1531), a letter to Surian in Rome; f.186v (17 Apr 1532), a letter to Basadonna in Milan.
3. Ibid., ff.90v-91r (20 Oct 1530).

leze appar et per la creation dell'offitio nostro, dal qual nostro offitio depende esso officio della sanità di Padoa et ogni altra terra del dominio nostro, quali sono creati per corrisponder le occorrentie di quello al'offitio nostro a quanto per l'offitio occorre et per proveder a quanto ordiniamo et eseguir quanto fa bisogno come membro nostro dell'offitio edificato per noi per li bisogni nostri'. (1)

Malipiero's claims, which were backed up by a copy of the Senate decree of 1486 which founded the Office, were at the very least a distortion of the truth. That the mainland Health Offices were created to reflect and to obey the Venetian Office had no historical basis. Likewise, the powers which Malipiero attributed to the Paduan Office were rightly only the prerogative of the Venetian Provveditori alla Sanità. The letter was propagandist in aim. Though addressed to the Podestà, its appeal was to the Paduan Provveditori alla Sanità, holding out to them the advantages of dependence on the Venetian Office.

But the more consistent aim of Venice in the sixteenth century was to control dependent territory through Rettori, governors sent from the capital. In the fifteenth century, it was accepted practice for Venetian governors to move out of cities in their charge on the outbreak of plague. Licences to do so were granted, with consistent unanimity, by the Senate. Between August 1427 and March 1428, for instance, licences were conceded to the governors of Portobuffolo, Pieve di Sacca, Treviso, Conegliano, Camposampiero, Motta, Asolo, Castelbaldo and Legnago. (2) Where the presence of the Rettori was vital, as in newly acquired Brescia in 1428, permission was granted for the Podestà and Capitano to reside in turn outside the city. (3) Nevertheless, as late as 1485 towns of the importance

1. ASP., Ufficio di Sanità, Num.452, ff.1r-2r (16 Jan 1531 m.v.).
2. ASV., Senato, Deliberazioni miste, Reg.56, ff.116v-188r.
3. Ibid., Reg.57, f.13r (26 June 1428).

of Treviso were without resident Rettori in time of plague. (1) In the sixteenth century, in keeping with the growing dependence of Venice on its mainland possessions, the administrative role of the Rettori became more important. Public health was one of the concerns with which they had increasingly to deal. The Palladian arch at Udine pays tribute to the work of the Luogotenente Domenico Bollani during the plague of 1556. (2) A plaque at the church of S. Zeno in Verona testifies to the achievement of the Podestà Niccolò Barbarigo in the plague of 1575. (3) Barbarigo had taken charge of the worst hit area, at S. Zeno, whilst the Capitano had taken control of the lazaretto at Campo Marzo. (4) Daniele Priuli, as Luogotenente in Friuli, claimed to have ridden in person to visit the lazarettos and infected areas during the typhus epidemic in 1570. (5) Stefano Viaro in Udine in 1598 (6), and Paolo Capello in Feltre in 1631 (7), both claimed to have played important roles during plagues in their jurisdiction. Viaro was present both at examinations of the sick and at post mortems. (8) The relazioni drawn up by the Rettori at the end of their terms of office show that their relations with the local Provveditori alla Sanità were not always amicable. Pasqual Cicogna, Podestà of Padua, spoke of the burden of his office in 1576, 'non vi si attrovando li Provveditori alla

1. ASV., Senato, Terra, Reg.9, f.155r (30 July 1485).
2. 'ob liberatam fame, pestilentia, coniuratione provinciam'.
3. The inscription reads:
'Quod Nicolai Barbadici Praetoris opera consilio, liberalitate solertia difficillimo pestilentiae tempore Verona sit periculo liberatur'.
4. ASVerona, Ufficio di Sanità, Parte antica, Num.33, f.62v.
5. Relazioni dei Rettori Veneti in Terraferma (a cura dell'Istituto di Storia economica dell'Università di Trieste), vol.1, La Patria del Friuli (Milan, 1973), p.85.
6. Ibid., p.113.
7. Ibid., vol.2, Podestaria e Capitanata di Belluno e Feltre (Milan, 1974), p.383.
8. ASV., Senato, Provveditori da Terra e da Mar, Filza 307 (27 Sept 1598).

Sanità partiti della paura di si gran miseria'. (1) Domenico Priuli, who completed his service as Capitano of Verona in 1578, claimed he had been awake almost every night whilst plague was suspected, as the Health Office needed close supervision. (2) Angelo Trevisan, claimed to have visited daily all the infected contrade in Treviso during the plague of 1631, 'evitando in tal maniera i Provveditori alla Sanità ch'erano tepidi e lenti nelle fontioni di quell'offitio'. (3) Whatever the truth - for the relazioni are not an impartial source - it is clear that in the sixteenth century the Rettori became vitally involved in plague control along with the local Health Offices. Important plague regulations, such as those published in Vicenza in 1529 (4), or bans on plague areas, such as the Brescian ban on Trent in 1575 (5), were issued jointly by the Rettori and the local Provveditori alla Sanità. The question of where ultimate authority lay in health matters seems to have remained obscure until 1577. In that year, the resentment felt by the Provveditori alla Sanità of Vicenza at the encroachments of the Rettori, who were claiming to be 'giudici soli et deffinitivi in tutte le materie di sanità', led the Vicentines to protest to Venice. The Venetian reply was expressed in a letter from the Collegio to the Rettori. It reproved them for exceeding Venetian policy:

'essendo stata sempre nostra intentione siccome è tuttavia che in tutte le città et altri luoghi nostri li Proveditori et Deputati di esse nostre terre a tal officio di sanità habbiano ogni conveniente participatione con li ministri et rappresentanti nostri, et il loro officio sia rispettata et sostenuta con quei termini d'amore che più si possono accio che con tal rispetto et participatione s'attende quietamente alla salute publica'. (6).

1. ASV., Collegio, Relazioni, Busta 33 (2 May 1577).
2. Ibid., Busta 50 (27 Sept 1578).
3. Relazioni dei Rettori Veneti in Terraferma, op. cit., vol. 3, Podestaria e Capitanato di Treviso (Milan, 1975), p.192.
4. Vicenza, Biblioteca Bertoliana, Archivio Storico Civico, Num.256, ff.1-6 (8 July 1529).
5. Archivio di Stato di Cremona, Archivio Storico Comunale, Inventario 11, Busta 23 (29 June 1575).
6. Vicenza, Biblioteca Bertoliana, Archivio Storico Civico, Num.256, f.26r (23 Feb 1577).

A second letter was despatched on 18th March. This was a more considered document, which resulted from discussion in the Senate. It was meant as a policy statement not only for Vicenza but for all Venetian towns. Its text followed that of the previous letter, insisting on cooperation between the Rettori and the Health Offices, but the tone of reproof was absent, and a new clause was added which strengthened the position of the Rettori:

'dovendo rimaner sempre, come è conveniente, alli Rettori nostri la soprintendenza di tutte le cose, et la decisione di quelle che a loro pareranno'. (1)

This clause caused dismay in the terraferma cities. In Verona the Consiglio resolved to send orators to Venice to plead for it to be revoked, both because Veronese privilege was offended, and because the authority of the Health Office 'vetustissimis temporibus instituta et usque in hanc diem exactissime conservata' was overthrown. (2) There is no sign that their mission was successful. Adriano Pedroca, Brescian orator in Venice, implied in a despatch of the same month that Venetian attitudes were hardening - leading Venetians travelling on the mainland had experienced difficulties as a result of action taken by local Health Offices. (3) In consequence, control of the mainland Offices by the Rettori achieved formal status in the third quarter of the sixteenth century.

In the light of the growing power of the Rettori, Malipiero's defence of the Paduan Provveditori alla Sanità against the Podestà in 1532 was out of keeping with the times. Nevertheless, attempts by the Provveditori alla Sanità of Venice to take charge of

1. ASV., Senato, Terra, Filza 71 (18 March 1577).
2. ASVerona, Antico Archivio del Comune, Num.89, Atti del Consiglio 1573-7, f.188v (27 April 1577).
3. BBQ., Archivio Storico Civico, Num.1141, Lettere autografe 1577 (7 April 1577).

plague control on the mainland were not only expressed through the local Health Offices. After a Senate decision of 1528, the Commissioni given to all Venetian Rettori on the mainland and overseas contained instructions to report any outbreak of plague to the Provveditori alla Sanità in Venice. (1) This gave the Provveditori influence, and letters from them to mainland Rettori frequently took the form of instructions. In April 1531, for example, the Podestà of all Venetian towns were ordered to take special measures against citizens returning from pilgrimage to Loreto, and to see that the same was carried out in all castles and villages in their jurisdiction. (2) Intent on imposing their authority, the Provveditori were impatient with Rettori who stood in their way. When the Podestà of Parenzo attempted to bring to book two citizens who had bypassed his jurisdiction by reporting the presence of plague direct to the Provveditori in Venice, he was criticised by the Provveditori who threatened to report him to the Signoria:

'per la auctorità a noi iniuncta dal Excellentissima Consiglio di Pregadi vi commettemo et imponemo che non dobiati modo aliquo proceder contra ditti'. (3)

In its dealings with the Rettori of more important cities, the Health Office, as a junior magistracy below senatorial rank, could not hope to command obedience. This was evident to the officials of Pinguente in Istria in 1554. Faced with the recalcitrance of the citizens of Capodistria, whose movements about the peninsular threatened to spread the plague, they appealed for intervention from Venice. Whilst recognising the competence of the Provveditori alla Sanità, they addressed their petition to the Consiglio dei Dieci whose authority could instil the maggior

1. ASV., Provveditori alla Sanità, Reg.12, f.53r-v (22 July 1528).
2. Ibid., Reg.727, ff.134v-135r (14 April 1531).
3. Ibid., ff.192v-193r (14 May 1532).

terror that was required. (1) The weakness of the Provveditori gave a measure of anarchy to the operation of plague control on the mainland for the greater part of the sixteenth century, not least because the Rettori were not governed entirely by Venetian interests, but frequently developed local loyalties to the cities in their charge. (2) Domenico Bollani in Udine in 1556, and Niccolò Barbarigo in Verona in 1575 were less than sympathetic to Venetian policy on plague and famine in their cities. Similarly, the interference of the Podestà of Peschiera in 1575 in dissuading Veronese towns from having dealings with Verona was a reflection of local hostility and commercial rivalry. (3) The Rettori's areas of jurisdiction were not always clear. Because of anomalies the terraferma was not everywhere divided into clear geographical units in which plague could be controlled. Cologna, for instance, a source of dispute between Vicenza and Verona in the fifteenth century, had been declared part of the Dogado by way of compromise. Legnago ceased to be subject to Verona in 1509. (4) Files in the Health Office archives at Padua and Verona dealing with disputes from the fifteenth century onwards concerning rights of subject Podestarie and Vicarie (5) and the jurisdiction of neighbours such as the Podestà of Peschiera (6), reflect general difficulties which affected all levels of provincial administration. In 1556 Gemona appealed to Venice against the pretensions of the Luogotenente of Friuli in

1. ASV., Provveditori alla Sanità, Reg.12, f.163r (10 Sept 1554).
2. Angelo Ventura, Nobiltà e popolo nella società veneta del '400 e '500 (Bari, 1964), pp.382-398.
3. ASV., Consiglio dei Dieci, Lettere di Rettori et altre cariche, Busta 195. A letter from Verona, 19 Sept 1575. ASV., Provveditori alla Sanità, Reg.13, ff.160r-v. A letter from the Collegio, 23 Sept 1575.
4. Rebesco, op. cit., pp.70-72.
5. ASP., Ufficio di Sanità, Num.6 and 10.
6. ASVerona, Ufficio di Sanità, Decreti, Busta 123.

interfering in Gemonese health concerns. (1) As late as 1598 the Provveditori alla Sanità of Lonigo were refusing to acknowledge the authority of Vicenza, and insisting on issuing their own health passes rather than use the pre-printed forms issued under the aegis of the Provveditori alla Sanità in Vicenza. (2)

The problems which resulted from lack of central control were not always apparent. When plague was present outside Venetian territory, Venetian towns, through their Rettori and Provveditori alla Sanità, cooperated freely against the common danger. But when plague made its appearance within Venetian territory cooperation broke down as quickly as it did between alien states when one became infected. The Veronese orator in Venice pleaded in 1575 that the whole of Venetian territory was 'quasi un corpo mistico...essendo le cose dei comertii così replicate e così correlative'. (3) Independent action by the Rettori of provincial capitals and smaller towns could throw the economic system to which he referred into chaos in time of plague. Time and again in the years 1555-6 urgent letters had to be sent out by the Venetian Collegio suspending plague measures taken by the Rettori as impetuous or contrary to the overall welfare of the state. Amongst the bans which the Collegio revoked were those imposed by the Podestà of Cittadella and Montagnana on Padua (4), by the Podestà of Castelfranco on Camposampietro (5), by the Rettori of Vicenza, Treviso and Padua on Venice (6), by the Rettori of Rovigo on Chioggia (7) and by the Podestà of

1. ASV., Provveditori alla Sanità, Reg.13, f.13v.
2. Vicenza, Biblioteca Bertoliana, Archivio Storico Civico, Num.257, f.6r (14 Sept 1598).
3. ASV., Provveditori alla Sanità, Reg.13, f.169r (21 Oct 1575).
4. Ibid., Reg.12, f.171r-v (5 Aug 1555); f.177r (7 Oct 1555).
5. Ibid., f.175v (12 Sept 1555).
6. Ibid., f.181v (10 Nov 1555); f.191v (21 July 1556); f.194r (17 Aug 1556).
7. Ibid., f.192r (25 July 1556).

Portogruaro and Gemona on Udine. (1) A general policy emerged from the Collegio's action. The powers of the Venetian cities, towns and villages were related to their population. Larger towns could ban smaller towns, but not vice versa. The interests of Venice were paramount. In 1555 when the Collegio forced the Podestà of Montagnana to welcome citizens from Padua coming out for the harvest, it added the proviso that no health passes were to be granted them for travel to Venice. What was forced upon the mainland was thought intolerable for Venice - an attitude which does much to support Fernand Braudel's reference to Venice as 'the last polis in the west'. (2) Furthermore, the inequalities of plague policy were matched by those operated in time of famine, when grain was drawn from the country into the towns, and above all into Venice. (3) Indeed, plague policy was closely linked to the demands of food supply. Venice could not permit a town of the size of Padua to be blockaded by the country areas which supplied it without the best of reasons. Least of all could Venice itself be cut off from her sources of supply. That these inequalities led to bitterness in the smaller towns is clear from events in Gemona in 1556. Before intervention from Venice, Gemona's guards turned back arrivals from infected Udine with the taunt that as Udine had kept the grain to herself during the shortages of the previous year, now she could keep her buboes. (4) Suspicion of the capital was so great in Padua in 1576 that her Provveditori alla Sanità employed a spy in Venice to supply independent reports on plague there. (5) His despatches revealed the Venetian practice of

1. ASV., Provveditori alla Sanità, Reg.12, f.208v (23 Nov 1556); Reg.13, f.9r (1556).
2. Fernand Braudel, Capitalism and material life, 1400-1800 (London, 1973), p.403.
3. Pullan, 'The famine in Venice', op. cit., passim.
4. ASV., Provveditori alla Sanità, Reg.13, f.9r.
5. ASP., Ufficio di Sanità, Num.239 (20 March 1576).

tampering with the bills of mortality. On 28th June, arriving at the spot where the bill was posted up, he came upon a popular demonstration of hostility to the deception:

'mentre ero li sentei sussuratione e mormoro, dal qual cavai queste o simil parole: "non che è il tale che morì con due giandusse", e un altro diceva, "questa pollizza non è vera perche gli manca il tal mio vicino". In fine per sigello uno gli fece le fiche, dico, alla pollizza, e disse "tu menti per la golla". Io ridendo partei'. (1)

Plague control on the Venetian mainland for much of the sixteenth century therefore lacked coordination and was limited by economic and social considerations once plague had entered Venetian territory. The Provveditori alla Sanità were too weak to control the Rettori, whilst the intervention of the Collegio was spasmodic and geared to correcting abuses rather than enforcing centralised policy. Two developments altered this state of affairs towards the close of the century. The first was the extension of the powers of the Health Office. To deal with plague in Venice in 1556-7 and in 1575-7 the Senate enhanced the authority of the Office by electing temporary Sopraprovveditori alla Sanità. (2) The latter, two in number at any one time, served alongside the Provveditori. Unlike the Provveditori, they were experienced statesmen, the minimum qualification for candidature being membership of the Senate. In practice, the Sopraprovveditori were amongst the leading men of state. Of the five candidates balloted in the first election, two held the office of Capo dei Dieci, two were Savii del Consiglio, and the fifth a Consigliere. The eight Sopraprovveditori who served in the years 1556-7 included two future Doges, Alvise Mocenigo and Sebastiano Venier, a future Cardinal, Marc'Antonio Da Mula, and

1. ASP., Ufficio di Sanità, Num.239 (28 June 1576).

2. ASV., Provveditori alla Sanità, Reg.12, f.189v (27 June 1556).

the diplomat Marin di Cavalli. (1) The election of Sopraprovveditori altered the relationship of the Health Office to the Rettori and Health Offices on the terraferma. This was not clear in the years 1556-7 and 1575-7 as their purpose was to deal with the emergency in the city of Venice. The major change came in 1598, when for the first time Sopraprovveditori were elected in response to plague outside the immediate area of the city. Throughout the autumn of 1597 the Luogotenente struggled to ward off the plague which threatened to advance into Friuli from Habsburg territory as Italian soldiers returned from the Imperial camp. (2) In the following year the plague broke out in a number of Friuli villages near Cividale. On 5th September the Senate responded by the election of Sopraprovveditori. Their authority was to be valid both in and out of Venice, and, significantly, they were given the right to command the Venetian Rettori. (3) This marked the beginning of effective Health Office control of the mainland. From 1598 Sopraprovveditori were elected with increasing frequency, and even in response to plague outside Venetian territory as far off as Zante, Bosnia and Sicily. (4) They were operative in approximately half the years between 1598 and 1645, and were permanently in office from 1646. (5) Their election was eagerly sought by the Provveditori alla Sanità:

'accidò gli ordini et essecutioni che occorono farsi dal loro Officio accompagnati da maggior autorità possono apportare quel buon frutto'. (6)

Furthermore from 1656 the Sopraprovveditori were even supplemented

1. The elections of Sopraprovveditori in 1556-7 are given in ASV., Segretario alle voci, Elezioni di Pregadi, Reg.2, f.58r and in BMV., MSS. Italiani, Classe VII, Cod.825 (=8904), ff.27r, 48v, 71v, 95v, 108v.
2. ASV., Provveditori alla Sanità, Reg.16, ff.74r-75v.
3. Ibid., Reg.3, f.71r.
4. Ibid., f.101v (1617 Zante); f.110r (1622 Bosnia); f.119v (1624 Sicily).
5. Ibid., Reg.7 includes a list of all Provveditori and Sopraprovveditori alla Sanità.
6. Ibid., Reg.3, f.91v (4 Aug 1611).

when plague was particularly threatening by the election of Aggiunti of equivalent authority. (1) Accordingly, from the end of the sixteenth century the Venetian Health Office increasingly took the form of a College of high authority, able to enforce systematic control throughout the state.

The election of Sopraprovveditori was not the only innovation in 1598. In August, when the disease first appeared in Friuli, Niccolò Donà, 'senatore di buon nome e di buon conditione', as the papal Nuntio referred to him. (2), was sent there as Provveditore Generale for the emergency in the province. He arrived in Udine on 26th August with full authority to take what measures he thought necessary. (3) The orders which he gave, and the rigour with which they were carried out, show how much had been learnt in the course of the sixteenth century. The infected villages, all near Cividale, were isolated, and gallows set up to threaten anyone thinking of leaving the area. (4) The sick were provided with a change of clothing and removed from infected housing. Their old clothes, and all their property, including their houses, were then burnt, compensation being paid on Donà's instructions. (5) Whole villages were said to have been destroyed in this way. (6) When Cividale was found also to be infected, it too was strictly isolated, and it remained so for more than eight months. Infantry circled the walls of the town with orders to shoot anyone trying to leave. (7)

1. ASV., Provveditori alla Sanità, Reg.3, f.152v (7 Aug 1656).
2. ASVat., Dispacci del Nunzio a Venezia, Filza 33, f.114v (22 Aug 1598).
3. ASV., Senato, Provveditori da Terra e da Mar, Filza 307. The filza consists of Donà's despatches to the Doge.
4. Ibid., (26 Aug 1598).
5. Ibid., (29 Aug 1598).
6. ASVat., Dispacci del Nunzio a Venezia, Filza 33, f.110r (15 Aug 1598).
7. ASV., Senato, Provveditori da Terra e da Mar, Filza 307 (4, 20 Sept 1598).

All 3,000 members of the population were confined within their homes for a general quarantine (sequestro grande). A census was taken and all houses were reviewed daily to reveal cases of sickness, and to check that none had fled. (1) Anyone who left his house, whether man or woman, was executed a terrore delli altri. (2) The monastery of S. Giorgio was taken over as a lazaretto, and other buildings used to supplement it in providing separate areas of quarantine for the sick, the suspect and the recovered. (3) Alvise Marcello, Rettore at Cividale and responsible for putting the plague orders into effect, paid tribute to Donà's assistance in the vivid account of the epidemic which he gave in the Senate on his return to Venice:

'Non essendo restato il detto Illustrissimo Signor Proveditor Donado di trasferirsi ben spesso a quelle porte per venti, piogge, nevi et freddi acutissimi, et di porgermi con l'infinita prudenza et valor suo ogni aiuto et consiglio, si che coadiuvato dalla divina mano questa nave da me guidata et da venti fieri et crudeli combatuta s'è ridotta in sicurissimo porto; sendo state le case apestate della città 154, li morti di peste 286, et delle ville 180, che in tutto sono 466, et d'altre infirmità 73'. (4)

But Donà's work was not restricted to the minutiae of plague control in the infected areas. His responsibility was conceived in wider geographical terms, 'non solo a Cividale, et a tutta questa Patria, ma alla medesima città di Venetia et a tutta l'Italia. (5) Like Stefano Viaro, who cooperated freely with him as Luogotenente in Friuli, Donà was aware that the safety of Venice and the rest of her territory depended on his restraining the disease on the far side of the river Tagliamento. (6)

1. ASV., Senato, Provveditori da Terra e da Mar, Filza 307, (4,5,6 Sept 1598).
2. Ibid., (6 Sept, 7 Nov 1598).
3. Ibid., (31 Aug, 8 Oct 1598).
4. Relazioni dei Rettori Veneti in Terraferma, op. cit., vol.5, Provveditorato di Cividale del Friuli; Provveditorato di Marano (Milan, 1976), p.43ff. Marcello's relazione was presented 5th July 1599.
5. ASV., Senato, Provveditori da Terra e da Mar, Filza 307, (1 Dec 1598).
6. Relazioni dei Rettori Veneti in Terraferma, vol.1, op. cit., p.114. Viaro's relazione was presented 4th November 1599.

Accordingly, Donà divided Friuli into six areas, three on each side of the river, under leading citizens of the Patria. (1) Amongst their tasks was the control of movement across the Tagliamento, which thus functioned as a cordon sanitaire protecting Venice and Italy in general.

The success of the measures taken by Niccolò Donà established the reputation of the office of Provveditore Generale sopra la Sanità. In the seventeenth century Provveditori Generali were sent out from the capital with increasing frequency, serving particularly often in Friuli and in Istria. (2) Increasingly, as in the case of Sopraprovveditori, even distant threats were sufficient to bring about their election. Bertuccio Contarini was sent to Friuli in 1623 as a result of plague across the border in Habsburg territory in Gorizia. On that occasion too, Domenico Ruzzini, who served with him as Luogotenente, was able to report that together they had preserved 'la salute di quel paese, et l'universale di questa città e di tutta Italia'.

(3) The Provveditori Generali owed direct obedience to the Doge and the Senate, but they were in close rapport with the Provveditori and Sopraprovveditori alla Sanità. (4) Their merit was twofold. Though they were enjoined to cooperate with the Rettori, their decisions were to have primacy in cases of disagreement. (5) At the same time, the geographical extent of their authority, the local disputes between Rettori which had hampered earlier plague measures. This was clear during the terrible plague which affected the whole of Northern Italy in the years 1630-1, when

1. ASV., Senato, Provveditori da Terra e da Mar, Filza 307 (4 Sept 1598).
2. ASV., Indice 321, Senato, Provveditori da Terra e da Mar.
3. Relazioni dei Rettori Veneti in Terraferma, vol.1, op. cit., pp.158-9.
4. ASV., Senato, Provveditori da Terra e da Mar, Filza 307 (6 Sept, 8 Oct 1598).
5. ASV., Provveditori alla Sanità, Reg.16, f.88ff. (8 Oct 1598).
5. Ibid., ff.103v-104v (12 Aug 1599).

the whole of the terraferma from the Dogado westwards was divided between three Provveditori Generali. Francesco Pisani was responsible for the area beyond the river Menzo, Alvise Vallaresso for the area east of the Menzo apart from Padua, Vicenza, Cologna and their territories which were the charge of Francesco Zeno. (1)

From all that precedes, it is clear that remarkable progress in measures against the plague was made in Northern Italy in the century between the plagues of 1528-9 and 1630-1. Health Offices became numerous. In larger towns they gained permanent standing, whilst even the smallest towns came to elect Deputati alla Sanità in time of plague. Centralised control of the plague measures became a reality in Venetian territory in the closing years of the sixteenth century as it had been in the Duchy of Milan in the fifteenth. In Tuscany, too, there was the same trend. In 1556 Florence was able to declare a ban on Venice throughout her territory and to order nineteen subject towns to elect Officiali della Sanità to enforce it. (2) The centralisation of plague control allowed measures to be conceived on a geographical scale commensurate with the problem. The aim was not merely to keep the disease out of the cities, but to restrain it beyond the borders of the state. This was also reflected in changes in the role and siting of the lazarettos (3) and in increased cooperation between states.

Cooperation between towns and between states gave way to conflict once one of them had become infected with plague. But in one area unity of aim ensured cooperation throughout the

1. Ciro Ferrari, L'Ufficio della Sanità di Padova nella prima metà del secolo XVII (Deputazione Veneta di Storia Patria, Monumenti Storici, serie 4, miscellanea serie 3, tomo 1, Venice, 1910), p.50.
2. ASF., Officiali di Sanità, Num.45, ff.26v, 37r.
3. See below, Chapter 7.

century between 1529 and 1630. This was the aim of keeping Italy free from plague. Those who strove to restrain the disease on the northern borders and the Alpine passes of the peninsular were conscious of defending the whole of Italy. A sense of Italianità was fostered by the plague measures since they were not enforced with the same determination outside the peninsular. Antonio Giustinian, ambassador in Constantinople in 1513, claimed to have been in great danger there during the plague 'perche ivi niun si guarda'. During a minor illness he was horrified to find that the doctor who came to see him had previously been treating the plague sick. (1) Ogier de Busbecq, Imperial ambassador to Turkey from 1554 to 1562, who had first hand experience of plague in Constantinople observed that:

'The Turks hold an opinion which makes them indifferent to, though not safe from, the plague. They are persuaded that the time and manner of each man's death is inscribed by God upon his forehead; if therefore, he is destined to die, it is useless for him to try to avert fate; if he is so destined, he is foolish to be afraid. And so they handle the garments and linen in which plague-stricken persons have died, even though they are still wet with the contagion of their sweat; nay, they even wipe their faces with them.... Thus contagion is spread far and wide, and sometimes whole families are exterminated'. (2)

According to a Milanese physician, the plague which devastated Northern Italy from 1575-7 originally travelled up the Danube from Hungary where it was present among the Turks,

'con quali è molto familiare la peste, perche a lei non s'oppongono con alcuno ragionevole difensivo'. (3)

The Venetian ambassador reported from England in 1554 that 'they have some little plague in England well nigh every year, for

1. Alberi, op. cit., series III, vol. III (Florence, 1855), p.49.
2. Ogier Ghiselin de Busbecq, Turkish letters (Oxford, 1927, 1968 reprint), p.189.
3. This section of Bugatti's I fatti di Milano al contrasto della peste ovvero pestifero contagio (Milan, 1578) is discussed by Filippo Maria Ferro, La peste nella cultura lombarda (Milan, 1973), p.25ff.

which they are not accustomed to make sanitary provisions'. (1) Travellers such as Fynes Moryson who reached Venice in 1594, noted with curiosity the unfamiliar use of health passes. (2) Montaigne, who was in Italy from 1580-1581, took them to be a device for extorting money from foreign travellers. (3) The Health Office in Milan complained in 1633 that plague was ignored in Flanders and Germany. (4) Negligence outside the peninsular made for greater vigilance within. The Italian states were well placed to gather and to share information on the movements of plague. Genoa passed on news of the plague in Spain and France. (5) Venice was the source of information on the eastern Mediterranean, the Balkans and Austria. (6) Milan kept regular watch on affairs in Switzerland and Germany. (7) Appendix 8, which lists bans declared by Italian Health Offices in the 1590's, gives some indication of the extent of this work. As has been seen in the case of the plague in the south of France in 1591-2, joint action by Genoa, Milan, Venice and Florence could throw a cordon sanitaire across the whole of Northern Italy.

The extent of the Italian plague measures after 1530 raises the question of how effective they were in achieving their aim. First, the number of plagues in Italy declined after 1530. Venice, for instance, suffered fourteen outbreaks between 1500 and 1530, but only three outbreaks thereafter until the disappearance of plague from western Europe. (8) It is possible

1. Calendar of State Papers Venetian, vol.5, 1534-1554 (London, 1873), 541.
2. Fynes Moryson, An itinerary, vol.1 (Glasgow, 1907), p.158.
3. Cipolla, Public health and the medical profession, op. cit., p.20.
4. Ibid., p.19.
5. For example, ASF., Ufficiali di Sanità, Num.134, ff.6r (1591), 10r (1592).
6. Ibid., f.22r (1592).
7. Ibid., f.103r (1592).
8. See below, Appendix 4.

that this was due to a general change in the pattern of plague. Bartolomé Bennassar, drawing largely on French examples, has suggested that the period up to 1530 was a time of endemic plague in western Europe, with localised outbreaks occurring almost annually. Thereafter, he argued, the plague showed itself in a series of more violent waves, but with increasing intervals of time between their occurrence. (1) This hypothesis, which fits exactly with the chronology and nature of plagues in Italy, was also advanced by Jean-Noël Biraben in 1963. (2) His more recent work also argues that there were longer intervals between outbreaks of plague in western Europe after 1536. (3) However, the detailed chronology of plague in France which this work adds to similar chronologies already available for other countries makes it clear that the change in the pattern of plague after 1530 was far more marked in Italy than elsewhere. Plague was present in at least one part of France in 99% of the years between 1530 and 1629. In Britain and Germany (including Switzerland) plague years represented 90% and 89% respectively of the total. But in Italy only 46% of these years saw an occurrence of plague. (4) The Italian figure is not low because of any shortage of information. Corradi's massive Annali, the most complete national survey of epidemics ever produced, records an even lower total of Italian plague years than does Biraben. (5) Whatever may have been the case north of the Alps, Italy ceased to be an area of

1. B. Bennassar, Recherches sur les grandes épidémies dans le nord de l'Espagne à la fin du XVIe siècle (Paris, 1969), p.9.
2. Biraben, La peste dans l'Europe occidentale, op. cit., p.781.
3. Biraben, Les hommes et la peste en France et dans les pays européens et méditerranéens, vol.1, La peste dans l'histoire (Paris, 1975), p.123.
4. Ibid., pp.383-6, 397-413.
5. Corradi, Annali, op. cit., avoids, for instance, Biraben's error in attributing plagues to Venice in 1532 and 1533 and to Padua in 1560.

endemic plague after 1530. It is generally agreed that the spread of plague depended on the movement of people and merchandise. By controlling movement across its northern frontiers and into its ports Italy achieved a large measure of success in keeping out the plague. In particular, the Italian achievement in avoiding severe epidemics, such as that which swept through the rest of Europe in the mid-1560s, is very striking. (1) Success, certainly, was far from complete. There were failings within Health Offices as a result of internal pressures. (2) Weak spots remained in the system of defence - Trent, through which the plague of the 1570s penetrated into Italy, was a notorious example, (3) and Piedmont, too, was an object of suspicion. (4) Circumstances could render plague control impossible. In the years 1629-31 troop movements accompanying the war for the succession in Mantua imported one of the worst plagues ever experienced by Italy, and hampered measures taken against it. (5) Yet despite these weaknesses it can hardly be doubted that the massive commitment of the northern Italian states to plague control was largely responsible for the comparative freedom from the disease which Italy enjoyed in the years after 1530.

1. Sticker, Abhandlungen aus der Seuchengeschichte und Seuchenlehre, vol.1, op. cit., pp.101-5. On the measures taken in Italy, ASM., Sanità, Parte antica, Cartella 3 (1563-7).
2. See below, Chapter 8.
3. ASP., Ufficio di Sanità, Num.240 (28 Oct 1593).
4. ASM., Sanità, Parte antica, Cartella 3 (4 Sept 1564).
5. Carlo M. Cipolla, Cristofano and the plague. A study in the history of public health in the age of Galileo (London, 1973), p.15 ff.

CHAPTER 7
THE LAZARETTOS.

John Howard, the advocate of prison reform, was probably the only traveller ever to undergo quarantine in the Venetian lazarettos purely for research purposes. To obtain first hand information for his book on the lazarettos of Europe, published in 1789, he travelled to Smyrna and there took passage to Venice on a ship with a foul bill of health. Venice was of special interest to him. It was, he wrote, 'the place where Lazarettos were first established'. (1)

The Venetian Lazaretto Vecchio had been founded more than 350 years earlier by a decree of the Senate of 28th August 1423. (2) This provided for a building with at least twenty rooms on the Lido or elsewhere near the city. A Prior or Prioress was to take charge, with a staff of one or two doctors and three female servants. The initial outlay, between one and two thousand ducats, and the running costs, were to be borne by the Magistrato al Sal. It was intended that the Lazaretto Vecchio should admit only cases of plague, which might come from Venice, Murano, Mazzorbo, Torcello or Malamocco. The hospital was limited in relation to the area which it served, but so too were the purposes for which it was designed. All cases of plague on board incoming ships were to be admitted, but not all cases occurring in the city or neighbouring islands. Later documents make clear that the Lazaretto was initially intended only for

1. John Howard, An account of the principal lazarettos in Europe (Warrington, 1789), p.10.
2. For the text, see below, Appendix 3. According to a widely accepted account, the Lazaretto was founded in 1403. This error can be traced to an eighteenth century antiquarian tradition.

the homeless who might otherwise be left to die on the streets.(1)

The site for the Lazaretto was still in question in October 1423 (2), but a conclusion must quickly have been reached. In December Angelus Fidelis, a doctor, was appointed Prior, with his wife, two other women and a boatman to assist him (3), and in January 1424 an official of the Magistrato al Sal registered a list of goods supplied to Anzolo, medico et prior de lazareto over nazareto, including twelve beds and mattresses. (4)

From this time the Lazaretto rapidly developed as the state drew upon private charity to supplement its own contribution. In his will made in 1428 Antonio Ravagnino left two houses in the parish of S. Canzian and an annual income of 300 golden ducats to found and endow a pilgrim hospital. But in 1429, following his death, the Maggior Consiglio diverted the legacy to the Lazaretto, where no less than eighty single rooms were to be built. (5) The Lazaretto's staff also increased. By 1433 it had come to include, as well as the Prior and Prioress, a priest (capelan) with an assistant (zago), a doctor, two male and two female servants (servidori), two boatmen and two grave-

1. ASV., Maggior Consiglio, Ursa, f.88v (23 Sept 1431). The Lazaretto was described as deputatus pro reductu et liberatione infirmorum de peste non habentium domicilium. Before the end of the century all cases of plague in Venice were normally sent to the Lazaretto.
2. Ibid., f.54r (10 Oct 1423).
3. ASV., Collegio, Notatorio 5, f.206 (23 Dec 1423).
4. ASV., Magistrato al Sal, Serie 1, Reg.8, f.48r (12 Jan 1423 m.v.).
5. ASV., Maggior Consiglio, Ursa, f.78r (3 April 1429).
'...fabricari faciendū ad locum Sancte Marie de Nazareth octoginta cameras separatas pro octoginta infirmis pestilentiatis reciprendis et curandis divisim et separatim'.

The Consiglio justified its intervention on the grounds that the private foundation of hospitals was illegal.

diggers. (1) Furthermore, in 1431, hailing the lazaretto as a triumphant success, the Maggior Consiglio resolved to swell its funds by obliging notaries to ask each testator if he wished to make a bequest to the Lazaretto. (2) This practice brought in a steady flow of small donations, probably assisted by the bull of Eugenius IV of 1436 which proclaimed an indulgence for those aiding the new hospital. (3) In 1438 it was already necessary to appoint trustees for the Lazaretto and its funds, and the Procuratori di San Marco de Citra were given the task. By 1462 they had amassed no less than 28,000 ducats to the credit of the Lazaretto and this sum is said to have risen to over 100,000 ducats in 1508 (4) and to nearly 127,000 ducats in the late

1. ASV., Magistrato al Sal, serie 1, Reg.8, f.75v (15 Jan 1432 m.v.). A decision of the Collegio approving the size of the Prior's fameia:
'Conzossia chel ospedal di Sancta Maria de Nazaretho como a tuti e manifesto prozieda cum grande honor de dio e della nostra Signoria e chom grande comodità e alleviazio de affari dei nostri cittadini et el sia ben dar materia che persevera et achressa de bene in meglio...'
An establishment of roughly similar size was agreed in 1448, ibid., f.108 (29 Jan 1447 m.v.).
2. ASV., Maggior Consiglio, Ursa, f.88v (23 Sept 1431).
'Cum dici possit quod inspiratione divina quodammodo ordinatus et fabricatus fuerit locus Sanctae Mariae de Nazareth et deputatus pro reductu et liberatione infirmorum de peste non habentium domicilium, et sicut manifeste experientia docuit per dei gratiam ibi multi liberati fuerunt et civitas nostra quae ex talibus fuisset infecta prestante Domino remansit libera....'
3. The bull is printed in full in Flaminio Corner, Ecclesiae venetae antiquis monumentis....illustratae (Venice, 1749), Part 12, pp.307-310. An example of small donations is provided by the single ducat bequeathed by the widow of Doge Niccolò Tron in 1473, ASV., Archivio Notarilo, Busta 1186, Nodaro Domenico Groppi, no.32.
4. ASV., Procuratori di San Marco de Citra, Collo LXIX, Sacco 163, 14 Nov. 1438, 17 Sept 1462 and an undated document, c.1576-86, headed parte che pretendono mettere i Signori alla Sanità concerning an attempt by the Health Office to make use of the funds.

1530's. (1) These figures reflect to some extent that the Procuratori were better at investing than dispensing. It was argued in 1462 that they left the Magistrato al Sal to pay all the bills (2), and certainly throughout the fifteenth and sixteenth centuries the only expenses they regularly met were for repairs and building work. Nevertheless, the existence of such solid endowments as early as the mid-fifteenth century shows how quickly the Lazaretto had become an accepted part of civic life.

The Lazaretto Vecchio stood on a small island in the lagoon immediately off the Lido and about two miles from Venice. The island had previously been occupied by the Eremite monastery of Santa Maria di Nazareth, and from this name the word 'lazaretto' almost certainly derived. (3) Venice may indeed have been the first state to establish and maintain a building as a permanent plague hospital but ad hoc measures to remove the sick from towns to temporary hospitals and to quarantine their contacts had already been taken elsewhere, notably in Milan. (4) The foundation of the Lazaretto Vecchio has therefore to be seen both as part of a broader development and as an important advance in the provision of permanent hospital accommodation.

1. MCV., Raccolta Cicogna Num.3284/48. According to this eighteenth century report on the background to the funds, within a century of their taking charge the Procuratori had amassed 126,991 ducats, of which 113,940 were invested in the Monte Vecchio, 8,955 in the Monte Nuovo and 4,096 in the Sussidio and Monte Nuovissimo.
2. ASV., Procuratori di San Marco de Citra, Collo LXIX, Sacco 163, 17 Sept 1462.
3. In Latin documents of the fifteenth century the hospital was referred to as locus Sanctae Mariae Nazareti, locus Nazareth, or simply Nazaret, and nazaretum continued to be normal Latin for a plague hospital in the sixteenth century. The Italian form lazaretto appeared as early as January 1424 when reference was made to the Prior as prior de lazareto over nazareto, but nazaretto was still widely used in the late fifteenth century.
4. See above, pp.30-35.

The spread of permanent lazaretto building can be demonstrated from developments on the Venetian mainland. In 1453 Padua sought assistance from Venice for its plan for a plague hospital (quoddam hospitale et locum nazareti). The Venetians evidently understood the planned institution to be based on their own Lazaretto Vecchio, since they described it as unum hospitale extra civitatem ut est hospitale nostrum Nazareti. (1) The nunnery of Santa Maria di Fistomba was taken over for the purpose in 1458 (2), and already by 1467 the Paduan lazaretto was endowed with landed property. (3) In Vicenza the lazaretto of S. Giorgio in Gogna was under construction in 1452, and a building existed by 1460 even though work continued thereafter. (4) In Brescia the Consiglio Cittadino had resolved during the epidemic of 1427 to equip a temporary hospital outside the town to admit the sick. (5) Choice had been made of the Eremite monastery of S. Bartolomeo (6) and this continued to be used in successive epidemics until 1478. (7) Thereafter, probably between 1480 and 1490, an imposing new lazaretto was

1. ASV., Senato, Terra, Reg.3, f.61v (26 March 1453); f.81v (9 Oct 1453).
2. ASP., Ufficio di Sanità, Reg.543, f.51r (16 Oct 1458); Reg.14, p.19 (24 April 1459), p.37 (22 Jan 1469). An illustration of this earliest Paduan lazaretto showing simple buildings within a walled enclosure is given in Angelo Portenari, Della Felicità di Padova (Padua, 1623), p.84.
3. ASV., Senato, Terra, Reg.5, f.183v (23 May 1467).
4. Giovanni Mantese, Memorie storiche della chiesa vicentina, vol.3, part 2 (Vicenza, 1964), p.677. A bequest was made on 11 April 1452 to the lazaretto (hospitali Nazareth quod fabricatur pro morbo et peste infirmantibus prope ecclesiam S. Ieorgii).
5. BBQ., Archivio Storico Civico, Num.484, f.38v (5 Sept 1427).
6. Ibid., f.50r (4 Nov 1427).
7. Ibid., Num.484, ff.113r-145v (1428); ff.236r-241r (1429); Num.489, f.89r (1438); Num.494, f.145r (1448); Num.495, f.151r (1450). Paolo Guerrini, 'S. Bartolomeo al lazaretto', Memorie Storiche della Diocesi di Brescia, vol.15, 1948, pp.64-67, on the years 1469, 1478.

erected (1), and this building continued to bear the name of S. Bartolomeo throughout the sixteenth century. (2) In Bergamo the Maggior Consiglio resolved in 1481 and 1482 to find a site for a permanent lazaretto (locus pro personis peste infectis) (3), although building did not begin until 1504. (4)

In these developments a number of factors were common. First was the use made of monastic buildings conveniently situated in isolated areas outside the towns. Second, the lazarettos were founded by the civic authorities. These bore the main expense, sometimes, as in Brescia, assigning particular sources of revenue, such as fines, for the purpose. But private benefactors and the Church were also expected to contribute. As in Venice, so in Vicenza from 1451 and in Brescia from 1480 testators were invited to remember the lazarettos. (5)

Papal consent was necessary for the alienation from the Church of monastic property taken over for lazarettos. Just as an indulgence had been obtained for the Lazaretto Vecchio, so the Venetian Senate wrote to Rome to seek a similar privilege for the Paduan lazaretto. (6) In this case bulls of Nicholas V and Pius II not only sanctioned the use of Santa Maria di Fistomba as

1. Guerrini, 'S. Bartolomeo al lazaretto', op. cit., pp.65-66. Guerrini describes the new building as un grande edificio quadrilatero a due piani con vasti ambienti, porticati, loggie e corsie, capace di accogliere varie centinaia di ammalati.
2. BBQ., Archivio Storico Civico, Num.1140, 7 Nov 1577. A letter from Bernardino Patina describing his work as a physician in the lazaretto.
3. Bergamo, Biblioteca Civica, Archivio Vecchio del Comune, Azioni, Libro 3, f.39r (21 Sept 1481), f.64v (13 Jan 1482), f.112v (4 Aug 1482).
4. Franco Bazzi, 'Notizie storiche sulla fondazione del lazaretto di Bergamo (1503-1504) tratte da inediti documenti', Congresso Europeo di Storia Ospitaliera, Primo, Reggio Emilia, June 1960, pp.85-104.
5. Mantese, op. cit., p.677.
6. Guerrini, 'S. Bartolomeo al lazaretto', op. cit., p.65.
6. ASV., Senato, Terra, Reg.3, ff.61v, 81v (26 Mar, 9 Oct 1453). A further indulgence for Padua was sought in 1502, ASV., Provveditori alla Sanità, Reg.12, f.6r (3 Dec 1502).

a lazaretto, but assigned the revenues of the hospitals of Santo Spirito and S. Paolo for its upkeep. (1) In questions of administration, however, the lay authorities were in control. Thus the detailed provisions of Eugenius IV for the Lazaretto Vecchio, which dealt with matters such as the name of the hospital, the arrangement of the wards and the dress of the attendants, and which gave the Patriarch the right to dismiss the Prior, appear to have been entirely ignored by the Venetian government. (2)

Whilst north of the Alps neither Paris nor London possessed a permanent plague hospital before the seventeenth century, the northern Italian towns were beginning to consider lazarettos indispensable even before the end of the fifteenth century. (3) These early Italian lazarettos were designed to care for the sick. But increasingly it was recognised that additional measures were needed with regard to their families and other contacts, referred to as the suspect (sospetti), and the convalescents who recovered in the lazaretto hospitals. In Venice this recognition led to the foundation in 1468 of a second complementary lazaretto, the Lazaretto Nuovo. (4) This was built on an island vineyard which lay off Sant'Erasmus about five miles from Venice.

The Lazaretto Nuovo received patients from the Lazaretto Vecchio for a convalescence of forty days before they returned

1. ASP., Ufficio di Sanità, Reg.14, p.19 (24 April 1459), p.31 (13 Nov. 1461), p.35 (24 Dec 1462); Reg.543, f.21r (8 May 1453).
2. Flaminio Corner, op. cit., part 12, pp.307-310.
3. On Paris and the foundation of the Hôpital Saint Louis in 1606, Claude Hohl, 'Les épidémies et leurs conséquences sur l'organisation des hôpitaux au XVI^e siècle à Paris', Bulletin de la Société de l'Histoire de Paris, année 89, 1962, pp.33-36.
On London, Shrewsbury, op. cit., p.354 ff.
4. For the history of this foundation, see above, pp.55-57. The text of the founding decree is given in appendix 9.

to Venice. (1) It also held in quarantine families or close contacts of the sick. If any one of these fell sick, he was despatched to the Lazaretto Vecchio. Whilst therefore the Vecchio was a hospital for the sick, the Nuovo was a quarantine station for convalescents and the sospetti. Within the Lazaretto Nuovo quarantine came to be a sophisticated process. By 1503 the Nuovo was divided into four quarantine units (contumacie). Those admitted underwent ten days' quarantine in each unit. (2) In this way inmates progressed around the lazaretto in groups which might consist of the crew of a particular ship, or a number of families admitted together. If any sickness broke out, the sick were sent to the Lazaretto Vecchio, and the remainder of the group began their quarantine over again in the first unit. In this way the units were microcosmic lazarettos, and, since inmates passed from unit to unit in the same order, each move represented a step towards a safer environment. (3)

The second important development of the later fifteenth century was the foundation of the lazaretto of Milan. As has been seen, temporary hospitals outside Milan had accommodated the sick since the days of Gian Galeazzo Visconti. Under the Ambrosian republic, in 1448 a property at Cusago, several miles outside Milan, was set aside for the sick in time of epidemic, and this was used in the plague of 1451. (4) Later, certainly

1. Shorter quarantines were sometimes used, as in 1576 when inmates spent twenty two days at the Nuovo followed by a further eight days in isolation at home in Venice.
2. ASV., Provveditori alla Sanità, Reg.725, f.75r (3 June 1503). The first two units were referred to in the Capitoli of c.1510-11 as the Prado, the third and fourth units being called the Sanità.
3. Basically the same system was in use in 1557, when inmates were moved from the Prado (or Prà) to the Sanità, and thence to an area called the Vigna, Wellcome Institute MS.223, ff.72-73 (25 Jan 1556 m.v.).
4. Carlo Decio, op. cit., pp.14-24. An extant list shows that 95 persons were sent to Cusago between 27 and 29 April 1451, though the height of the epidemic was not reached until August.

in the years 1465, 1468-9 and 1483-4, the monastery of S. Gregorio, also outside the town, was used for the same purpose. (1) A scheme for a more grandiose building at Crescenzago was proposed in 1468. (2) This was to have two hundred rooms, each of them well ventilated and equipped with a latrine emptying into a moat outside. Separate houses, divided from each other by ditches of water, were planned for the sospetti, convalescents (risanati) and for the lazaretto staff. Whilst this plan won the support of the Consiglio Secreto, no action appears to have been taken until the death of Count Galeotto Bevilacqua in the mid-1480's. In his will Bevilacqua had made a substantial bequest to the Ospedale Maggiore to finance the construction of a lazaretto (omnia illa haedificia que fieri et construi poterunt pro habitatione et comodo pauperum infectorum contagione pestis). He stipulated that the building was to be at S. Gregorio and that it was to be begun within two years of his death. (3) In 1488 a commission of doctors, representatives of the city, and an architect, Lazzaro Palazzi, recommended a site consisting of 273 perches of land not far outside the city gate (Porta Nova). (4) This they considered more suitable than the existing hospital at S. Gregorio which was so far from Milan that the sick, who were moved out at night, often arrived half dead with cold. They rejected the view that a site near the city would be dangerous

1. ASM., Panigarola, Reg.22, f.732r (30 Aug 1465).
ASM., Miscellanea Storica, Cartella 2, May 1468-Jan 1469,
18 Aug 1483, 18 Nov. 1484.
In 1485 repairs were made to the road from Milan to S.
Gregorio which was in poor condition cum periculo de quelle
persone se conducano al dicto loco de Santo Gregorio per
casone de la peste, ibid., 18 Jan 1485.
2. Luca Beltrami, Il lazaretto di Milano (1488-1882) (Milan,
1899).
3. A copy of his will is included in ASM., Miscellanea Storica,
Cartella 2. The lazaretto was not in fact built at S.
Gregorio, but was named S. Gregorio to keep the terms of the
will.
4. The text of their report is given in Beltrami, Il lazaretto
di Milano, op. cit., pp.66-69.

in that winds blowing from the lazaretto might carry pestilential vapours to the city. With unusual force they claimed that experience showed the disease to be transmissible only by contact with sick persons and their goods. (1)

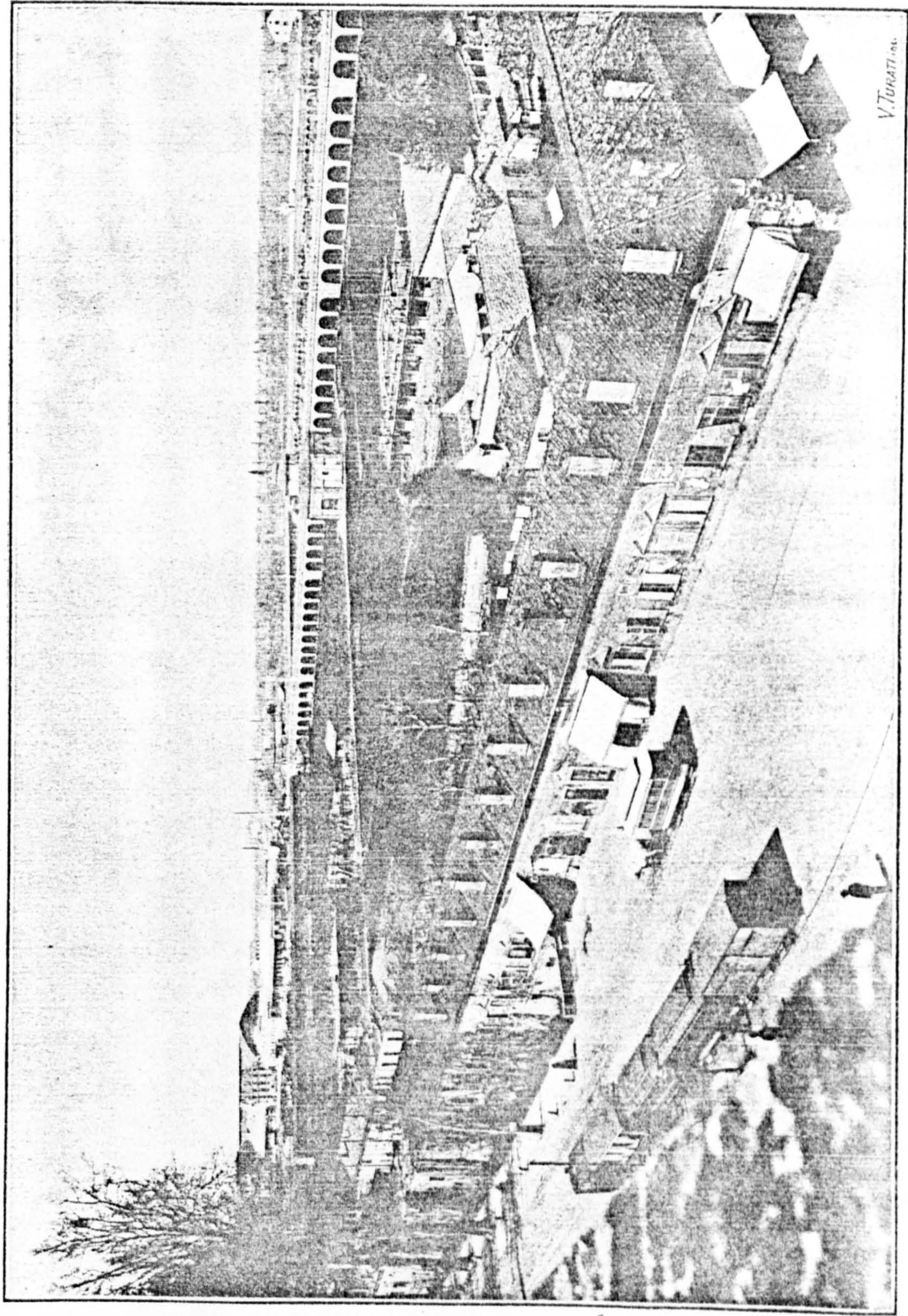
The lazaretto conceived of in the report consisted of an enormous square courtyard surrounded by a continuous single storey building with 280 adjoining rooms. Each room was to be eight yards square (larghe et longhe per brachia octo in omni latere), with one window giving on to the courtyard, and a second overlooking the outside of the building. Each was to have a fireplace, a bed, and its own toilet. Immediately surrounding the lazaretto there was to be a moat of flowing water, and beyond this a road. From the road visitors would be able to talk with inmates, priests might hear confessions, notaries record wills, and doctors give instructions, all without coming into contact with the sick. In addition to the moat, which served as a sewer, a separate canal system would supply water for washing clothes and bedding. The whole of the lazaretto was to be divided into four sections. These were to be respectively for the sick, the suspect, the convalescents, and the staff of doctors, barbers, apothecaries, gravediggers and servants. In this way Milan did not follow the Venetian example, but unified on one site the functions of quarantine centre and plague hospital. At the centre of the courtyard, where the sectors joined, was a chapel where mass could be said.

1. Luca Beltrami, Il lazaretto di Milano, op. cit., p.67.
'Item Avicena et alii doctores dicunt: quod, quando ratio et experimentum sunt contraria, oportet quod experimentum vincat rationem, modo ad experientiam videmus quod, dato quod due domus sint propinque, non solum domus, sed camere in eadem domo, quod habitantes in domo non infecta si non praticent cum infectis, neque tangant aliquid domus infecte, quod non inficiuntur'.

Stazione Centrale.

Chiesa.

Viadotto ferroviario.



V. TURATI. inc.

Veziata generale del Lazzaretto dalla Barriera di Porta Venezia, al momento in cui si iniziarono le fabbriche del nuovo quartiere (Anno 1882).

Illustration three:
the lazaretto of
Milan, prior to
demolition, in
1882.

(reproduced from
Luca Beltrani,
Il lazaretto di
Milano, op.cit.)

In June 1488 the Ospedale Maggiore, which took responsibility for the building, confirmed Lazzaro Palazzi as architect and resolved that the foundations should be laid and the moats dug.

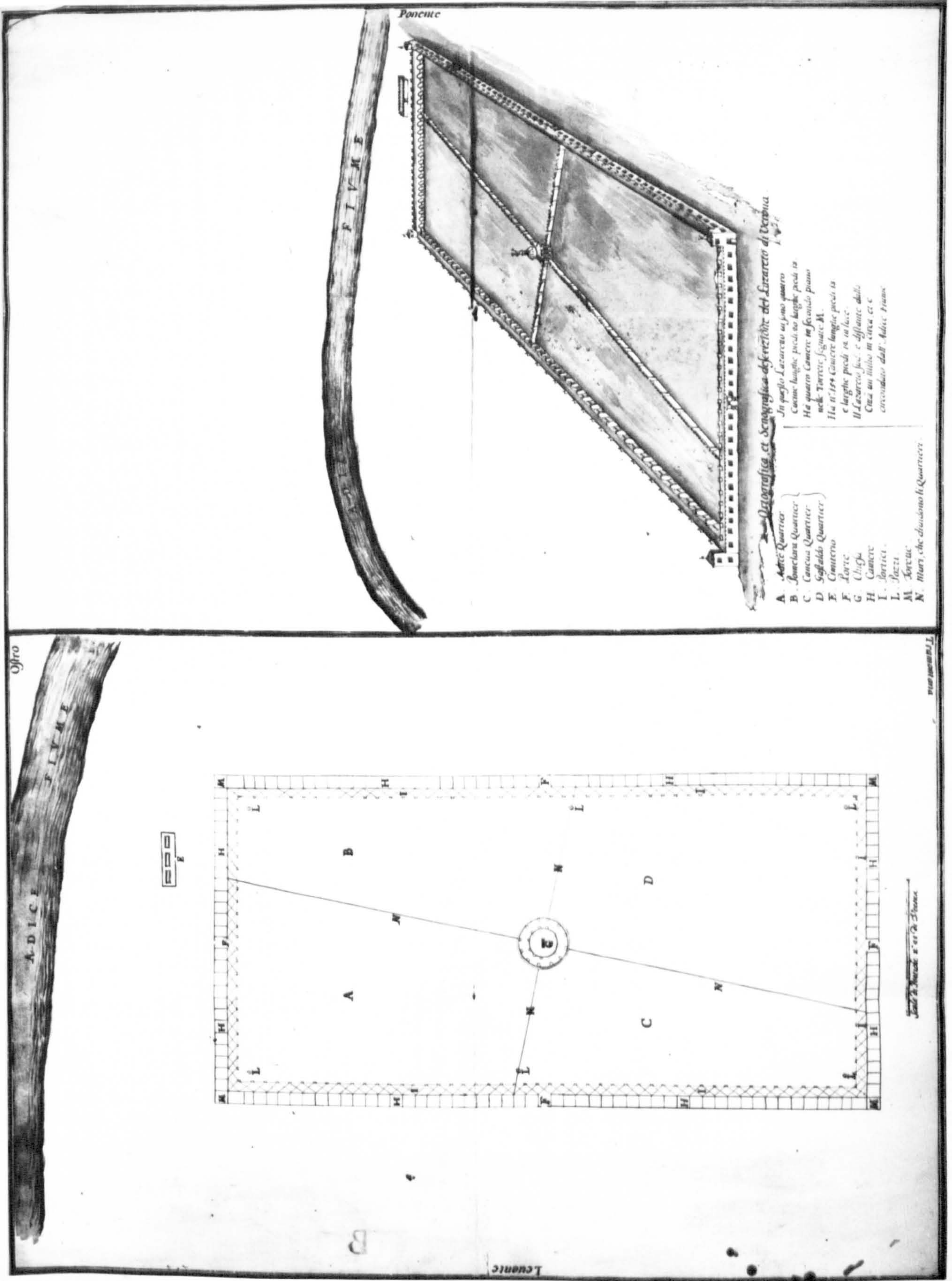
(1) In October the first stone was laid, and by January work was already in progress. (2) Construction continued at a slow pace, and may not have been completed when the lazaretto was first brought into use in 1513.

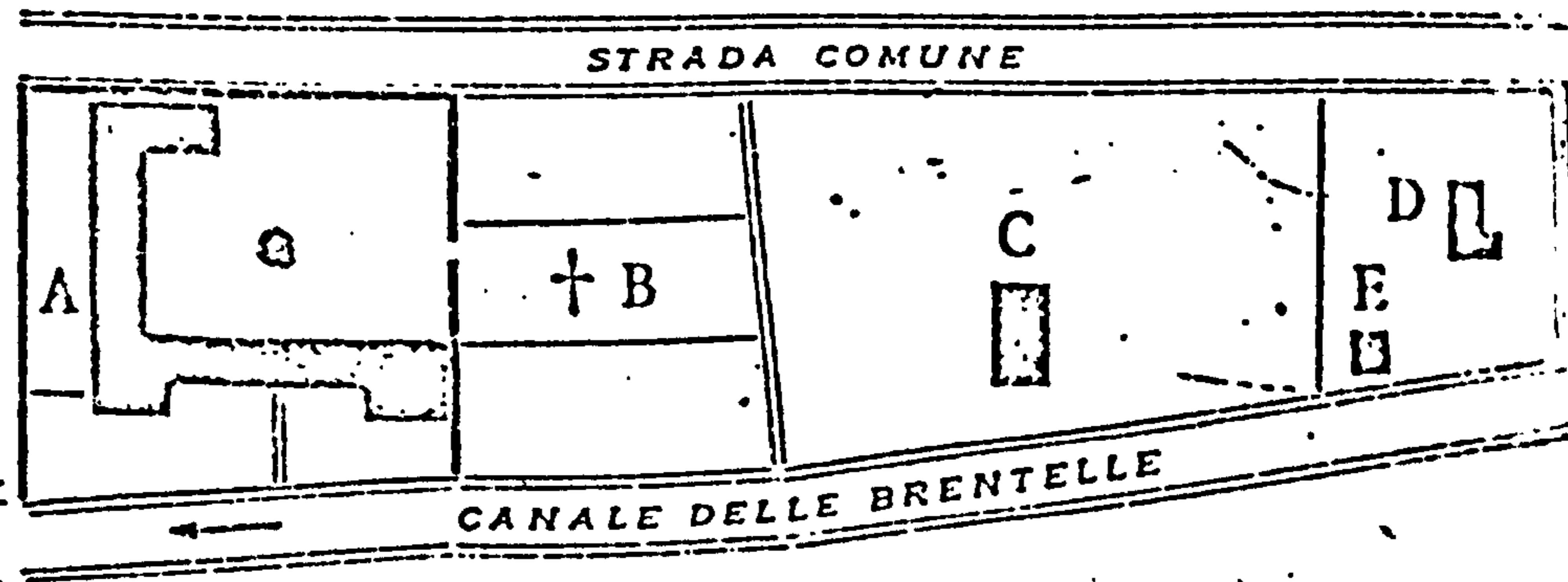
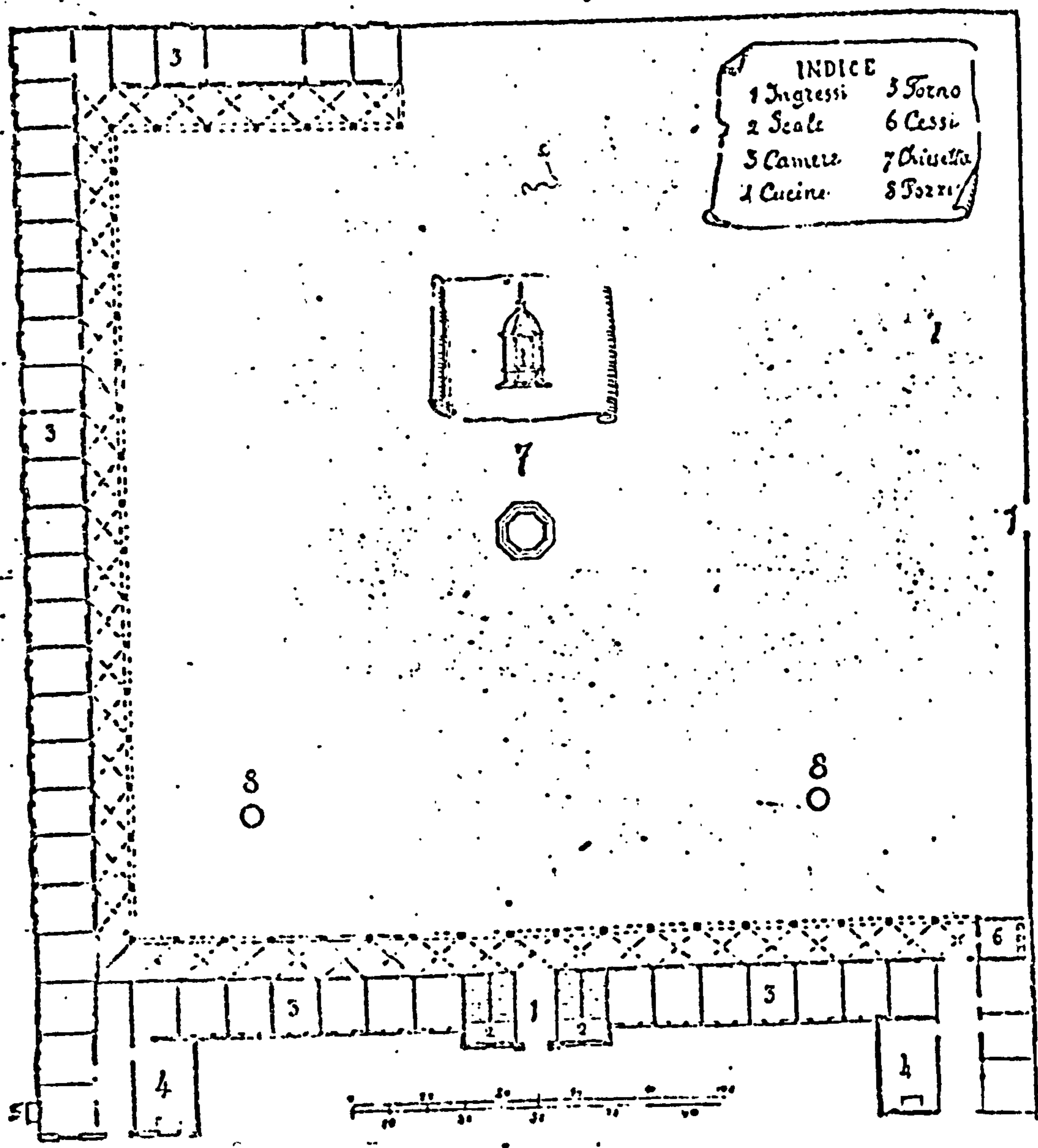
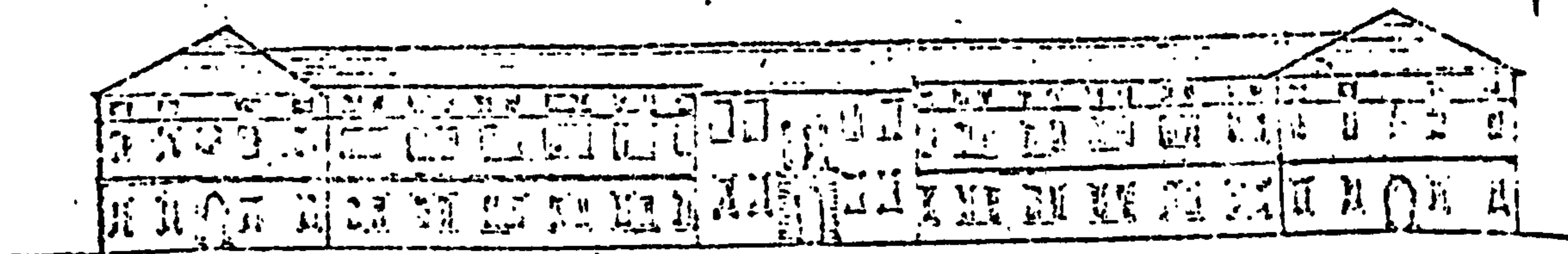
The lazaretto of Milan was important in that it was purpose built according to a carefully thought out design, and because of its stupendous size. The architect Luca Beltrami, who studied the lazaretto prior to its demolition in 1882, put its dimensions as 378x370 metres, and according to Tadino, the leading physician and health official of the day, no less than 16,210 inmates were accommodated at one time during the plague of 1630.

(3) In both size and careful planning the lazaretto owed much to the precedent of the massive general hospital of Milan, the Ospedale Maggiore, founded in 1456. (4) As has been seen, this

1. ASM., Miscellanea Storica, Cartella 3, 27 June 1488.
'Venerabiles et spectabiles domini deputati regimini hospitalis magni mediolani, quibus onus constructionis huius operis iniunctum est...fecerunt et faciunt infrascriptas conclusiones...'
2. Ibid., Cartella 2, 11 Jan 1489. Copy of a letter from the Duke to Cardinal Ascanio Sforza, seeking help in obtaining the alienation from the Church of the site in el quale essendoli tandem principiati li fundamenti et alzati alcuni muri.
3. Luca Beltrami, Il lazaretto di Milano, op. cit., pp.29, 52. Illustration 3 gives some idea of the scale, particularly if it is borne in mind that the church in the middle of the illustration stood in the centre of the lazaretto. A large plan of the lazaretto, drawn by Gian Francesco Brunetti in January 1631, showing its functions during the plague of 1630, is reproduced by Gian Piero Bognetti, 'Il lazaretto di Milano e la peste del 1630', Archivio Storico Lombardo, series 5, vol.50, 1923, pp.388-442.
4. Giacomo C. Bascapè, 'L'assistenza e le beneficenza a Milano dall'alto medioevo alla fine della dinastia sforzesca', Storia di Milano, ed. Fondazione G. Treccani degli Alfieri, vol.8 (Milan, 1957), p.405 ff. The Ospedale Maggiore was itself influenced by that of Santa Maria Nuova in Florence, as is apparent from an original letter from Cosimo de' Medici to the Duke of Milan, referring to a visit from Antonio della Porta (presumably Antonio Filarete, architect of the Ospedale Maggiore) to the Florentine hospital, and sending a model of it, Milan, Biblioteca Ambrosiana, MS.I 399inf, f.3(12 Aug 1456).

Illustration four:
 Plan and drawing of the lazaretto of Verona, 18th century.
 (ASV, Provveditori alla Sanità, Disegni, Busta 10, num. 18)





A Herlo - B Camposanto - C Telloja - D Casa e Colombara - E Casetta

Illustration five: the lazaretto of Padua; main elevation, plan and plan of outbuildings, 17th-18th century. (reproduced from Ferrari, 'Il Lazaretto di Padova' op cit)

between 1549 and 1592, was a copy of that of Milan. (1) The Paduan lazaretto, too, built as an L-shape on two sides of a vast walled courtyard, resembled an incomplete copy of the Milanese model, even though it had more than one storey. (2) The courtyards in Verona and Padua, like those of Milan, had at their centre a chapel.

In severe epidemics even the largest of the lazarettos was overwhelmed by the number of cases with which it had to deal. Every effort, however, was made to preserve the principles on which the lazarettos were based. In 1528, for instance, when the Venetian Lazaretto Nuovo became full the authorities continued to insist that plague infected houses should be evacuated. The leper island of S. Lazzaro was therefore brought into use as an additional quarantine centre. (3) In the plague of 1575-7 the Lazaretto Vecchio was enlarged by temporary buildings and supplemented by the use of the islands of S. Lazzaro and S. Clemente. The Nuovo was similarly enlarged by wooden buildings housing 2,000 persons, and by an armada of 3,000 or more boats anchored around it, in which as many as eight to ten thousand persons were accommodated. (4) The islands of S. Erasmo, S. Elena

1. See Illustration 4. On the lazaretto in general, which was blown up in 1945, Francesco Pellegrini, 'Il lazaretto di Verona', Studi Storici Veronesi, vol.2, 1949-50, pp.143-191.
2. See Illustration 5 reproduced from Ciro Ferrari, 'Il lazaretto di Padova durante la peste del 1630-31', Bollettino del Museo Civico di Padova, vol.7, 1904, pp.106-115. According to Ferrari the main facade of the Paduan lazaretto was just under 100 metres long.
3. ASV., Provveditori alla Sanità, Reg.2, f.56v (31 Oct 1528). 'A ciascuno debbe esser noto che la principal et potissima causa de conservar questa città illesa da pestifero morbo è a mandar immediate alli lazaretti li infermi et quelli delle case infette cum le robbe loro, accio tal seme contagioso sia estirpito....'
4. ASV., Secreta, Materie miste notabili, Reg.95, f.56v (28 July 1576). For a vivid eye-witness account of life in the boats at the Nuovo, Francesco Sansovino, Venetia città nobilissima et singolare (Venice, 1581), f.85r.

and Mazzorbo, as well as parts of the Lido, were also used to supplement the Nuovo. (1)

At such times conditions inevitably became appalling. According to the anonymous Successo della peste there were between seven and eight thousand patients at the Lazaretto Vecchio at the height of the plague in 1576. There was a shortage of beds and staff, and the stench and groans of the sick made the place resemble inferno. (2) Similar tales of horror emerged from all the great lazarettos at this time as they did again during the plague of 1630-31. On the other hand, Sansovino's account of life in the boats at the Nuova reflects a brilliant administrative success achieved under the most difficult conditions. (3) In general it may be said that whilst in severe epidemics the lazarettos were regarded with dread, at other times they offered

1. ASV., Secreta, Materie miste notabili, Reg.95, ff.153v-155r.

2. MCV., Raccolta Cicogna, Num.3682 (unpaged).

'Raccontavano alcuni che per miracolo sono di là tornati salvi, tra gl'altri particolari che al tempo di quella grande innondation di feriti ne stavano tre o quattro per letto, e che non essendo che vi attendesse per esser mancata una gran quantità di serventi, conveniva loro levarsi da sua posta a pigliar il mangiare e far altri servitii; che continuamente non si faceva altro che levarsi morti da i letti e gettarli giu nelle fosse, et che ben spesso occorreva che di quei che si trovavano in agonia o a star intronati senza parlare ne muoversi venivano come spediti da pizzegamorti levati e slanciati sopra il monte de cadaveri e che s'alcun di loro fosse stà poi veduto a trar di mano di piedi o far atto di volersi avitare, era ben gran vetura che qualche pizzegamorto mosso a pietà volesse quell'impaccio di andarlo a levar de li. Che in fine molti infuriati dal male, massimamente la notte, sbalzavano di letto e gridando con voci spaventevoli di anime di dannati ivan correndo di quà e di là urtendosi l'un l'altro et all'improvisto cadendo per terra morti...'

3. Each boat was examined daily for cases of plague and kept supplied with bread, cooked meat, fish and wine.

welcome hospitalisation and medical treatment. From the fifteenth century the Capitoli of the Venetian lazarettos ensured that inmates were carefully looked after. The Prior of the Vecchio was to supervise every aspect of the lazaretto and visit the sick wards several times a day. Patients were attended by doctors and nurses and supplied with medicines and spiritual comfort. They were given a nourishing diet with bread, wine, chicken and veal, and, for those unable to take solid food, fresh eggs and broth. A wet nurse was provided for babies. (1) Special care was taken of delirious patients, who were secured with bands on low mattresses. Even in 1576 this kind of consideration for the sick was not lacking, the Senate even taking time to add oranges and cherries to the list of foods to be provided for the sick. (2) Accordingly the lazarettos were generally respected for their humane treatment. Sanudo's diaries, for instance, show that sick noblemen were quite willing to go to the Lazaretto Vecchio in 1528 for the medical treatment available there. (3)

In northern Italy the early lazarettos had been founded to isolate people rather than their property. But in the early sixteenth century the lazarettos of Venice were increasingly receiving goods from infected houses and also merchandise arriving from plague areas. These changes were reflected in the statutes of the lazarettos, which were subject to continuous

1. ASV., Magistrato al Sal, serie 1, Reg.8, ff.162v-165v. Capitoli of 1482.
2. ASV., Secreta, Materie miste notabili, Reg.95, ff.99v-100r (22 Oct 1576).
3. Sanudo, Diarii, op. cit., vol.48, col.544 (30 Sept 1528).
'La terra di peste heri numero 6 et di altro mal numero 19 tra li qual fo S. Zuan Francesco Trun di S. Silvestro con sua moier....havendo tutti do la peste terminorono andar a lazaretto sperando di varir da quel bon medico è li Niccolò Griego, siccome ha fatto S. Antonio Valier di S. Beneto qual varise'.

revision. (1) The statutes of 1482 and 1486 hardly refer to goods, apart from the immediate clothing and bedding of new patients. However by 1506 it was normal to evacuate from houses where the plague had appeared not only the inhabitants, but also their goods. (2) Everything was despatched to the lazarettos except for hardware (legnami e ferramenti), which was considered not subject to infection. (3) Accordingly, the statutes of c.1510-13 include regulations for the unloading of infected goods in the lazarettos, and for the making of inventories. By the 1520's, as in the case of the cargo of the Barbary galleys in 1522, merchandise began to be sent to the lazarettos for quarantine and disinfection. (4) This aspect of the lazarettos' work quickly developed. In 1541 Christoforo di Bortolo, Prior of the Lazaretto Nuovo from 1513, reviewed his years in office. He wrote that in respect of the years 1522-41 the Lazaretto might be described as a customs house for goods arriving by sea and overland (se poi reputar questo locho esser una doana da mar et in qualche parte doana da terra). He recalled that in 1522, as well as the merchandise and some five hundred persons from on board the Barbary galleys, the Lazaretto had had to take in the

1. As well as those of 1482 already cited, surviving statutes include those of 1486 (ASV., Provveditori alla Sanità, Reg. 725, ff.132r-133v); c.1510-1513 (ibid., Reg.2, ff.113r-123v) and 1557 (ibid., Reg.730, ff.140r-145r). Later statutes were published, e.g. Capitoli da osservarsi nelli lazaretti, stabiliti e decretati da gl'Illustrissimi...Signori Sopraprovveditori, Aggiunti e Provveditori alla Sanità (Venice, 1656).
2. ASV., Compilazione Leggi, Busta 337, f.271r. Copy of a Senate motion, 13 Oct 1506.
'Fo nelli superior anni prudentemente provisto et ordinato per poter del tutto extinguer el morbo de questa citade che tutte le robe delle case infettade da morbo fusseno portate al lazaretto dove fusse de quelle facto inventario et fusseno estimate et poi brusate, pagandole alli patroni over heriedi di quelle'.
3. ASV., Provveditori alla Sanità, Reg.2, f.12v (23 Aug 1513).
4. Ibid., Reg.726, ff.34v-44v (May-July 1522). At this time the Barbary galleys sailed regularly from North Africa.

cargo of a ship of over four hundred butts from Turkish territory laden with bales of wool, fleeces and hides and on which there had been several deaths from plague. All this was in addition to merchandise from infected areas of Milan and Lombardy. In 1523 there had arrived a galley from Constantinople on which the Bailo Andrea di Priuli had died of plague, and with it a rich cargo of silks. In 1526 two ships of 1,000 and 800 butts from Turkish territory had been unloaded at the Lazaretto, and between 1535 and 1540 a vast number of small boats carrying goods from the east via the entrepôt of Ragusa. (1) Similarly, writing in 1574, Zorzi Nassin, who had been Prior of the Lazaretto Nuovo since 1555, claimed to have dealt with innumerable ships from Cyprus, Alexandria, Syria, Spain, the Morea, Albania and elsewhere, the goods from which had been worth millions in gold. (2)

It is impossible to estimate the volume of merchandise handled by the lazarettos. In 1572 the cargoes of a total of 53 ships (vasselli) of various sizes were dealt with, but this figure was distorted by the Turkish war during which small boats plying from Ragusa replaced the normal sea trade with the Turks. What is clear, however, is that by this time it was normal for all cargoes from infected areas to be dealt with by the lazarettos. (3)

1. ASV., Provveditori alla Sanità, Reg.728, ff.46r-51r. The trade route via Ragusa was presumably used heavily during the Turco-Venetian war of 1537-40.
2. Ibid., Reg.732, ff.7r-8r (24 April 1574).
3. ASV., Secreta, Materie miste notabili, Reg.55 bis.
'....Si agglonge appreso che in tutto il ditto tempo della guerra li paesi del contado di Ragusi, e di luochi turcheschi fra terra erano suspecti di morbo, di modo che tutti li ditti navilii et merchantie indifferentemente venivano mandati al lazaretto per li Clarissimi Provveditori alla Sanità'.
Part of an enquiry by the Cinque Savi alla Mercanzia into charges on merchandise imposed in connexion with the lazarettos.

Goods in the lazarettos were subject to quarantine and disinfection. Central to the theory of disinfection was the division of goods into two groups, those which might carry infection and those which might not. In 1541 the Provveditori alla Sanità noted wool, cloth, cord, feathers and fleeces, that is, mainly textiles and their raw materials, as the main items subject to infection. Spices, foodstuffs (including wines, oil, meat, grain and flour provided they were not in sacks), wood, metals letters and paper (provided that it was free of string or canvas), were thought incapable of carrying plague and were not sent to the lazarettos. (1)

The principal method of disinfecting goods was by exposing them to the air for a fixed period, usually of forty days, during which time they were regularly handled. This airing (sborar) of goods was practised at least from the early sixteenth century (2), though it is difficult to find a detailed account of the practice until later. According to the Capitoli of the Lazarettos published in 1656 there were different types of sboro, each of which lasted forty days. Wool, linen and silks were unpacked bale by bale and placed in heaps in an open, airy position and regularly handled and moved from place to place. (3) With cotton, thread and camel hair, the bags were unsewn and the contents rummaged daily. Mohairs and other cloths were unfolded and handled, and, if they came from an area known to be definitely infected, they were also hung up on ropes to air. Similar methods

1. ASV., Provveditori alla Sanità, Reg.2, ff.102v-103r.
2. E.g. ibid., Reg.725, f.78v (9 Aug 1503), relating to the disinfection of goods at the Lazaretto Nuovo.
3. The same practice had been in use at least since 1557, when silks were ordered to be unrolled, placed in piles and handled for a set period, ibid., Reg.730, f.184v (14 Dec 1557).

were used with carpets, leather goods and feathers. Hides, considered the most dangerous of all, were left in the open air and handled continually. (1)

The rationale behind the airing of goods is never stated in the records of the Provveditori alla Sanità, but it is intelligible in terms of the sort of theory put forward by Fracastoro. Noxious particles were probably thought to remain trapped in the interstices of textiles while the latter remained packed closely together. On one occasion in 1562 the Prior of the Lazaretto Nuovo was rebuked for leaving wool and fleeces in small rooms, che piu presto si potria dir lochi da far soboglier la robba che di sborarla. (2) Here it seems to have been thought that leaving infected goods packed in confined spaces increased the infection, the word soboglier, which implied simmering or fermentation, being close to the Fracastoran vocabulary for the generation of germs. Unpacking and spreading out infected goods in the air over a period of time was thought to release and disperse the infection.

The effectiveness of disinfection by airing was questioned on a number of occasions, notably by Scarpiato, the Health Office Scrivan, in the plague of 1555-57. He noted that in the summer of 1556 a staff of over one hundred disinfectors (smorbadori) were dealing with a mass of goods (un mar di robbe) at the Lazaretto Nuovo, only to find that plague broke out again when the goods were returned to their owners. Even when goods were aired several times over the process seemed to do more harm than good. (3)

1. Capitoli da osservarsi nelli lazaretti, op. cit., p.33 ff.
2. ASV., Provveditori alla Sanità, Reg.2, ff.99v-100r (18 April 1562).
3. Ibid., Reg.730, f.259v ff. Goods were aired for 30-40 days in the Lazaretto Nuovo and then for a similar period on the banks (barene) in the lagoon. This was followed by a third disinfection at the island of S. Anzolo di Concordia.

Furthermore, airing frequently cost more than the value of the goods and required more space than was available at the lazarettos during epidemics. The solution was to burn infected goods en masse. In 1457 the bedding and clothes of those who died in the Lazaretto Vecchio had been burned, and the same order was applied to the bedding of the sick in 1485. (1) Miscellaneous records of goods being burned and compensation paid to owners can be traced in Venice as early as 1493. (2) The mass burning of beds, mattresses, bedding and similar items which had been sent to the lazarettos was ordered in 1528, and compensation paid. On the same basis between 1556 and 1558 a total of 15,318 ducats was paid out, this representing only a proportion of the value of the goods burned. (3)

At the same time there was a search for new and more effective methods of disinfection. In the early 1540's wool was being dealt with by washing it successively in hot and cold water, and fleeces were being sent to the tanneries on the Giudecca and immersed in water for a day. (4) In the plague of 1555-57 Ludovico Cucino fumigated goods at the Lazaretto Nuovo by a secret method (5), and a patent was considered for a machine to disinfect cloth. (6) But not until the plague of 1575-77 were new methods used on a vast scale. At this time the

1. ASV., Senato, Terra, Reg.4, f.30v (8 Mar 1457); Reg.9, f.145v (14 June 1485).
2. ASV., Magistrato al Sal, serie 1, Reg.12, f.171r (18 June 1493). An inventory of burned beds, bedding, habits and other items from the infirmary of the monastery of S. Francesco della Vigna.
3. ASV., Provveditori alla Sanità, Reg.2, f.15v (15 Dec 1528), f.82r (12 Dec 1556), f.83v (14 May 1557), f.84v (5 Mar 1558). In the latter case alone the goods destroyed were valued at 16,888 ducats.
4. Ibid., ff.102v-103r (1541).
5. Wellcome Institute MS.223, ff.19, 41r. In April 1555 the Provveditori sent Cucino fumeghi...per profumar li drappi, and in June his contract was renewed by the Senate which praised his work:
'ha posto ancho di molti buoni ordini in detti lazaretti circa il governo et conservatione delle persone, et sborare et profumare le robbe degli appestadi usando in questa sua opera alcuni suoi particolari secreti'.
6. ASV., Provveditori alla Sanità, Reg.730, f.185v (17 Dec 1557).

burning of goods was halted both because of the expense and because goods were being hidden by their owners to avoid the loss of property. (1) In addition airing proved impractical in the summer of 1576 as large dumps of goods built up at the lazarettos and at other areas of the lagoon brought into use for the purpose. (2) From October 1576, on the advice of two of the city's leading physicians, Niccolò Sammicheli (Niccolò Comasco) and Gian' Antonio Secco, a method was used in which textiles, including the fillings of mattresses, were boiled in large dyers' cauldrons several times, and rinsed in cold water. At the same time a practice was adopted which had already proved successful on Murano. Goods were submerged in running salt water for three to five days. The more valuable items such as velvets, furs and carpets, were disinfected with sand. A layer of dry sand was covered with a clean sheet on which the goods were stretched out. This was covered with another sheet and a layer of sand. Layer upon layer was built up in this way and the whole left for four days. (3) According to Morello, the Scrivan, these methods entirely replaced disinfection by airing for the remainder of the epidemic. (4)

For merchandise, however, as opposed to goods from plague houses, airing remained the standard form of disinfection,

1. ASV., Secreta, Materie miste notabili, Reg.95, f.156r.
2. Ibid., ff.48v, 51r, 72r, 77r, 99v (July-Oct 1576). The islands of S. Andrea della Certosa, S. Giacomo di Paludo, S. Francesco del Deserto, S. Erasmo and S. Secondo, as well as Saccagnana, Treporti and several of the chioveri in Venice (open spaces used in the wool industry for drying cloth) were all used as disinfection areas.
3. Ibid., ff.97v-98r, 102r ff.
4. Ibid., f.156v.
'ne dapoì si è più osservato di far sborar le robbe a l'aere si per la molta spesa che si faceva, si per il molto tempo che vi andava e che bisognava occupar molti luochi, et quello che più importava, che molti che ricevevano le ditte robbe sborate a l'aere di novo si infettavano o forse per negligentia o malitia di quelli le sboravano o per altra causa'.

probably because merchants resisted having their wares boiled, buried or soaked in salt water. (1) It would seem however that in the course of time the sborar took on new implications. In 1557 Piero Bonaza, who held a contract in Venice for disinfecting goods, described his process as an assay or test (cimento). (2) From the Capitoli published in 1656 it seems that by this time disinfectors (now referred to as bastazi) were considered guinea pigs to test the state of infected goods. The bastazi were to plunge their bare arms twice a day into each package or pile of wool, cotton or other merchandise, and were even to sleep with certain goods such as quilts, coverlets and carpets. An account of Venetian health measures published in England in the mid-eighteenth century makes clear that on the sickness or death of one of the bastazi the quarantine of the goods which he had handled was extended. (3) Whilst therefore the disinfection process remained haphazard, a primitive method was evolved for assessing the danger from each consignment of merchandise.

The lazaretto buildings reflected their enlarged role in relation to goods and merchandise. In Venice action was taken in 1550 after the cargoes of five ships from Constantinople had to be disinfected on the islands of Poveglia, Mazzorbo and Sant'Anzola di Concordia because of lack of space at the Lazaretto Nuovo. The Senate ordered the Prior's vineyard to be grassed and

1. It was not however unheard of for merchandise to be burned. In 1565 linen and other merchandise from the Alexandria galleys were burned at the lazarettos, and over 1,000 ducats paid in compensation. The goods were said to have been burned segondo l'ordinario, showing that this was not an isolated case, ASV., Provveditori alla Sanità, Reg.2, f.137v (26 Sept 1565).
2. Ibid., Reg.730, ff.193v-194v.
3. An authentick account of the measures and precautions used at Venice by the Magistrate of the Office of Health for the preservation of the publick health (London, 1752), p.22.

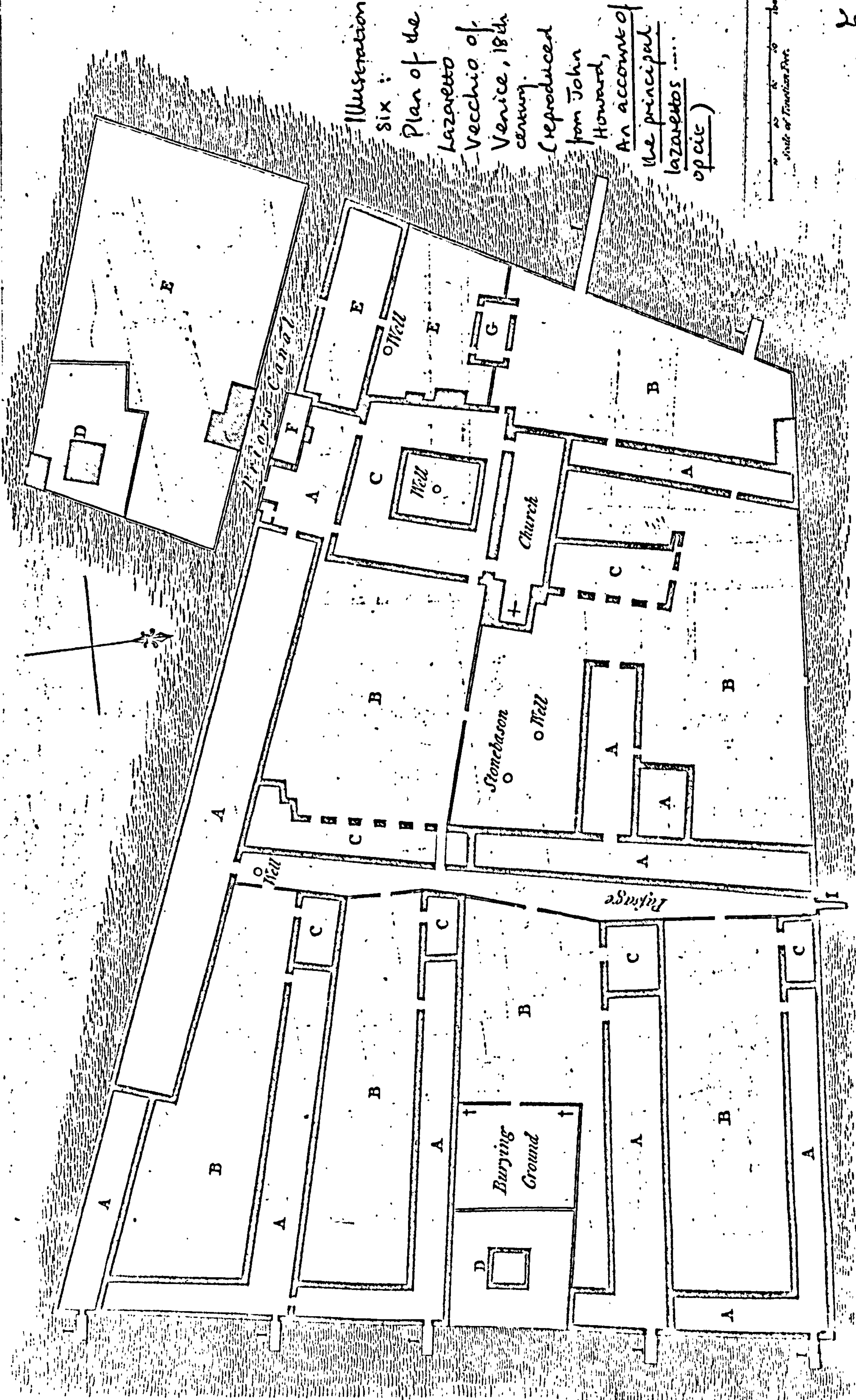
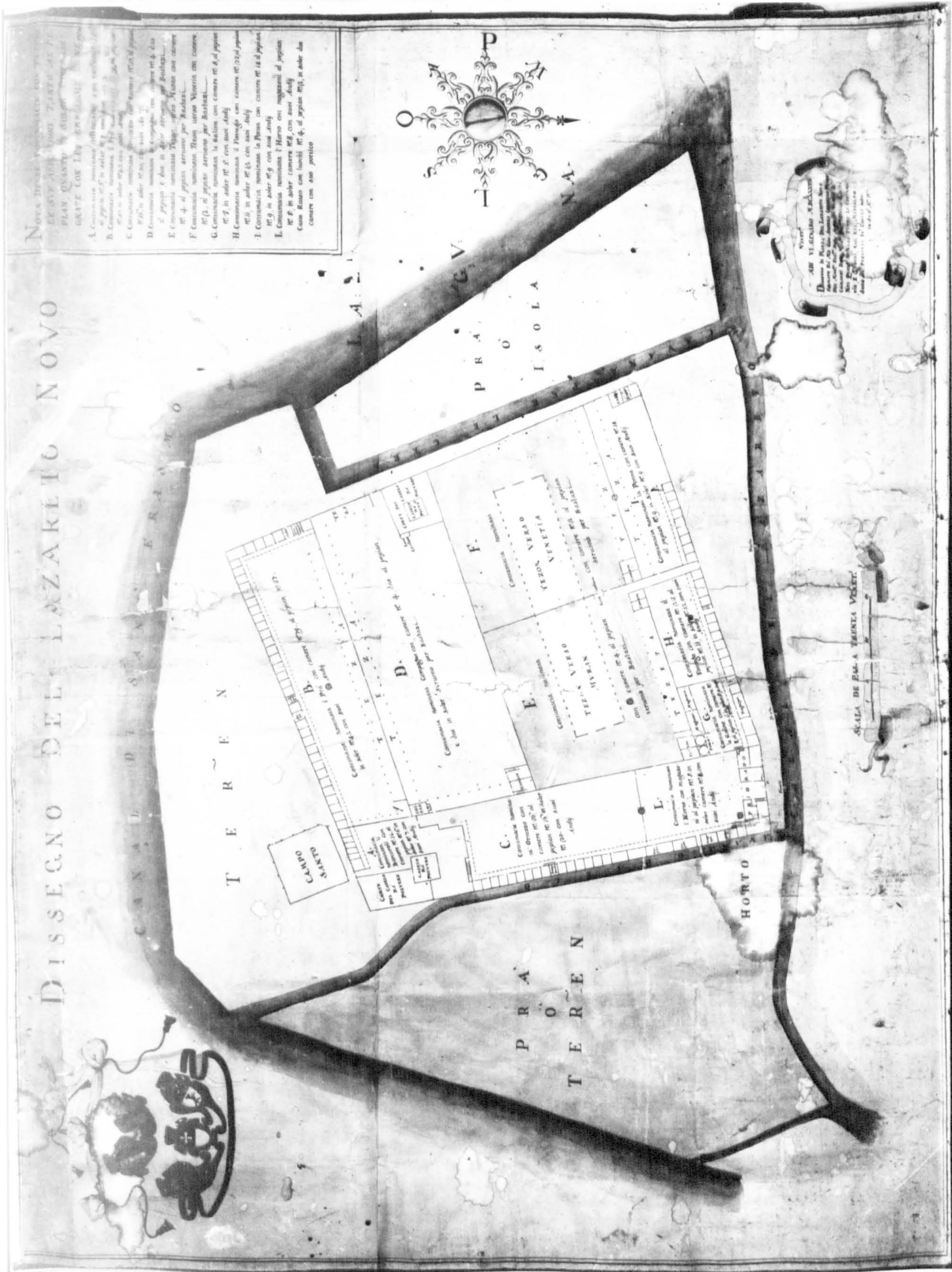


Illustration
Six :
Plan of the
Lazaretto of
Vecchio of
Venice, 18th
century.
(reproduced
from John
Howard,
An account of
the principal
lazarettos
op cit)

A Warehouses. B Courts. C Apartments. D Powder Magazine. E Prior's House & Gardens. F Cellar for War. G Parlour. H Common entrance. I Landing places.

Illustration seven:
 Plan of the
 Lazaretto Nuovo
 of Venice,
 1688.
 (ASV, Proveditori
alla Sanità,
Disegni, Busias, 8,
 num. 1)



added to the areas available for disinfection. (1) Twelve years later the Prior was again ordered to remove vines from an area needed for disinfection. Problems had arisen in dealing with six ships which had arrived from Constantinople and Alexandria in the previous four months. Space was also needed for wool, fleeces and hides from Vienna, and for linen from Alexandria. At the same time the Prior of the Vecchio was told to clear fruit and vegetables planted in the graveyard and the area known as the vigna so that these could be used for disinfection, including any buildings which might be necessary. (2) By the mid-eighteenth century the Lazaretto Nuovo had large courts surrounded by open sheds under which the merchandise was aired, and also large warehouses for the same purpose with holes in the roof to let in the air. (3)

From the second half of the sixteenth century concern with merchandise also affected the siting of lazarettos. As was seen in Chapter 6, as the century progressed emphasis in plague control was placed not so much on defending cities as on defending whole territorial areas. In keeping with this, lazarettos were increasingly sited on trade routes in remote areas, where they ensured that merchandise was free from suspicion before it entered healthy territory. This may be seen clearly in the Venetian lazarettos in Corfu, Zante and Spalato, which were central to trade with Turkish territory, and in that of Pontebba in Friuli, on one of the main trade routes to Germany.

In 1568 the Jews of Narenta, who acted as intermediaries in trade between Venice and the Turks, proposed a scheme to reduce

1. ASV., Provveditori alla Sanità, Reg.2, f.124v (28 Jan 1549 m.v.).
2. Ibid., ff.99v-100r (18 April 1562).
3. An authentick account, op. cit., p.14.

the expenses which they suffered when their merchandise was sent to the lazarettos in Venice. They asked for a Venetian official to be sent to Narenta to disinfect (sborar) all goods from Turkish territory and other suspect areas before their despatch to Venice. They would subscribe 250 ducats a year for the scheme, house the officer and provide a site for disinfection. This proposal was greeted warmly in Venice. Piero della Porta, who had long been on the staff of the Health Office, was sent out to unpack all merchandise and issue certificates showing for how long it had been disinfected (manizate et sborate). (1)

By 1580 a similar system was in use in Zante and Corfu. In that year, following complaints from merchants and tax collectors, the Venetian Senate rebuked the Rettori of Zante and Corfu for refusing transit to goods from the Morea as an area suspected of plague, since this was to the commercial advantage of Venice's rivals. In future merchandise was to pass through Zante and Corfu for Venice after quarantine (dando efficacissimo ordine in caso di sospeto che dette mercantie et huomini faciano le solite contumatie per assicurarsi da ogni sospetto di contagione). (2)

There were health officials in Corfu by 1565 and in Zante by 1582.

(3) In 1588 the Venetian Senate resolved to establish a proper lazaretto at Corfu and to improve that already existing in Zante. This decision resulted from the petition of various merchants (mercanti ebrei, Levantini, Greci et altri) who claimed that merchandise undergoing quarantine at Zante and Corfu was exposed to pillage by pirates as well as damage from the weather since it

1. ASV., Provveditori alla Sanità, Reg.731, ff.60v-62r (July 1568). The river Narenta flowed into the Adriatic between the islands of Lesina and Curzola.

2. Ibid., Reg.15, f.597r (29 Sept 1580).

3. Ibid., Reg.13, f.84v (4 Aug 1565); Reg.15, ff.615r-v (9 Mar 1582).

was disinfected in the open air. The new lazarettos were to consist of large square areas enclosed by high walls and guard towers. Within the enclosures there were to be warehouses or shelters in which merchandise could be stored (tezoni per tenir a coperto le robbe che si haveranno a sborar et salvar fino al tempo dell'imbarco di esse). (1); Venice set great store by these measures, taken at a time of increasing economic anxiety. 3,000 ducats were voted for the new lazarettos in 1588, 4,300 ducats in 1590, and a further 800 ducats for Zante in 1591. In addition, each lazaretto had a Prior sent out from Venice with a salary of 150 ducats a year, and two guardiani each receiving 36 ducats a year. (2)

A similar development took place at Spalato, which Venice developed from 1588 as an entrepôt in its trade with the Balkans. Work on the lazaretto there was ordered in 1591 (3), and as trade increased, so it was enlarged. 6,000 ducats were provided for the customs house and lazaretto in 1595, and a further 2,000 ducats in 1600, with 4,000 ducats for the lazaretto alone in 1609. (4) Practice at Spalato evidently followed the pattern of Zante and Corfu. A Prior, for instance, was sent out from Venice, di quel modo che si è osservato nelli lazaretti del Zante e Corfu. (5)

On the Venetian mainland there was a comparable development at Pontebba in Friuli. In 1596 a health official was elected as

1. ASV., Provveditori alla Sanità, Reg.16, ff.13r-16v (10 Sept 1588). Each of the four sides of the lazaretto in Corfu was to be between 50 and 60 paces (passa) long. The lazaretto at Zante was to be smaller, each side being no more than 40 paces long.
2. Ibid., f.31v (15 Feb 1589 m.v.), f.37r (15 Mar 1591), f.39v (30 Mar 1591).
3. Renzo Paci, La 'Scala' di Spalato e il commercio veneziano nei Balcani fra cinque e seicento (Deputazione di Storia Patria per le Venezie, Miscellanea di studi e memorie, vol.14, Venice, 1971), p.60.
4. ASV., Provveditori alla Sanità, Reg.16, f.62v (21 Mar 1595), f.115r (12 June 1600); Reg.3, f.87v and ff (19 Feb 1608 m.v.).
5. Ibid., Reg.16, f.48r (18 Feb 1592 m.v.).

Soprintendente there. He was to see that merchandise from suspect areas was aired at Pontebba for a period of fifteen days. If no harm came to those who handled the goods during this time they might pass on towards Venice for a further quarantine in the city's lazarettos. (1) The length of quarantine at Pontebba varied according to the danger, for in 1601 the Soprintendente was ordered to air merchandise for 22 days before sending it to the lazarettos in Venice. (2) This system was presumably found to be satisfactory, since in the following year it was decided that the pass at Pontebba might only be closed for health reasons by special decision of the Senate. In normal circumstances, if there was suspicion of plague north of Venetian territory, merchandise might continue to pass provided it underwent quarantine and disinfection at Pontebba and again on arrival in Venice. (3)

With the decline of plague in western Europe in the seventeenth century, the northern Italian lazarettos became exclusively concerned with travellers, trade and merchandise. They continued to defend the West from the dangers of trade with the eastern Mediterranean where, even in the late eighteenth century, the Turks still took no precautions against plague. (4)

In this development the vast lazarettos inspired by that of Milan, designed for mass civic epidemics, appeared increasingly outmoded. Far more influential were the lazarettos of Venice. As has been seen, from the early sixteenth century these were divided into separate quarantine units which could deal with distinct groups of merchants, ships' crews or cargoes. John

1. ASV., Provveditori alla Sanità, Reg.3, f.69v (13 Dec 1596).
2. Ibid., f.76v (15 Jan 1600 m.v.).
3. Ibid., Reg.16, f.132r-v (10 Oct 1602).
4. John Howard, op. cit., p.18.

Howard noted that each unit, consisting of a courtyard and accommodation for persons and goods, was quite distinct, with its own entrances and stairs. (1) Here was a design entirely suited for the mercantile role which the lazarettos had assumed, and one which proved influential. (2)

By the eighteenth century the Venetian lazarettos were impressive institutions. The Vecchio was described as being 105 geometrical paces of five feet each in length, the breadth being 85 paces. The Nuovo was slightly larger, 112 paces long and 92 paces broad. The Vecchio could accommodate 6,730 bales of merchandise, and, when divided into six quarantine units, could accommodate 294 inmates in comfort. The Nuovo could take a similar volume of merchandise, but with nearly 200 rooms could accommodate a greater number of people. (3)

The Venetian lazarettos set the style for the complex lazarettos built in many of the leading Italian ports in the seventeenth and eighteenth centuries (4), and their influence also spread far beyond the Mediterranean. As has been seen, a full account of the Venetian lazarettos was published in London in 1752. (5) An Act of Parliament passed in the regnal year 1752-53 and obliged vessels loading in Turkey / which had a foul bill of health to undergo quarantine at Malta, Leghorn or Venice before continuing on to England. John Howard observed the damage that resulted for British trade, and from his researches he argued for the establishment of an English lazaretto. (6) Howard's

1. This may be seen from Illustrations 6 and 7.
2. See for instance Illustration 8, a plan of the pentagonal lazaretto of Ancona built during the pontificate of Clement XII, 1730-40, showing a typical lazaretto divided into a number of geometric units.
3. An authentick account, op. cit., p.13 ff. The Nuovo was said to have quarantined 4,000 soldiers and 200 horses at a time when it was free of merchandise.
4. See below, Illustration 8, for a typical example.
5. An authentick account, op. cit.
6. Howard, op. cit., p.26 ff.

Illustration eight:

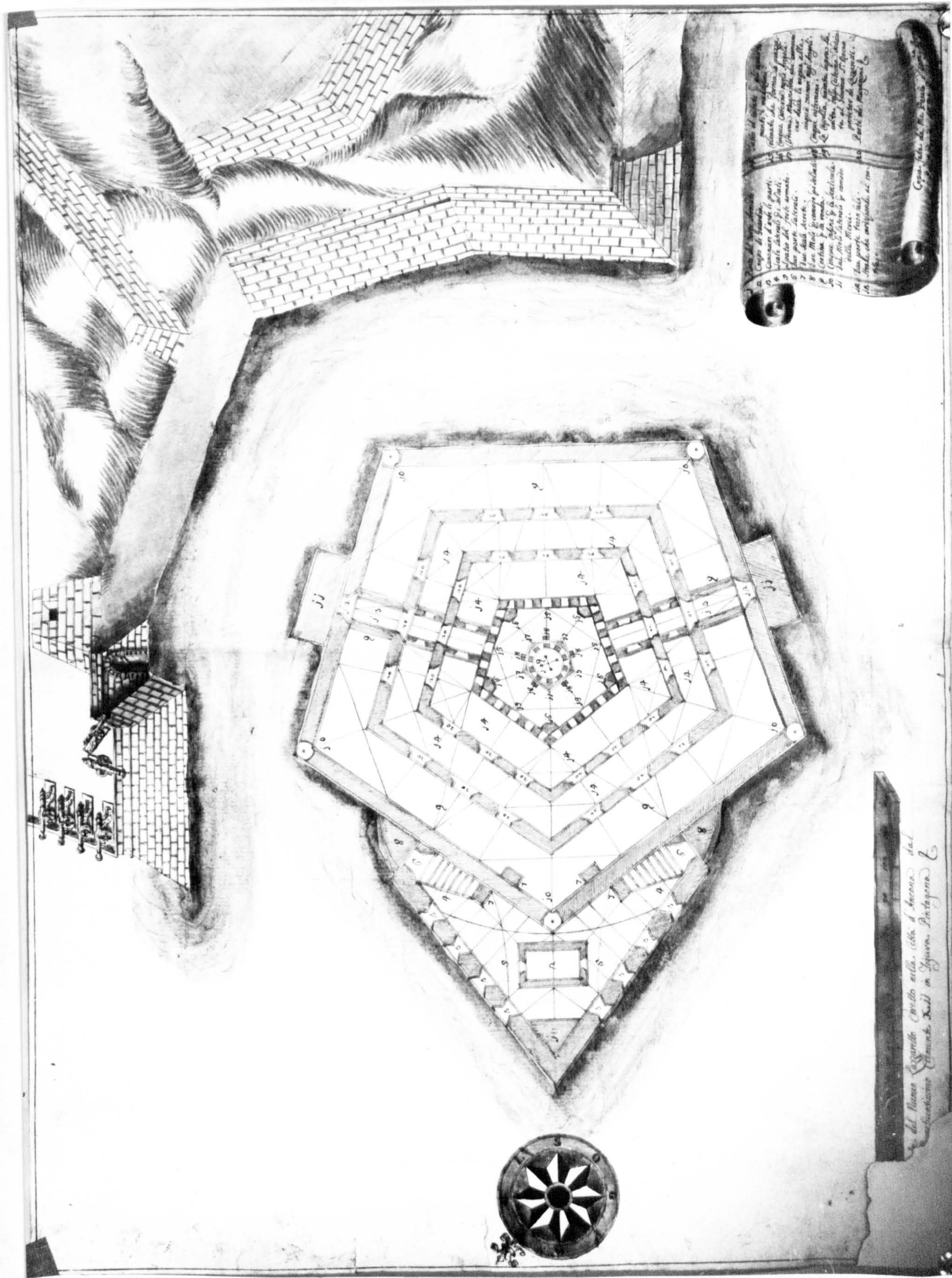
Plan of the
lazaretto of
Ancona,

18th century.

(ASV, Provveditori
alla Sanità,

Disegni, Busta
11, num. 21)

209a



del nuovo Lazaretto costruito nella città di Ancona dal
S. Sebastiano (1780-81) dall'Arch. Pontano L.

description of the Venetian lazarettos was copied in part from a description sent to the British government by its Consul in Venice in 1770. At about the same time an encyclopaedic account of Venetian health legislation was drawn up by Antonio Boncio, a Health Office official. It was done at the request of the Dutch Consul in Venice. (1) So it was that the Venetian lazarettos, which had begun as local hospitals for the plague sick, came to have a vital mercantile function in the Mediterranean, and to be an influence on governments concerned with a wider world.

1. ASV., Provveditori alla Sanità, Registri 7-11, Informazione del Magistrato Ecc. alla Sanità a richiesta del Signor Console di Olanda.

CHAPTER 8

ADMINISTRATIVE PROBLEMS OF THE VENETIAN HEALTH OFFICE1541-1575.

In the years 1575-77 Venice suffered what was probably the worst plague in her history. Given the elaborate system of control built up by the Provveditori alla Sanità, how could this come about? It might seem that the system inevitably failed because the epidemiology on which it was based was faulty. But in fact plague came to Venice in precisely the manner with which the system was designed to cope. It came on the person, or in the luggage, of a traveller from plague infected Trent.

There was plague in Trent in 1574, and it broke out again at the end of May 1575. But it was not recognised as such until the middle of June (1), and even this diagnosis was dismissed on 22nd June in a statement by a group of physicians which included one of the most famous doctors of the age, the botanist Pietro Andrea Mattioli. (2) A resident of the Val Sugana, Matthio Tridentino, visited the nearby city of Trent and later travelled to Venice, arriving on 25th June 1575. He stayed first in the parish of S. Marziale, but when he fell ill he was moved to S. Basegio, where he died on 2nd July. The clothes he brought with him were sold to pay the expenses of his illness and funeral, and some linen found its way to the nunnery of Santo Sepolcro. Only when further deaths occurred at S. Marziale were the Provveditori alla Sanità alerted to the danger, by which time three foci of infection had been established in separate districts of the city.

1. Milan, Biblioteca Ambrosiana, MS. D 195 inf., Informatione intorno alla peste che fu in Trento prima l'anno del 74 e 75. Written by the physician who first diagnosed the disease.
2. 'La peste dell'anno 1575 in Trento', Archivio Tridentino, anno 6, 1887, pp.29-54 includes the text of the statement.

This narrative derives from the accounts written by Cornelio Morello and Francesco Stabile, respectively Scrivan and physician to the Health Office, (1) and its accuracy is attested by the correspondence between the early foci of infection and the movement of the Tridentine and his goods. It would seem, therefore, that plague reached Venice via a traveller who appears to have found no difficulty in going to Venice, and whose death went unnoticed by the Health Office. This contrasts with the plague of 1555 when the very first case was successfully brought to light.

How was a man able to travel from a plague area to Venice? It would seem that the journey was made before any action was taken by Venice to place Trent under a ban. The earliest recorded ban on Trent at this time was that issued by the Rettori and Deputati alla Sanità of Brescia, dated 29th June 1575. (2) On 7th July the Provveditori alla Sanità of Bergamo notified their colleagues in Milan that they had followed suit. (3) On 11th July, noting the Brescian banning order, the Deputati alla Sanità of Crema added that it was enforced throughout Venetian territory. (4) Probably, then, the Venetian ban on Trent was issued in the first week of July, about one week after the arrival of Matthio Tridentino in the city.

Clearly the Venetian ban came too late. Matthio Tridentino had left the Trent area before the plague attracted much attention, and whilst the situation was confused by the mistaken diagnosis by Mattioli and his colleagues.

1. ASV., Secreta, Materie miste notabili, Reg.95, f.151r. Francesco Stabile, Brevis quaedam defensio (Venice, 1576).
2. Copies survive in the Archivio di Stato di Cremona, Archivio Storico Comunale, Inventario 11, Busta 23, and in ASM., Sanità, Parte antica, Num.279.
3. ASM., Sanità, Parte antica, Num.279.
4. Ibid., 'Li diciamo osservarsi in tutto il stato degli Illustrissimi Signori di Venetia'.

As well as being slow in becoming alert to the danger from Trent, the Provveditori alla Sanità failed to recognise the first plague death in the city. The impression that the Health Office was far from the peak of its efficiency in 1575 is confirmed by the flurry of reform that was necessary to set the Office to rights once the danger had become apparent. On 4th July the Fanti had to be admonished to attend the Office daily, as most of them were rarely putting in an appearance, except sometimes in the mornings. (1) Less than a fortnight later the work of the Guardiani serving on quarantined ships and in the lazarettos had to be overhauled. Disorder had resulted from the lack of a proper rota determining the order in which they were to serve. A new register of 64 Guardiani was drawn up, but before long it was plain that many of them had only sought election for the right to bear arms that went with the job, and were not interested in actual duties. (2) At the beginning of August it was necessary to dismiss the Masser, whose duties included making purchases for the Office and recording expenditure, as he was found to be illiterate. (3)

Reasons for the shortcomings of the Health Office in 1575 appear from its development during the previous thirty years. The Health Office was created to deal with plague, but after the 1530's new demands were placed on it which to some extent diverted it from this function. In 1545 the Consiglio dei Dieci was considering making use of the experience of the Health Office in controlling the movement of persons by making it responsible for policing the bearing of arms by travellers. (4) In the same

1. ASV., Provveditori alla Sanità, Reg.3, f.8v (4 July 1575).
2. Ibid., f.10r (16 July 1575).
3. Ibid., Reg.732, f.52r-v (4 Nov 1575).
4. Ibid., Reg.3, f.11v (5 Aug 1575).
4. ASV., Consiglio dei Dieci, Secreta, Reg.5, f.145r (21 Aug 1545).

year the Magistrato alle Acque discussed whether to transfer to the Health Office its functions of street cleaning and rubbish disposal. Neither of these moves came to anything, but they illustrate the way in which the very success of a government department could lead to its involvement in extraneous duties. In several more important areas the Provveditori alla Sanità were unable to avoid the burden of new responsibilities.

The first of these was the administration of the poor law. (2) The Health Office was concerned with poverty as early as the fifteenth century. The relation of filth to disease was understood, and the squalid poor were seen as a danger to themselves and to society, in that they were liable to act as tinder to any epidemic which might reach the city. Beggars coming to Venice were especially suspect, since, if they came from infected areas they might import disease. Therefore from the 1490's the Provveditori imposed restrictions on lodging houses to which the poor might go, (3) and forbade ferrymen to transport beggars into the city. (4) By 1526 they were ordering the expulsion of beggars from Venice, at least in the case of those who were not natives of the city. (5)

In 1528, faced with a severe famine which provoked a mass immigration of beggars to Venice at a time when plague and typhus were raging, the Provveditori alla Sanità played an important role in promoting new legislation to deal with the situation. (6) On 13th March the Senate decided to lodge the poor in temporary

1. ASV., Savi ed Essecutori alle Acque, Reg.344, f.38v (20 May 1545).
2. This aspect has been fully examined by Professor Pullan in Rich and poor in Renaissance Venice, op. cit., and in 'The famine in Venice and the new poor law, 1527-1529', op. cit. This thesis does not aim to duplicate these studies.
3. ASV., Provveditori alla Sanità, Reg.2, f.40r (5 Sept 1498).
4. Ibid., Reg.725, f.25v (19 Oct 1495).
5. Ibid., Reg.726, f.110r (24 Feb 1526).
6. Ibid., Reg.12, ff.51-52 (13 March 1528).

shelters and feed them at public expense until the end of the famine. One of the shelters was to develop into the general hospital of SS. Giovanni e Paolo, but the poor law of 1528 was essentially a temporary measure for a particular crisis. For this reason a statute passed in the following year was of greater importance. (1) This was concerned with the native poor of Venice. Beggars from outside remained liable to expulsion by the Provveditori, as indeed occurred on a large scale in 1539 and 1545. (2) The native poor were divided into two classes. Those unfit to work were to be supported by parish committees, and the able-bodied found work on board ship or in the trades. When the statute came fully into force after 1545 (3), the Provveditori found themselves operating a law which was only distantly concerned with public health, and more immediately motivated by purely social concerns, the demands of religion, morality and civic virtue. This situation had been explicitly sanctioned by the Senate, which, in committing the poor law to the Provveditori, gave them the same authority in this as in matters relating to disease. (4) By implication, the poor law was not a health matter.

Nevertheless, the enforcement of the poor law demanded considerable effort from the Health Office. The repression of child begging and vagabondage proved especially demanding. The motivating concept was that children idle on the streets would turn to crime; finding them useful work would save them from the gallows. (5) In 1550 the Provveditori alla Sanità began sending

1. ASV., Provveditori alla Sanità, Reg.12, ff.61v-64r (3 April 1529).

2. Ibid., Reg.2, f.44v (12 Sept 1539), f.52r (26 Mar 1545).

3. Ibid., f.49v (1 Feb 1544m.v.).

4. Ibid., Reg.12, f.64r.

'habino in questa ordinatione quella medesima auttorita che hanno nelle cose del morbo'.

5. Ibid., Reg.730, f.229r (4 Mar 1559); Reg.2, f.158v (3 July 1571).

child beggars to sea as cabin boys (mozzi). Four years later it became mandatory for every ship over 100 butts to take on one cabin boy; ships over 400 butts had to take two. (1) One of the Fanti was to see that every ship took its quota of boys, and returned them safe after the voyage. (2) As the problem increased, it became necessary to put more cabin boys on the same number of ships. (3)

Bureaucracy in the Health Office developed in pace with the problem. In 1562 a Scrivan di Mozzi was appointed, and he was soon joined by a specialist Fante di Mozzi. (4) Child beggars were arrested by the Fanti, and imprisoned, listed and fed by the Masser. They were listed again by the Scrivan di Mozzi, who then appointed them to ships according to their carrying capacity. For this purpose the Scrivan di Mozzi had to call on expert advice from the Arsenal in order to assess in advance the capacity of all Venetian merchant shipping. (5) To police the regulations, all ships leaving the port had to be licensed, and checked on their return. (6) Small wonder that the work drew in more and more health officials, so that by 1573 the Capitano, the Masser and the six Fanti were all assisting the Scrivan di Mozzi. (7)

Nor was the poor law the only matter which diverted the Health Office from the control of plague. After 1539 one of its prime concerns was the regulation of prostitution. (8) The Provveditori alla Sanità had been concerned with prostitution at an early date. During the plague of 1486 it was found that prostitutes working illegally outside the licensed brothels often

1. ASV., Provveditori alla Sanità, Reg.2, f.74r (16 May 1554).
2. Ibid., Reg.730, f.4r (29 Jan 1554).
3. Ibid., f.229r (4 March 1559).
4. Ibid., Reg.2, f.128v. ff. (22 Dec 1562); Reg.731, f.21v (23 July 1566).
5. Ibid., Reg.3, f.5v (4 Feb 1574 m.v.).
6. Ibid., Reg.2, f.74r (16 May 1554).
7. Ibid., Reg.731, f.184v (5 Dec 1573).
8. Many documents on this subject have been published in Leggi e memorie venete sulla prostituzione fino alla caduta della repubblica (Venice, 1870-2).

ended up with a case of plague or even a corpse on their hands. Such cases went unreported to the Health Office, as the prostitutes feared eviction if their calling came to light. As a result, the corpse lingered in the house whilst new customers continued to be received. To deal with the resulting danger of contagion, the Provveditori persuaded the Senate to order all prostitutes to the licensed brothel, the Castelletto at Rialto.

(1) In the same month they ordered that pimps, like prostitutes and bawds, should be made publicly distinctive by wearing the notorious colour yellow. (2) These attempts by the Health Office to bring prostitution into the open were motivated by the needs of disease control, and were not taken further once the epidemic was over. In 1539 however the Consiglio dei Dieci was anxious to delegate some of its less important functions. It had been impressed by the efficiency of the Health Office in expelling thousands of foreign beggars from the city, and saw no reason why the same efficiency might not be used against prostitutes. The Provveditori alla Sanità were therefore instructed to expel those prostitutes who had come to Venice in the previous two years, and to enforce a number of additional laws. Prostitutes were to be forbidden to live near churches, or to attend church at normal hours when honest women might be present. To avert corruption, they were to keep no female servant under the age of thirty. (3) Since many of them passed themselves off as servants, any person wishing to give lodging to a female servant was to seek a licence from the Health Office. (4)

The motivation for committing this legislation to the

1. ASV., Provveditori alla Sanità, Reg.725, f.2r (27 Mar 1486).
2. Ibid., f.1v (20 Mar 1486).
3. Ibid., Reg.2, ff.44v-45r (12 Sept 1539).
4. Ibid., Reg.728, f.68r (5 July 1541).

Provveditori alla Sanità had been their success as a police force, and the regulations were purely social in character. There is no evidence that the Health Office took any interest in the welfare of the prostitute, or in the control of venereal disease. The effect was to divert resources from plague control since the regulation of prostitution took up a considerable part of the time of the Provveditori, particularly in terms of judicial activity. Staff had also to be recruited and supervised; from 1539 there were three Fanti straordinarii concerned with the problem. (1) The area of jurisdiction was also liable to increase. From 1542 the Provveditori had to face the problem of orphan and beggar girls who were being driven into vice by women who hired them clothes and forced them into debt. (2) The eviction of prostitutes could lead to disputes with irate patrician landlords, and even necessitate excursions by the Provveditori to determine whether a house was really near a church. (3) The Health Office took its responsibilities seriously. Bawds convicted for keeping unlicensed houses were frequently exiled from Venice for ten years or more. (4) In 1553, for a second offence of this kind, and for hiring clothes to would-be prostitutes, Isabetta Vanzagha was sentenced to be imprisoned until she paid a fine of 100 ducats, publicly humiliated between the two columns on the Piazzetta, and exiled for five years. (5)

Furthermore, the bureaucracy with which the Provveditori had to deal steadily increased. From 1542, like the Provveditori alle Pompe who dealt with sumptuary aspects of prostitution,

1. ASV., Provveditori alla Sanità, Reg.728, f.27v.
2. Ibid., Reg.729, f.7 (27 July 1542).
3. Ibid., ff.139v-140r (1547), ff.239-240r (1552).
4. e.g. ibid., ff.27v, 31v, 32v (1543).
5. Ibid., ff.247-248r (24 April 1553).

they had to report progress weekly to the newly formed Tre Savi sopra la Regulatione delli Costumi. (1) From 1553 the Consiglio dei Dieci conceded to prostitutes the right of appeal from Sanità sentences, and in 1559 the right was extended to pimps and bawds. (2) Appeals were to be heard by a committee of the Tre contra la Bestemmia and the Tre sopra li Heretici. The problem became more serious as time went on. In 1572 the Consiglio dei Dieci found that wherever they went in Venice they found prostitutes in abundance enticing the city's youth. They therefore imposed on the Health Office the task of a further general expulsion of all prostitutes who had come to Venice in the previous five years. (3) Despite its rigour, the measure proved inadequate. On the eve of plague in 1575 the Provveditori must have been particularly busy. The volume of judicial activity concerned with prostitution had so increased that the appeals system broke down under the strain. (4) The Tre sopra li Heretici could not cope with the volume of work and had to be replaced on the appeals tribunal by the Inquisitori dei Dieci.

By 1586 the Provveditori alla Sanità were also responsible for taking the census of the city's population. Censuses had been carried out by the Venetian government from at least the fourteenth century, supplying statistics relating to food supplies and the availability of persons for military service. (5) It is not clear at what date the Health Office became involved. It has been argued that it was responsible for the census of 1563, since this was similar enough in form to that of 1586 to suggest that

1. ASV., Provveditori alla Sanità, Reg.2, f.47v.
2. Ibid., ff.69r, 85v (7 July 1553, 19 April 1559).
3. Ibid., f.160v (28 March 1572).
4. Ibid., Reg.3, f.12 (29 Aug 1575).
5. Aldo Contento, 'Il censimento della popolazione sotto la repubblica veneta', Nuovo Archivio Veneto, vol.20, 1900, pp. 9, 27.

the same body was responsible on both occasions. (1) A further piece of evidence can now be added to this argument. From 1562 a bookseller at Rialto was supplying the Health Office with books for delivery to the parish priests to record the census of each parish. (2) This would be proof that the Provveditori alla Sanità were responsible for the census of 1563, except that the document also suggests that the census was later suspended by the Capi dei Dieci. It may be that the suspension was only temporary; whatever the explanation, a census was certainly carried out in 1563, and it is clear that the Provveditori supplied the stationery. In 1569 they still owed the bookseller forty lire for materials supplied.

Why did the Health Office become responsible for the census? It would be tempting to see the census in Venice as an instrument of plague control. On occasions it certainly functioned as such. In 1576, when the plague reached Monza, a census of the city was taken. Further visits to each house were then enjoined on those who had taken the census in each parish. This system gave the Health Office in Monza the ability to control the movement of persons, to keep a close watch on the spread of the disease, and to organise food supplies in preparation for a general quarantine. (3) But in Venice the census had long been established as a civic practice unrelated to the control of disease. At the outset of plague there was no attempt to repeat the census or to bring it up to date. Almost certainly the Provveditori alla Sanità came to be responsible for the census because the Consiglio dei Dieci was again concerned to delegate its less important functions and had seen the success of the Health Office

1. Beloch, op. cit., p.16.
2. ASV., Provveditori alla Sanità, Reg.731, f.94v (28 July 1569).
3. Gaetano Capasso, 'L'ufficio della sanità di Monza durante la peste degli anni 1576-7', Archivio Storico Lombardo, vol.33, 1906, pp.324-326..

in acting as a general registrar of deaths in the city. Responsibility for the census was a natural development from this, just as in the seventeenth century the Office also came to record all births in the city. (1) In this, as in the case of prostitution and the poor law, may be seen the same process by which the Office took on increasingly social functions.

Finally, reference must be made to the commitment of the Provveditori alla Sanità to the control of the medical profession. Their concern for standards in pharmacy dated back at least to 1511, but their work in this field came to a climax in the years 1546-7. Faced with continued shortcomings in pharmacy, they ordered a general inspection of the whole profession. (2) As a result, in the following year some two dozen apothecaries were sentenced for offences relating to the quality of their medicines. (3) In addition, the Provveditori brought in more rigorous legislation. The root of the problem was seen to be twofold; the apothecaries were lacking in experience, and in conscience. Pharmacists and apprentices who had taken up the profession in the previous seven years were therefore instructed to attend the Health Office for examination by the officers of the College of Physicians and the Soprastanti alli Spetieri. Furthermore, the ingredients for all composite medicines were in future to require the approval of two physicians before they might be made up.

This was a serious blow to the apothecaries. Pharmacy at this time was a rising profession, born up by a growing interest

1. Contento, op. cit., p.46.
Daniele Beltrami, Storia della popolazione di Venezia dalla fine del secolo XVI alla caduta della repubblica (Padua, 1954) is now the most important study of Venetian demographic history.
2. ASV., Provveditori alla Sanità, Reg.729, f.104r (11 Aug 1546).
3. Ibid., ff.141-147 (Nov-Dec 1547).

in medicinal botany and pharmacology. Venice was in the forefront of this development, as may be seen in the foundation at the University of Padua of the chair of Simples in 1533 (1), and the botanical garden in 1545. (2) In 1565 the Venetian apothecaries, with the approval of the Consiglio dei Dieci, were to advance from guild status to that of a fully fledged College, alongside the physicians and surgeons. (3) Accordingly, the apothecaries decided to protest to the Giustizieri Vecchi, who were traditionally responsible for their guild, and after a suit in the Quarantia Civil Nova the offensive legislation was suppressed. (4) This decision removed Health Office control of the apothecaries. When the College of Apothecaries was founded in 1565 it drew up detailed statutes for the approval of the Giustizieri Vecchi and the Provveditori di Comun. In them the Health Office is not even mentioned. (5)

In one area of pharmacy the Health Office did maintain control and even extend its authority. It was increasingly concerned with popular medicines sold on the streets and in the Piazza at Venice by charlatans, mountebanks and other persons outside the control of the College of Apothecaries. The role which such practitioners played in medical provision in Venice is difficult to assess. That it was considerable is suggested by travellers such as Thomas Coryat who, after his visit to Venice in 1608, singled out the mountebanks, with the courtesans, as the social groupings for which Venice was rightly famous. (6)

1. Roberto De Visiani, Della vita e degli scritti di Francesco Bonafede (Padua, 1845), p.5.
2. ASV., Senato, Terra, Reg.34, ff.57v-58v (31 July 1545).
3. ASV., Consiglio dei Dieci, Comuni, 1563-4, f.172v.
4. Romolo Ancona, I diritti dei farmacisti veneti (Venice, 1891), p.33.
5. The statutes of 1565 survive as BMV., MSS. Italiani, Classe VII, Cod.1971 (=9042). I am unable to trace the mariegole of the College, 1565-1804, which were in private hands in 1904, Girolamo Dian, Cenni storici sulla farmacia veneta al tempo della repubblica, Part 4 (Venice, 1904), p.21.
6. Thomas Coryat, Crudities, vol.1 (Glasgow, 1905), p.409.

Much of the work of the Health Office in this area was related to the licensing of new drugs. Licences were usually only granted after consultation with the College of Physicians, and exceptionally a second opinion was sought from the College of Physicians at Padua. (1) There is no evidence that the Health Office undertook anything like the experiments on poisons and antidotes carried out on condemned criminals by Mattioli at Rome and Prague, and by others at Ferrara, Mantua and Florence. (2) Indeed, when Maphio Bertolari offered to prove the efficacy of his antidote by subjecting himself to the bite of poisonous animals in the sight of the Provveditori, they dissuaded him, taking the presence of the animals as sufficient proof of good faith. (3) On the other hand, they did experiment with an ointment to kill bed bugs and other vermin on persons with little opportunity to change clothing. A successful trial was carried out in one of the city prisons late in 1573, and the ointment was licensed for use in the following year. (4)

To control street trading in medicine the Provveditori elected specialist Soprastanti from 1563. (5) Four years later they ordered that no drug was to be sold on the streets unless licensed by the College of Physicians, and samples of licensed drugs were to be lodged in the Health Office. (6)

In this way the Provveditori were able to develop control of a limited area of pharmacy. After the setback of 1547 they do not appear to have interfered with the profession in general until 1603, when, with the backing of the College of Physicians,

1. e.g. ASV., Provveditori alla Sanità, Reg.729, ff.167r (1549), 216, 220r (1551), 286v-288r (1560).
2. Alfonso Corradi, 'Degli esperimenti tossicologici in anima nobili nel cinquecento', Annali universali di medicina e chirurgia, vol.277, 1886, pp.73-100.
3. ASV., Provveditori alla Sanità, Reg.731, ff.1-3, 8v-9r (1 July, 18 Aug 1563).
4. Ibid., Reg.732, ff.3v-5v (3 April 1574).
5. Ibid., Reg.731, f.4r (5 July 1563).
6. Ibid., Reg.2, f.141v ff. (29 April 1567).

and against opposition from the College of Apothecaries and the Provveditori alla Iustitia Vecchia, they formed a commission to reform the medical profession and regulate abuses in the use of drugs. (1) The resulting statutes were to be fundamental to the control of the profession in the seventeenth century. (2)

Even more important than their concern with pharmacy were the endeavours of the Provveditori alla Sanità to enforce professional relationships between the physicians, surgeons and barbers. Venetian legislation, dating back at least to the thirteenth century, ensured that each was qualified in his own field of medicine, and that none trespassed beyond his competence. (3) The Health Office first became involved in 1505 when it gave its backing to the statute that none might practise as a physician unless a graduate in medicine, or licensed by the College of Physicians. (4)

However, not until the 1540's were the Provveditori prepared to enforce the statutes and to prosecute offenders. (5) In 1545 they undertook a fundamental review of the relevant legislation going back to the fourteenth century, and also took evidence from the Colleges of Physicians and Surgeons, and the Guild of the Barbers. The Provveditori were particularly worried by unlicensed empirics whose dabbling in physic and surgery was leading to the death of patients. They therefore ordered that

1. ASV., Provveditori alla Sanità, Reg.3, f.84 (24 July 1603).
2. Provisioni et capitoli circa il medicar, componer medicamenti, et altro spettante alla medicina. Terminati per l'illustrissimi Signori Provveditori alla Sanità...sotto li 9 Dicembre 1608 (Venice, 1619).
3. Stefanutti, Documentazioni cronologiche, op. cit. Guido Rizzi, 'Cerusici, cavadenti e barbieri nel mondo veneto medievale', Rivista Italiana di Stomatologia, vol.11, 1956, pp.483-491.
4. ASV., Provveditori alla Sanità, Reg.2, f.40v (17 March 1505), confirmed in 1545.
5. One of the earliest defendants was Michel'Angelo Biondo whose role in the history of medicine is discussed in Dizionario Biografico degli Italiani, vol.10 (Rome, 1968), pp.560-3. On 15 March 1542 the Provveditori ordered that he might no longer practise in Venice unless licensed by the College of Physicians, ASV., Provveditori alla Sanità, Reg.728, f.75v.

any person wishing to practise medicine who was not a graduate or a member of one of the two Colleges must obtain a licence. Licences to practise in physic were to be granted by the College of Physicians, and in surgery by the officers of the College of Physicians and the College of Surgeons meeting together. Existing licences were to be registered in the Health Office and reviewed in the presence of the Provveditori by the officers of the two Colleges. (1)

This legislation committed the resources of the Health Office to the enforcement of professional standards, and subsequent years brought a steady number of prosecutions. There was, for example, the case of Jacomo de Musis, who took his degree in surgery at Padua in 1543, and who was exiled from Venice for eighteen months in 1546 for failing to call in a physician for the wife of Francesco Tagliapetra who died under his care. (2)

Health Office concern in this area was maintained, and its legislation was confirmed in 1567 and again in 1574. (3) On the latter occasion it was particularly concerned with the barbers of Venice who were exceeding their minor role in medicine. Traditionally theirs was the right to treat ailments such as boils, cuts and even minor wounds where there was no danger to life. (4) But in 1574 the Provveditori reinterpreted the privilege, so that even for such cases a barber would need a licence. This effectively did away with the opportunity for abuse, although it occasioned bitter complaint from the Guild of Barbers. Their protest was still preoccupying the Health Office at the end of

1. ASV., Provveditori alla Sanità, Reg.2, ff.58v-59v. (8 Jan 1545 m.v.).
2. Ibid., Reg.729, f.113v. (15 Nov 1546).
Further information on De Musis and his colleagues may be found in the Acts of the Venetian College of Surgeons, which survive in the Biblioteca Marciana. The sixteenth century is covered by BMV., MSS. Italiani, Classe VII, codici 2328 (=9722) and 2329 (=9723).
3. ASV., Provveditori alla Sanità, Reg.2, ff.141v-142v (29 Apr 1567); Reg.3, f.1 (26 Aug 1574).
4. Rizzi, op. cit., p.486.

May 1575, when the plague was beginning to take its toll at Trent. (1)

In addition to the burden of new responsibilities, the Provveditori alla Sanità were engaged in a constant struggle to maintain their rights of jurisdiction vis à vis other government offices. There had been problems of this kind in the early years of the Office, and there is evidence that they were increasing after 1560, when the Health Office disputed jurisdiction with the following bodies, and probably others, since the Health Office records of these cases are not all extant.

(References are to ASV., Provveditori alla Sanità).

1560-1569

Avogadori di Comun	Reg.2, f.132v (19 Aug 1563)
Sindici di Fuori	Reg.2, f.133v (1 Feb 1563 m.v.)
Giustizia Nova	Reg.2, f.94r (13 Aug 1561)
Giustizieri Vecchi	Reg.2, f.133v (4 Sept 1563)
Signori di Notte al Civil	Reg.13, f.95v (8 Dec 1567)
Provveditori alle Beccherie	Reg.13, f.90v (8 Aug 1567)
Provveditori alle Beccherie	Reg.2, f. 144v (10 Aug 1567)

1570-1576

Avogadori di Comun	Reg.3, f.9v (16 July 1575).
Provveditori alle Beccherie	Reg.3, f.15v (4 July 1575)
Giustizieri Vecchi	Reg.2, f.154v (23 Oct 1570)
Giudici di Forestier	Reg.13, f.141r (31 Dec 1573)
Corte del Proprio	Reg.13, f.198r (8 Feb 1575 m.v.)

In cases where a government office felt that another magistracy was impinging on its jurisdiction, for example in bringing persons to trial for offences relating to its own areas of concern, it could lodge with the Avogadori di Comun a suspension order (innibitione). The Avogadori would then enforce this on the offending office, which might well retort with a counter-order, preventing the transfer of the case to the jurisdiction of its antagonist. Stalemate thus achieved, the parties in dispute came before the Signoria whose verdict was final. This system, which increasingly preoccupied one of the

1. ASV., Provveditori alla Sanità, Reg.3, f.7v (31 May 1575).

highest councils of the state with disputes over trivial matters, had to be reformed in 1603. (1) Defendants facing harsh treatment from one magistracy were exploiting the system by appealing to the overlapping jurisdiction of other magistracies, persuading them to issue suspension orders. After 1603 both sides of the case had to be heard before a suspension order might be granted.

The problems of the Provveditori alla Sanità were such as to persuade them in 1560 to add a lawyer (Avvocato) to the staff of the Office. The role of the Avvocato was to defend their decisions before other magistracies, including the Signoria. (2) The post was an important one, especially after 1563 when the Health Office lost one of its most important privileges. Until this date criminal sentences of the Provveditori were without appeal, with the exception, after 1553, of sentences relating to prostitution. But in 1563, after the Health Office had come into conflict with the Avogadori di Comun, the Senate decided to allow appeals from Sanità sentences to be heard by a Senate committee of Dieci Savi. (3)

This decision meant more work for the Avvocato, whose post was soon regularised with a salary as high as 100 ducats per annum. (4) It also increased the burden on the Provveditori alla Sanità. More importantly, it threatened the enforcement of the health legislation. In the absence of a large police force, the Health Office was largely dependent on the denunciation of offenders by members of the public. By 1566 it was clear that the number of denunciations had dropped; after rights of appeal were granted to the accused, the public were more reluctant to

1. ASV., Provveditori alla Sanità, Reg.3, f.83v (16 Nov 1603).
2. Ibid., Reg.730, f.272v (26 April 1560).
3. Ibid., Reg.2, ff.132v-133r, 134v (19 Aug, 23 Oct 1563).
4. Ibid., f.145r (12 Aug 1567).

denounce through fear of costs if they lost the case. (1)

Hence, by the eve of the plague in 1575 the Provveditori had lost an important privilege, and were involved in fruitless attempts to regain it. (2) In addition, they were diverted by the constant disputes with other offices. Whilst Matthio Tridentino lay sick in the city with the plague, the attention of the Health Office was being given to the latest innibitione from the Provveditori alle Beccherie. The dispute sprang from an attempt by the Health Office to bring to trial officials subject to the Provveditori alle Beccherie. The accusation, that they connived at the sale of cow meat for beef, must have seemed trivial with the hindsight of only a few months later. (3)

A far more constant source of hindrance to the Health Office was its persistent shortage of funds. Whilst its foundation decree had empowered it to draw on the financial resources of the Salt Office, it appears rarely to have been able to do so, and this was increasingly the case as the century progressed. Whereas in 1533 the Provveditori managed to persuade the Salt Office to increase the salary of the Scrivan, in 1571, despite pressing difficulties, they were unable to obtain a regular salary for the Guardian alli Castelli. (4) Yet the payment of some salaries was the only regular contribution made by the Venetian government towards the running of the Health Office. For the rest, crime was meant to pay; the Provveditori were expected to make the most of the income they collected from fines. This source of supply was under increasing strain as the

1. ASV., Provveditori alla Sanità, Reg.2, f.140 (30 Dec 1566).
2. Ibid., Reg.3, ff.9v,49v (16 July 1575, 6 May 1586).
3. Ibid., Reg.13, f.157 (5 Sept 1575). The innibitione of the Provveditori alle Beccherie was dated 30 June 1575.
4. Ibid., Reg.727, f.249 (26 Oct 1533); Reg.731, ff.116v (25 Jan 1570), 141v-145r (15 Jan 1571).

century progressed. Whilst on occasions the successful prosecution of a wealthy flour merchant or a rich bawd brought in sums of up to 100 ducats (1), the more mundane prosecutions for the sale of bad sardines or poultry might bring in as little as three lire. (2) After 1563, presumably because of the concession of rights of appeal, criminal sentences of the Office were recorded separately and are no longer extant. It is therefore impossible to know whether, as the Provveditori claimed, judicial activity and fines fell off from this date. What is clear is that in 1571 the income from fines was said to be inadequate even to pay for the Office stationery, candles, wax and ink. (3) A decade previously such expenses, together with others, such as transport to the lazarettos, vinegar used in connexion with the disinfection of letters from the near east, and candles for the Madonna of the Office, were running at less than 36 ducats a year. (4) Clearly its income was far from princely. Indeed, for much of the period 1541-1575 the Health Office was actually bankrupt.

Salaries represented a large and increasing burden on the Office. From the outset Soprastanti had been entitled to 50% of the fines resulting from their activity, and it was normal to reward any person whose denunciation led to a successful prosecution. Then there were the piece rate wages of the Guardiani and the Comandador. Furthermore, in the aftermath of the epidemic of the late 1520's, when the Provveditori were particularly under pressure to reduce government expenditure (5), fines began to be used to supplement the small salaries paid by

1. ASV., Provveditori alla Sanità, Reg.728, f.4v (1539); Reg. 729, f.247v (1553).
2. Ibid., Reg.729, ff.40v, 69r (1544).
3. Ibid., Reg.731, ff.141v-145r (15 Jan 1571 m.v.).
4. Ibid., Reg.13, ff.55v-59r (30 Nov 1561).
5. Ibid., Reg.727, f.17v (5 Apr 1529), f.43v (21 June 1530).

the Salt Office, and even to pay the complete salary in the case of the Guardian alli Castelli. (1) The result was immediate: by 1533 the Office was in debt to the Guardian alli Castelli, and was driven to such expedients as selling off beds from the lazarettos. (2) A decade later Antonio Polito, who served as Masser and Fante, was owed seven years' arrears of salary. (3) In 1557 the Office was in debt to Job Porato to the tune of 452 ducats, the balance due to him for his seventeen years as Guardian alli Castelli. In effect, he had not been paid for the equivalent of twelve and a half years. (4) The Scrivan complained in 1564 that although eight years before he had been promised 25 ducats per annum towards the rent of his house, which for official business had to be in the rich area of S. Marco, he had barely received 25 ducats in all over the whole period. (5) Four years later the Office had no means to pay the officer stationed at the guard post at Marghera during the plague in Desenzano. As a result he had been driven into debt and forced to sell two properties on which his family depended. (6)

Yet so crippling a shortage of funds was not allowed to interfere with the growth of the Health Office. New posts continued to be created. The Scrivan di Mozzi, the Deputati alle Doane da Terra and da Mar, and the Avvocato, all established in the 1560's, were all supposed to derive an income from fines. Of these, the Avvocato alone was promised eight ducats per month. (7)

The loyalty of staff left unpaid for such long periods is unlikely to have been great and poverty must have been a spur to

1. ASV., Provveditori alla Sanità, Reg.727, ff.43,210r, 248r, 249r, 250r, 252r etc. (1529-1533). By 1549 all salaried staff were receiving a ducat per month from fines, ibid., Reg.729, f.165r (5 Jan 1548 m.v.).
2. Ibid., Reg.727, ff.248r, 252r.
3. Ibid., Reg.729, f.46r (7 June 1544).
4. Ibid., Reg.730, f.183r (10 Dec 1557).
5. Ibid., Reg.731, f.13r (7 Nov 1564).
6. Ibid., ff.73-75r (Sept 1568).
7. Ibid., f.168v (27 Feb 1572 m.v.).

crime. The danger was particularly great in that it involved the Guardian alli Castelli and the Deputati alli Passi who controlled the movement of persons into the city by land and sea, and who were therefore the most immediately involved in the prevention of plague. These officials were wide open to bribery from merchants anxious to get their goods into Venice. In 1571 the Provveditori alla Sanità recognised this danger. The latest Guardian alli Castelli had died leaving his heirs only his credit with the Office for seven years' unpaid salary. The replacement for such a post, the Provveditori argued, must be entirely trustworthy, especially as there were epidemics at this time in Montenegro, Dulcigno and elsewhere, but no man of worth (honore vera) would take so demanding an office unless he could be sure of a regular salary. (1) Yet their appeal to the Doge that the Salt Office should finance the post went unheard. In 1573 the Guardian alli Castelli was still dependent on fines. (2)

The problems of maintaining a reliable staff with adequate salaries were increased by prevailing attitudes to office holding. (3) It was common in Venice to make appointments, not on the basis of the suitability of the candidate, but on grounds such as service to the state by the candidate, his father or even more distant ancestors. Hieronimo Moritio, for example, had been Prior of the Lazaretto Vecchio in the 1480's. His work there and his death whilst serving in the fleet in 1498 gave his heirs a claim on the state which allowed the office to pass through four generations of the family. Only the successive malpractice of the two Priors Hieronimo and Francesco Moritio

1. ASV., Provveditori alla Sanità, Reg.731, ff.116v-118r (25 Jan 1570 m.v.).
2. Ibid., f.168v (27 Feb 1572 m.v.).
3. Roland Mousnier, 'Le trafic des offices à Venise', Revue Historique de Droit Français et Étranger, vol.30, 1952, pp.552-565.

in 1555 and 1557 removed the office from the family. (1) Similarly, a government committee, the Cinque sopra Napolitani e Malvasiotti, looked to the minor offices as one means of compensating those who had lost home and property with the loss of Nauplia and Malvasia in the Turkish war of 1537-40. In some cases it went so far as to overthrow elections already made by the Health Office in order to impose its own candidates. Nicolo di Nasin was installed as Prior of the Lazaretto Nuovo in 1545 for his service in the siege of Nauplia and his losses there, and was granted reversion of the office to his son on his death. (2) In the following year two Greek women, Erini and Isabetta from Malvasia, were given the office of Fante in the Health Office. Nor were offices granted only in exceptional circumstances. To give a typical instance, in 1562 Zuan Jacomo di Zuan, for his service as Fante, was granted the reversion of his post on his death to his son, or if necessary, to his sister for the support of his family. In fact, within the decade the post was assigned to his widow. (3)

The concession of office to women indicates another aspect of the problem. They could not hold office in person; rather, they appointed substitutes who received a proportion of the income. Thus the Fanteria held by the Malvasians Erini and Isabetta, worth twelve ducats per annum, was hired out for six to their substitute. (4) Such contracts were not confined to posts held by women, but were a general practice. In 1555 the posts of Nodaro, Capitano, Masser and the six Fanterie were all held by substitutes. (5) The tendency to regard government

1. ASV., Provveditori alla Samita, Reg.730, ff.8, 34v, 38v, 139r, 170.
2. Ibid., Reg.729, f.66v (24 Jan 1544 m.v.).
3. Ibid., Reg.2, f.126r (24 Feb 1561 m.v.); Reg.731, f.139 (12 Jan 1571 m.v.).
4. Ibid., Reg.729, f.80v (7 Aug 1545).
5. Ibid., Reg.730, ff.14r (27 June 1555), 34r (23 Oct 1555).

posts as transferable assets was general in Europe at this time. Whilst there is no trace of the private sale of office between individuals in the Health Office records of this period, the effect of granting posts to persons with none but a financial interest in the work must have been the same. Moreover, there was a real danger that substitutes might be unsatisfactory, or too poorly paid to be above the need to supplement their income by illegal means.

The Provveditori alla Sanità were aware of these problems. In 1541 they ordered that holders of office should present their substitute on appointment, to ensure that they were capable of the work. (1) Whether this practice continued is not clear; certainly the Masser found to be illiterate in 1575 who was the substitute of a female office holder, cannot have undergone such scrutiny. The problem of salaries was more recalcitrant. Salaries in the Health Office were in any case low. In 1509 the Senate had acknowledged this and recognised the need for health officials to be above corruption by exempting them from the general halving of salaries ordered in view of the war emergency. (2) Nor had salaries dramatically increased. In 1553, reporting to the Doge on the long arrears of pay due to the Comandador, the Provveditori mentioned the difficulties of one of their Fanti. They confessed they had no idea how he lived on his income of one ducat per month, especially as the additional irregular income of the office was very slight. Yet even this was not the whole story. Since the Fante served as substitute for the women from Malvasia, he in fact received only five of the twelve ducats which the office brought in each year.(3)

1. ASV., Provveditori alla Sanità, Reg.728, f.67v (5 July 1541).
2. Ibid., Reg.12, ff.17v-18r (15 Dec 1509).
3. Ibid., Reg.729, ff.251, 253v (10, 20 May 1553).

Whilst the other Fanti received a higher wage, even this was described in 1559 as very small. (1) The possible solutions were to increase wages or prohibit the use of substitutes. The Provveditori took the latter course in 1574 in relation to the Guardiani, who were particularly exposed to bribery, and later in relation to the Soprastanti alle Vittuarie, most of whom employed substitutes who were said to be little more than vagabonds, driven to crime by the high rent they paid for the office compared with its small returns. (2) But mostly the Provveditori sought means to supplement the income of their staff, although such a course was fraught with difficulty. When, for example, staff were permitted to make charges on the public, they met resistance. Charges on the handling of merchandise in the lazarettos caused particular objection. These diverted trade from the city and had to be restrained in 1561, when, after complaints from the German merchants, it was realised that trade was being lost to the rival ports of Trieste and Ancona (3), and again in 1573 after an inquiry by the Cinque Savi alla Mercanzia. (4) Similarly, the Fanti were given the opportunity to supplement their income elsewhere whilst serving the Office part-time. Two Fanti per week served on a full-time basis; the rest remained free, but at the disposal of the Provveditori, who could send them commissions at any time. (5) Finally, the Provveditori attempted to supplement salaries from the Office treasury, and by 1549 all salaried staff were supposed to receive an extra ducat per month from fines. (6) Given the financial embarrassment of the Office

1. ASV., Provveditori alla Sanità, Reg.730, f.230v (20 Mar 1559).
2. Ibid., f.316v (4 May 1562); Reg.3, ff.3 (1574), 86 (26 Sept 1606).
3. Ibid., Reg.730, ff.305v-306r (20 Oct 1561).
4. ASV., Secreta, Materie miste notabili, Reg.55 bis. Papers relating to the inquiry.
ASV., Provveditori alla Sanità, Reg.2, ff.164v-165r. A Senate decision of 28 Nov 1573.
5. Ibid., f.95 (22 Sept 1561).
6. Ibid., Reg.729, f.165r (5 Jan 1548 m.v.).

this can only have increased the frustrations and difficulties of its staff.

Corruption was the natural outcome of government attitude and practice in relation to staff. The problem was a recurring one for the Health Office as the following table of successful prosecutions reveals:

OFFENCES TRIED BY THE PROVVEDITORI ALLA SANITÀ 1541-58

The sources for this list are the records of sentences in ASV., Provveditori alla Sanità, Regs. 728-730 passim.

<u>DATE</u>	<u>PERSON</u>	<u>OFFICE</u>	<u>CRIME</u> (where known)
1541	Zuan Jacomo Stationario	Scrivan	receiving money illegally
1541	Gasparo Duracin	Fante	-
1541	Nicolo Collochio	Medico	permitting an illegal burial
1545	Nicolo Vassalo	Guardian at Lizzafusina	taking bribes
1547	-	4 porters and 1 boatmen	thefts from lazaretto
1549	Battista Negro and Piero Contin	Guardiani at Lizzafusina	permitting illegal entry
1553	Antonio Contin	Guardian at Lizzafusina	coming to Venice whilst on duty
1553	Arcanzolo Duracin	Substitute Fante	complicity with bawd Isabetta Vanzagha
1553	Marco Zavater	Guardian	disorders at lazaretto.
1554	Battista de Novellis	Guardian at Lizzafusina	coming to Venice whilst on duty
1555	Hieronimo Moritio	Prior of Lazaretto Vecchio	receiving guests to Lazaretto and discharging inmates
1555	-	3 Pizzegamorti and 1 massera of Lazaretto Nuovo	disorders at Lazaretto
1556	Alvise Calagher	Disinfector, Lazaretto Nuovo	-
1556	Antonino da Fermo	Capellan of the lazarettos	usurping property of a patient in the lazaretto
1556	Helena da Piran	Massera, Lazaretto Nuovo	theft
1557	Francesco Moritio	Prior of Lazaretto Vecchio	conceding licence to infected goods.
1557	Piero Rega	Medico, Lazaretto Vecchio and 10 other staff	conceding licence to infected goods

cont.

<u>DATE</u>	<u>PERSON</u>	<u>OFFICE</u>	<u>CRIME (where known)</u>
1557	Damian	Fante	failing to report for duty
1557	Zuan Orese	temporary Prior, Lazaretto di S. Anzolo di Concordia	receiving guests
1557	Adriano Sanese	Capellan, Lazaretto Nuovo	theft of infected goods
1557	Silvestro	Fante	failing to report for duty
1558	-	Acting Masser	theft of a barrel of condemned meat

Quite as significant as the actual prosecutions are offences which did not come to trial. In 1545 there were frequent complaints against staff for taking bribes from provisioners and innkeepers. (1) In 1562 it was found that Guardiani returning from quarantined ships or the lazarettos often took away goods with them, and their claim that these were gifts or purchases was not taken seriously. (2) By 1572 the number of Soprastanti alle Vittuarie had swollen to no less than three hundred. Far from enforcing the law, they made a living from under-the-counter gifts from tradesmen. (3) There is also evidence that much malpractice went undiscovered. Only the death of Antonio Scarpolato, Scrivan from 1546-66, brought to light the corrupt practice, going back many years, by which he had appropriated fines due to the Office and money deposited by merchants against expenses in the lazarettos. (4)

It is therefore clear that during the period 1541-1575 the Health Office underwent considerable development. The scale of operations had increased, and so too the number of staff, especially Guardiani and Soprastanti. New posts had also been

1. ASV., Provveditori alla Sanita, Reg.729, f.76v (8 June 1545).
2. Ibid., Reg.730, f.316r (29 April 1562).
3. Ibid., Reg.2, f.161r (22 July 1572).
4. Ibid., f.138v (5 Dec .566).

created to deal with new problems and new responsibilities. Whilst the old functions continued, time was increasingly taken up with work of a more general character. As the Office prisons filled with vagabonds, so the warehouse of the Masser filled with pledges siezed from bawds and prostitutes and samples of patent medicines, and so the registers of the Office filled with licences for drugs and doctors, with records of the census and of merchant shipping. Corruption, shortage of finance, and disputes of jurisdiction increased the problems of the Office and further preoccupied the Provveditori. That plague reached Venice in 1575 need not be blamed on the scientific ignorance of the Provveditori. Rather it reflected the sheer difficulty of their task compounded as it was by confused medical advice and by administrative problems within the Health Office.

CHAPTER 9

PHYSICIANS, THE HEALTH OFFICE AND THE STATE:THE VENETIAN CRISIS OF 1576.

Most physicians concluded that the Venetian plague of 1556 was caused by contagion and not immediately through corruption of the air. But the notion of the occurrence of plague in a wholesome atmosphere was so foreign to classical medicine that Niccolò Massa denied that the epidemic of 1556 could be called true plague (pestis seu pestilentia vera). (1) In the years 1575-1577, the question of the definition of plague gained an extraordinary importance. It divided physicians, confused administrators, and undermined the work of the Health Office at a critical time.

In the opinion of many physicians in the 1570's, a fundamental characteristic of plague was that it should affect a great number of people, and prove fatal in a majority of cases. Amongst those who propounded this view, derived from Galen, were Girolamo Mercuriale (2), Giovanni Battista Susio (3), and Alessandro Massaria. (4) Their thinking was connected with the idea that plague must derive from corruption of the atmosphere. It was, after all, the mass occurrence of plague cases which first caused Hippocrates to suggest that the air, the most common element, must be responsible. (5) Consequently, if there were

1. See above, Chapter 4.

2. Mercuriale, De pestilentia, op. cit., p.6.

'Quare cum in hac nostra constitutione multi aegrotarint uno genere morborum et aegrotantium maior pars sit extincta, certissimum mihi videtur esse, pestem veram existisse, aut negandum est nobis neque Hippocratem neque Galenum vere pestis unquam mentionem fecisse'.

3. Susio, op. cit., ff.7r-9v.

4. Massaria, op. cit., f.7v.

'Itaque homines pestilentiam aliqua in loco esse arbitrantur cum plurimi aegrotant a se invicem inficiuntur et misere pereunt, ut consensu omnium statuendum sit, pestem morbum esse atque illum quidem communem et perniciosum'.

5. See above, Chapter 1.

only a few cases of disease, the air, which was common to all, could scarcely be responsible, and the disease could not be termed plague. Francesco Stabile summarised this argument:

'Rationes autem quibus innituntur hae sunt. Pestis cum morbus sit communis, ex communi causa nempe ex aere provenit; teste Hippocrate in libro de flatibus et alibi. At haec constitutio quae Venetiis fuit, ex aere non provenit ergo pestis appellari minime potest'. (1)

Physicians who held these opinions tended to use the term 'plague' as a synonym for 'epidemic'. They denied that any particular symptoms could indicate the presence of plague, since any disease could become a plague provided that it reached epidemic proportions and was usually fatal. Again there was solid Galenic authority on their side. In his lecture at Padua in 1577 Girolamo Mercuriale argued as follows:

'Constituamus igitur hanc definitionem seu descriptionem pestis: scilicet eam esse morbum communem, complures simul etiam diversarum regionum infestantem, lethalem et maxime contagiosum. Dicitur morbus simpliciter, quandoquidem ut dicebam in hesternae lectione ex sententia Galeni tertio in tertium epid., pestis non est unus morbus determinatus, sed quicumque morbus potest esse pestis, modo complures attingat eodem tempore, et maiorem partem perdat'. (2)

Similarly Massaria laughed at the idea that plague could be defined in terms of symptoms:

'ridendi sunt qui signis quibusdam propriis et determinatis pestilentiam definire et demonstrare conantur'. (3)

These arguments, which were scarcely discussed before the 1570's, reveal the renewed vigour of the Galenic tradition. They were of practical significance, since at the outset of an epidemic, many physicians tended to deny on conceptual grounds that it could be termed plague. The result was to undermine the work of the Health Offices by encouraging false optimism. Physicians were not however of one mind. Susio and Mercuriale were amongst those who denied that a disease restricted to a

1. Francesco Stabile, op. cit.
2. Mercuriale, De pestilentia, op. cit., p.10.
3. Massaria, op. cit., f.23v.

small proportion of a community could be termed plague. Massaria, on the other hand, argued that the beginning of a plague could be called plague, just as the beginning of a movement was properly a movement. (1) Girolamo Donzellini used Thomist vocabulary to deny that mass distribution must be part of the concept or essence of plague:

'il che non pertiene all'essenza della peste, ma è accidente estrinseco alla natura sua, e segue l'effetto della peste ch'è il contagio, e ancho la causa di essa peste ch'è comune a tutto il populo. Ma posto caso che nel mondo ò in una città o castello fosse un huomo solo e che havesse quella maligna e venenata qualità, ch'è la vera essenza della peste, insieme col caratterismo de suoi effetti e accidenti, non è dubio che saria peste, e nondimeno non saria epidemia ne popolare'. (2)

Francesco Stabile dismissed the controversy as quaestio sane potius de nomine. He defended the diagnosis of plague from particular symptoms, and set out to justify his observation that swollen testicles were part of the plague syndrome. (3)

The plague of 1575-7 therefore brought about heated disputes amongst the physicians of each new town where it appeared. In May 1575 the disease broke out in Trent. (4) From there it spread south to Verona in August, and to Mantua in September. In Verona at a meeting of physicians, Ludovico Lazino argued against his colleagues that the panic in the city was unjustified. The disease, which he referred to as febris maligna, could not be

1. Massaria, op. cit., f.27r.
2. Donzellini, op. cit., (unpaged).
3. Stabile, op. cit.
4. An account of the plague in Trent, by the physician who in mid-June 1575 first diagnosed plague in the city, is in the Biblioteca Ambrosiana in Milan, MS. D 195 inf., Informatione intorno alla peste che fu in Trento prima l'anno del 74 e 75. His diagnosis was pragmatic:
'non restai per questo che io non dicessi alli Sri Consoli che facessero vedere i corpi morti per havere io suspetto che questo male intitolato per petecchie non fusse altra che peste. In tanto fui pregato di andare a vedere uno amalato vicino alla mia casa, e come presago del male, non volsi intrare in casa ma lo feci portar a basso, e io trovai che haveva una glandussa nella anguinaia stanca et un carbone sotto al ginocchio dritto et che tre dì avanzi era morta la moglie con li medesimi segni. E cosi dettolo di nuova alli Consoli vi si cominciò a fare strette provisioni'.

called a plague (aegritudinem illam proprio nomine non est appellandem pestilentiam). (1) In Mantua, Giovanni Battista Susio argued that in a city with a population of 50,000, a mortality of only three or four hundred did not represent even a shadow of plague. The idea that there was plague in Mantua was cosa da trarre il riso infino da sassi. (2) According to Alessandro Massaria, there were disputes of this kind in Mantua, Vicenza and Venice. (3)

Physicians who denied that plague was a single disease identifiable by symptoms were in conflict with the Health Offices and with the common parlance of the time. The fundamental practice of the Health Offices was to carry out post-mortem examinations in all cases where the presence of plague was suspected. Particular search was made for buboes (buboni) and other swellings (carboni) relevant to the syndrome of bubonic plague. Thus it was that the early diagnosis of plague was made in Venice in 1555, when the disease was confined to only a few cases. It was no accident that in 1576 one of the leading opponents of the idea that plague could not be diagnosed from symptoms was Francesco Stabile, physician to the Venetian Health Office. The position of the Health Offices was also in line with the way the term peste was used by contemporaries outside the medical profession. Thus a Ferrarese ambassador implied that plague and typhus were separate diseases in 1555, when he referred to typhus (petecchie) as cugino della peste. (4)

Disputes within the medical profession and between physicians

1. ASVerona, Ufficio di Sanità, Parte antica, Num.33. A draft of Gabriel Chiocco's Commentariolus quo explicatur quare ratione Dominus pestilentiae suspitione comminatus sit Veronae anno sanctissimi Iubilei 1575 (Verona, 1576). Chiocco was Cancelliere of the Veronese Health Office.
2. Susio, op. cit., ff.57r-58r.
3. Massaria, op. cit., f.7v.
4. See above, p.100.

and the Health Offices were the context in which governments had to take practical measures during the plague of 1575-7. Throughout Northern Italy administrators had to adjudicate philosophical disputes as a basis for action. Their decisions were determined partly by the classical tradition and partly by ragione di stato. This was true of the controversy which took place in Venice in 1576, a rare incident in which the history of ideas impinged in a dramatic way on government action and the lives of the people.

Plague broke out in Venice in July 1575. From 1st August 1575 to the end of February 1576 there were 3,696 deaths. (1) But the winter brought the disease to a halt. From March until the end of May mortality remained low. The bills of mortality recorded 16 deaths in the week beginning 8th April, (2) and only 8 deaths in the week ending 26th May. (3) But in the first week in June there were 31 deaths. (4) The increase in mortality caused alarm. On 2nd June the Papal ambassador wrote that 25,000 people had left Venice, and a week later he reported 270 patients in the Lazaretto Vecchio, and 580 persons quarantined in the Nuovo. (5) On 7th June the Collegio wrote to Padua to summon a team of physicians from the University to advise on the disease. (6)

Foremost among the physicians who came to Venice in response was Girolamo Mercuriale, Professor of practical medicine in primo loco, and his deputy in secundo loco Girolamo Capodivacca. With them were Mariano Stefanelli and Niccolò Corte, who held the secondary chair of practical medicine respectively in primo and

1. ASV., Secreta, Materie miste notabili, Reg.95, f.164r.
2. Nunziatura di Venezia, vol.11, op. cit., p.530.
3. ASF., Archivio Mediceo del Principato, Filza 2984, f.135r.
4. BMV., MSS. Italiani, Classe VII, Cod.364 (=7934), f.69r.
5. Nunziatura di Venezia, vol.11, op. cit., pp.548, 553 (2, 9 June 1576).
6. ASV., Provveditori alla Sanità, Reg.13, f.201v. A letter addressed to the Podestà of Padua.

secundo loco. Finally there was Bernardino Paterno, who held the chair of theoretical medicine. (1) Even before going to Venice Girolamo Mercuriale had decided that the disease there was not plague. This he made clear in a letter to the Venetian physician Niccolò Comasco dated 30th May 1576. The death rate from the mal contagioso in Venice was only 2-4 per day, and cases of sickness were almost all amongst the poor. The disease could not therefore be plague which must necessarily be widespread (morbo popolare):

'se noi vogliam attendere a gli documenti de gli antichi medici e l'histoire delle pesti avvenute, siamo forzati dire che alla peste sia necessario esser morbo popolare, nel quale molti si infermano e de gli infermi molti muoiano. Pochissimo sono coloro che se infermano et quasi tutta gente povera e mal nutrita e governata. Io certo mai la chiamerei peste'. (2)

On the afternoon of Sunday 10th June a full scale medical debate was held in the Sala del Maggior Consiglio. Present were the five Paduan professors, a substantial body of Venetian physicians, the Doge and leading officials of state. (3) The debate was opened by the Venetian physician Niccolò Comasco, who argued that the disease was true plague. (4) He was followed by Ludovico Boccalini, who in a long speech argued that there was

1. On the significance of these chairs, Bertolaso, 'Ricerche d'archivio..', op. cit.
2. BMV., MSS. Italiani, Classe VII, Cod.806 (=9557), Parer dell'Eccte. D. Hieronymo Mercuriale sopra il stato della sanità in Venetia in risposta all'Eccte. D. Niccolò Comasco, f.lr.
3. According to the Mantuan ambassador only the Doge and his Consiglieri were involved, ASMant., Carteggio Estero ad Inviati, Filza 1509, 11 June 1576. But the fullest account of the debate, an anonymous letter of 15 June 1576, which is the main source for what follows, implies that the disputation was heard by the Collegio, Biblioteca Ambrosiana, MS. D 195 inf., ff.37r-38v. This is supported by the contemporary author of the Successo della peste l'anno 1576, MCV., Raccolta Cicogna 3682, and by Cornelio Morello, Scrivan of the Health Office, writing eight years after the event, ASV., Secreta, Materie miste notabili, Reg.95, f.162r.
4. Niccolò Comasco, or Niccolò Sammicheli (d.1578) was acclaimed in his day as anatomist, cosmographer and botanist. He served in the fleet as physician to the Capitano General in 1539, and was successively a member of the Venetian Colleges of Surgeons and Physicians.

not even a suspicion of plague. He stressed that plague was a mal commune which attacked persons of all classes and was fatal in most cases. But in Venice from March to May 1576 the death rate from all causes was only 14 per day out of a population which he put at 230,000. Furthermore, fatalities had only occurred among the poor. He argued that the disease should be referred to as febri maligne, caused by factors such as drinking salt water. (1) This was followed by a statement from Lorenzo Solario, who was at this time quarantined in his house by the Health Office. He, too, denied the presence of plague. The Health Office physician was the next to speak. (2) In line with the assumptions of the Office he asserted the disease to be true plague. He was opposed by the fifth speaker, Marcantonio Mauritio. It was then the turn of the Paduan professors. Three of them were reluctant to give a categorical verdict. Stefanelli was inclined to deny the presence of plague. Paterno argued that the disease was not plague but the beginning of plague (disse non esser peste ma principio di peste). Similarly Niccolò Corte considered that the disease could become a plague (potria farsi). Mercuriale, on the other hand, made a long speech denying the presence of plague, and he was backed by his deputy, Capodivacca. The final contributions came from Zuan Ailan, a Frenchman with Venetian citizenship, who also rejected the presence of plague, and from Tiberio Barbaro who argued the contrary (disse è peste e vera).

The outcome of the debate was that the Doge and leading

1. The Venetian pozzi were prone to flooding with sea water. Annibale Raimondo in his Discorso, op. cit., blamed the flood of 11 October 1574 for the diseases of 1575-6. Boccacini died in the plague, probably soon after the debate, BMV., MSS. Italiani, Classe VII, Cod.806 (=9557).
2. Probably Alvise Venier, physician to the Office from February 1576, ASV., Provveditori alla Sanità, Reg.732, f.94r (8 Feb 1575 m.v.).

officials were convinced that there was no plague in Venice. Ludovico Boccalini's words were said to have been particularly influential. (1) The Mantuan ambassador also referred to a speech by Pietro Fogliati, who had argued that the disease was not plague con molta sodisfattione di Sua Serenità. (2) Most decisive, however, was probably the gesture made by Mercuriale and Capodivacca. To demonstrate that there was no reason to fear the disease, they offered to treat a sample of the sick. They would visit six patients twice a day, and were prepared to touch them, take their pulses and do all else that was necessary. (3)

A number of contemporaries, including the Florentine ambassador and the Papal Nunzio, ridiculed the debate and its concern for terminological niceties. They considered it to be pazia espressa star in queste dispute in cose tanto manifeste (4), and argued that la disputa sta solo nel nome, facendo l'effetto proprio della peste. (5) Cornelio Morello, Scrivan of the Health Office, was amongst their number. He pointed out that the effects of the plague were the same whatever its name. (6) But in reality the debate had important practical significance. For the offer of Mercuriale and Capodivacca to treat the sick was conditional upon terms which the Venetian government agreed to accept. (7) These were as follows:

1. Milan, Biblioteca Ambrosiana, MS. D 195 inf., ff.37v-38v. The text of Boccalini's speech.
2. ASMant., Carteggio Estero ad Inviati, Filza 1509, 11 June 1576. Fogliati is not mentioned in the Ambrosiana MS. From the order in which he spoke, it may have been he who read out the statement by Lorenzo Solario.
3. BMV., MSS. Italiani, Classe VII, Cod.806 (=9557), fasc.9.
4. ASF., Archivio Mediceo del Principato, Filza 2984, f.141r.
5. Nunziatura di Venezia, vol.11, op. cit., p.556.
6. ASV., Secreta, Materie miste notabili, Reg.95, f.162v.
'confessavano tutti nondimeno come ho detto causare gli medesimi effetti come suol fare la peste, che a me pare in effetto una istessa cosa'.
7. The government's acceptance con gran allegrezza was reported by the ambassador of the Duke of Savoy, ASTorino, Lettere Ministri - Venezia, vol.1, lettera 167, 16 June 1576.

'Che per tempo alcuno ne le persone nostre ne confessori ne altri medici, cerurgichi, barbieri o altri ministri possino esser mai per qual si voglia causa sequestrati, serrati o impediti dal comertio comune.

Che si bandisca pubblicamente non esser peste in Venetia.

Che si levino le barche bianche.

Che non si mandi al lazaretto ne si sequestri persona alcuna per commertio che habbi habuta in casa di qualsivoglia infermo.

Che non si sequestri in casa persona alcuna se non doppo che saranno morti due sospetti e all' hora si faci senza quelli segni della croce di legno ma con solo cominatione della vitta.

Che non si mandi al lazaretto se non doppo che vi sarano morti almeno quattro in una medesima famiglia e sia da noi giudicato il mandarli.

Che li Illustrissimi Deputati alla Sanità non debbano mancar di far tutte quelle provisioni che da noi sarano proposte per servitio delli infermi, della città e de morti.

Che le persone nostre si proveda in maniera che ne di casa comoda ne di gondole ne di altre comodita necessarie alla vitta non si manchi, ne per noi e per li nostri servitori e ministri'. (1)

These terms represented a determined attack on the Provveditori alla Sanità and the rigorous measures which they had been taking. (2) The shutting-up of houses and the use of the lazarettos were to be severely curtailed. The Provveditori were to be subject to the commands of Mercuriale and Capodivacca, and were to be humiliated by a public announcement that there was no plague in the city. Mercuriale and his supporters were convinced that the Provveditori had exaggerated the danger. Furthermore, like Niccolò Massa in his Ragionamento of 1555, they thought that shutting up the poor in unhealthy conditions, limiting access to them by doctors and others, or sending them to the lazarettos, only made matters worse. In March Pietro Fogliato had told Paolo

1. ASV., Secreta, Materie miste notabili, Reg.95, f.19v. The text of the letter is also given in BMV., MSS. Italiani, Classe VII, Cod.806 (=9557), fasc.9, f.lr, which appears to be in the hand of Mercuriale.
2. ASMant., Carteggio Estero ad Inviati, Filza 1509, 3 Mar 1576. The ambassador of Mantua reported the strictness of the Health Office:

'Hanno fatto alcuni provvedimenti alla sanità quali sono così rigorosi che non solo sequestrano le persone per sospetto di qualche male ma se per sorte muore qualch'uno di febre maligna o petechie sequestrano tutte le case ove sia qualch' uno che habbi o visitato o parlato con che haveste visitato detti amalati tal che havevano cominciato a metter paura fori al bisogno'.

Moro, the ambassador of Mantua, that di ogni 50 che mandano al lazaretto, 49 sono senza caggione. (1) Mercuriale himself in his letter to Niccolò Comasco in May had argued similarly:

'Io sono in questa ferma opinione che se si lassassero libere e le case e tutti l'infermi, non morirebbe più niente di quel che si fa, anzi forse meno'. (2)

After a few days in Padua, Mercuriale and Capodivacca returned to Venice to begin their work. Paolo Moro reported that their offer had given the city fresh hope (messo il fiato in corpo a tutta la città) (3), and they were received with the wildest enthusiasm, hailed as duoi dei in terra della medicina and as San Cosmo e Damiano che fossero stati da Dio mandati. (4) Everywhere they went crowds gathered to applaud them. (5)

Mercuriale and Capodivacca and their assistants set out early each morning in five gondolas. With them were two Jesuits to hear the confessions of the sick. In each house which they visited they threw open the windows and fumigated the rooms. They did not shrink from handling the sick (toccano il ponzo alli infermi et altro occorendo senza schivarsi), and gave orders to their surgeons on lancing swellings (carboni) and on blood-letting. Everywhere they spread optimism, dispensing alms from

1. ASMant., Carteggio Estero ad Inviati, Filza 1509, 24 Mar 1576.
2. BMV., MSS. Italiani, Classe VII, Cod.806 (=9557), fasc.8, f.lv.
3. ASMant., Carteggio Estero ad Inviati, Filza 1509, 11 and 16 June 1576.

'sono venuti li medici di Padova et hieri et oggi sono andati in volta, et si spera gran beneficio da essi poi che essendo huomini così principali non si saranno messi a questa impresa se non fossero certi di riuscirne con honore'.

4. MCV., Raccolta Cicogna 3682.
5. ASP., Ufficio di Sanità, Reg.239, 18 June 1576. According to a letter of this date from Venice:

'Gli Eccelenti signori medici hieri operavano in modo che gli populi tutti gl'estimano come di e tanta è la gente che gli seguono ovunque vanno che è maraviglia veder, gridando tutti o ministri d'Iddio o patres ac liberatores patriae iddio vi prosperi, iddio vi felicitati e conservi ac similia; in conclusione tutti, tutti uno ore gli benediscono...'

their own pockets and working until late at night. (1)

Horrified by the acclamation which Mercuriale and Capodivacca received, the Provveditori alla Sanità of Venice were steadfast in their view that the disease was plague. Whilst the Collegio accepted the professors' terms, the Provveditori stressed that pernitiosissimo sarebbe assentire a tutte quelle domande. (2)

The Scrivan, Cornelio Morello, said that opinion in the Office was that the professors' visit could be the city's ruin. (3)

Although isolated by public opinion, the Provveditori alla Sanità received support from their colleagues on the mainland. The Provveditori alla Sanità of Padua were worried by the professors' terms since they felt that contacts of the sick not put into quarantine could carry the disease to Padua. They therefore sent a delegation to Venice to protest at the Collegio's stance. (4)

The Provveditori alla Sanità of Verona urged the Veronese representatives in Venice to give the delegation every support. (5)

1. ASP., Ufficio di Sanità, Reg.239, 20 June 1576. A full account of the doctors' work, sent to the Provveditori by Giovanni Domenico Carinello.
2. ASF., Archivio Medico del Principato, Filza 2984, f.148r. A despatch from Orazio Urbani, 23 June 1576.
3. ASP., Ufficio di Sanità, Reg.239, 15 June 1576. A letter from Giacomo Frigimelica to the Paduan Provveditori alla Sanità.
'Per quanto mi ha detto M. Cornelio quel offitio dubita che questo possi esser la ruina di questa città'.
4. ASMant., Carteggio Estero ad Inviati, Filza 1509, 16 June 1576.
'...Padova habbi mandato Ambasciatori a questi Signori per opporsi a quel capitolo di essi medici che non vogliono che si mandi al lazaretto se non dopo morti di sospetto almeno quattro di una famiglia, dicendo Padoani che come ne siano morti uno o due fugiranno a Padova'.
5. ASP., Ufficio di Sanità, Reg.295, 18 June 1576. The Provveditori alla Sanità of Verona wrote to their Paduan counterparts:
'Habbiamo veduto li capitoli nelle sue mandateci circa le cose di Venetia per conto di suoi eccellentissimi medici... et quanto al capitolo che per il primo morto non si sequestrata la casa ci ha parso buona consideratione quella delli Signori vostri per la salute comune con mandar ambasciatori a suplicar et noi habbiamo fatto scriver a gli nostri in Venetia residenti che con li suoi si attrovino per tal effetto'.

On their arrival in Venice on 15th June the Paduan envoys made for the house of their city's representatives. Outside in a gondola was Capodivacca who warned them that, if there was any question of him or his colleagues being refused access to Padua because of contact with the sick, he would refuse to go on practising in Venice. Afterwards they went to the Health Office where they found the Provveditori and Sopraprovveditori alla Sanità 'molto propitii alla nostra intention'. (1) The Provveditori were not at all happy with the professors (par che non siano sodisfatti punto di questi nostri due medici), and could be expected to lend support in an audience with the Collegio which was to be arranged for Sunday, 17th June. (2)

Saturday, 16th June was spent by the Paduan envoys in privately canvassing the Doge and members of the Collegio in preparation for their audience. Whilst opposed to the professors' terms in general, they were especially anxious that travel passes should not be issued to any person who might have had contact with the sick, and concerned that the professors themselves should not be allowed to move freely to and from Padua. They pointed out to members of the Collegio the danger to their city in the professors' terms, and were favourably received, although they were regarded con brutt'occhia by many who saw them as the

1. ASP., Archivio Civico Antico, Lettere di Nunzi e Ambasciatori ai Deputati ad Utilia, Busta 15, 15 June 1576.
2. ASP., Ufficio di Sanità, Reg. 239, 15 June 1576.

professors' opponents. (1) The audience, to which the Provveditori alla Sanità were also called, proved a success for the Paduan envoys. It led them to hope that the professors' terms would not be put fully into practice, (2) and allowed them to return to Padua in the assurance that unrestricted commerce between Venice and Padua would not be allowed.

The Venetian Provveditori alla Sanità opposed Mercuriale and Capodivacca in more general terms. When the professors instructed them to abandon the white boats used for transport to the lazarettos, they refused, and complaint against them was made to the Doge. (3) But by the 18th June the professors had obtained most of their demands, including the removal of the white boats and the crosses on infected houses which aroused so much alarm. (4) The following weeks were a time of extreme

1. ASP., Archivio Civico Antico, Lettere di Nunzi e Ambasciatori ai Deputati ad Utillia, Busta 15, 16 June 1576.
'Habbiamo tutt'hoggi atteso ad informar particolarmente li Clarissimi Signori di Collegio et a dimostrarli il periculo che ci soprasta se li capitoli postoli per questi eccellenti medici haverano esequitioni anco havendo rispetto alla nostra città, et ancora che habbiamo ritrovato un ardente desiderio in tutti questi signori che questi eccellenti homeni incomincino questa cura, nondimeno della maggior parte di essi ci è sta detto che le nostre dimande sono ragionevoli et speriamo di esser esauditi che non si faccia fede a quelli della casa de quali vi sera alcuno infermo o morte di suspetto fin che chiaramente non si scopre che quello non è morbo contagioso et anco havemo di già si può dire ottenuto che li medici si sequestrerano subito che haverano principiato a medicar che sara Dimane'.
They also found Doge Mocenigo favourable, 'qual ne ha detto assai buone parole et deto di favorirne per esser la nostra dimanda honesta', ASP., Ufficio di Sanità, Reg.239, 16 June 1576.
2. ASP., Archivio Civico Antico, Lettere di Nunzi e Ambasciatori ai Deputati ad Utillia, Busta 15, 17 June 1576.
'donde possiamo congiettare che i capitoli de i prefati eccellentissimi medici non havranno quelle essecutione che loro intendevano'.
3. ASP., Ufficio di Sanità, Reg.239, 15 and 16 June 1576.
4. Ibid., 18 June 1576. A report that in Venice there were 'non più barche bianche, non più croser, non più lazareti, non in fine tanti spasmi'.

tension between the Provveditori and their opponents, particularly as mortality continued to rise. (1) On 22nd June the Health Office published a long series of regulations on quarantine and other matters, including an instruction that all persons with tumours behind the ears, in the armpits or groins (the principal sites of swellings in bubonic plague), were to be put into isolation. (2) This appears to have been done in defiance of the Collegio, a stance which the Provveditori justified on constitutional grounds. (3) The popularity of the Provveditori was at its lowest ebb, and it was widely stated that they were exaggerating the seriousness of the situation in their own interests. (4)

By 24th June the professors had investigated the disease and drawn up a report. (5) But the government was anxious

1. BMV., MSS. Italiani, Classe VII, Cod.364 (=7934), f.69r.
The weekly totals of mortality recorded in the bills for the first four weeks in June were respectively 31, 55, 36, 95. These figures evidently excluded deaths in the lazarettos.
2. ASV., Secreta, Materie miste notabili, Reg.95, ff.21v-26r.
'siano tenuti a star in casa sequestrata nel modo che si sequestrano li sospetti di mal contagioso tutti quelli che havessero tumori da driedo le orecchie, sotto gli scagli e alle coscie...'
3. ASF., Archivio Mediceo del Principato, Filza 2984, f.148r
(23 June 1576).
'ne può il Collegio comandar loro poi che in questa parte hanno tutta quella autorità che ha in tutte le altre il Consiglio de Dieci'.
4. Ibid., f.149r.
'Ne resterò a dire a Vostra Altezza le passioni esser passate tanto avanti che molti pubblicamente affermano i signori della sanità desiderare inventare che il male apparisca grande e importante per interesse lor propria atteso la molta utilità che ne cavano stando le cose in tal termine'.
5. Several texts of the report are extant, including ASV., Secreta, Materie miste notabili, Reg.55 bis and BMV., MSS. Italiani, Classe VII, Cod.806 (=9557). In it they claimed to have treated the sick for 7 or 8 days continuously. The report may however have been reworked before reaching its present form in which it was presented to the Doge in July.

for them to continue their work. On 26th June the Senate assigned them three Venetian doctors as assistants. These were Zuan Ailan, Marcantonio Mauritio and Ludovico Boccacalini, who had been amongst their foremost supporters in the debate of 12th June. (1) On 27th June Mercuriale and Capodivacca were again ready for service, though they were no longer prepared to enter houses in quarantine, since by this time they were familiar with the disease and could do as well by calling out instructions to their assistants from outside the door. (2) They were also no longer content to visit only patients already in quarantine, since the Health Office was allegedly assigning them only hopeless cases. (3) They argued that they could do more good if called in the instant the disease was discovered, and obtained the revocation of a Senate resolution confining their efforts to patients in quarantine. (4) From this time the professors and their assistants moved freely between quarantined and free houses. (5)

Senate proceedings in the last week of June were increasingly preoccupied with the epidemic and the acrimony surrounding the University mission. Following the meeting on 28th June which gave the Paduans a free hand in the choice of their patients, the Mantuan ambassador wrote that:

'tanto è la scisma tra la propria nobilità che l'è cosa notabile, ma però tutti li nobili per il più sono a favor delli medici di Padova'. (6)

On 29th June Zuan Battista Bernardo, Provveditore alla Sanità, delivered a prolonged attack on Mercuriale and Capodivacca, whilst in their defence the Consigliere Marco Bollani bitterly condemned the Health Office doctor, chiamandolo traditore, nemico

1. ASV., Provveditori alla Sanità, Reg.13, ff.204v-205r.
2. Ibid., ff.207r-208v (27 June 1576).
3. ASF., Archivio Mediceo del Principato, Filza 2984, f.148r.
4. ASV., Provveditori alla Sanità, Reg.13, ff.207r-209r.
Decisions of 27 and 28 June with the text of the professors' protest.
5. ASF., Archivio Mediceo del Principato, Filza 2984, f.155r (30 June 1576).
6. ASMant., Carteggio Estero ad Inviati, Filza 1509, 29 June 1576.

d'ogni humanità, lui è suoi fautori, et che sperava presto vederlo sopra d'una forcha'. (1)

Ultimately the disease itself decided the issue. In the last week of June the bills of mortality recorded 95 deaths, almost three times as many as in the previous week, and in the first week of July they registered 171. It was the beginning of one of the most calamitous summers in Venetian history. As mortality rose, confidence in the Paduan physicians ebbed away.

(2) What was more, their own party was not spared by the disease. On 30th June it became known that of the Jesuits accompanying the professors, one was dead, whilst the second, as well as a barber attached to the team, were dying. (3) In these circumstances the Senate turned its back on the terms under which the Paduans were serving and ordered them to undergo eight days' quarantine. (4) The professors soon became the scapegoat for the soaring toll of deaths. On 7th July the ambassador of Florence denounced them:

'i quali con la vana oppinione loro non hanno fatto altro che espor la vita a grandissimo pericolo, perder grandissima parte della reputatione acquistata nel corso di molti anni e causare la morte a molti i quali confidenti nelle parole loro hanno allargato la mano nella praticcha di persone, e robe infete piu che non havrebon fatte'. (5)

Looking back on the incident eight years after its occurrence, Cornelio Morello believed them to be la principal causa di tanta mortalità et rovina, both because their movements from infected to healthy areas had spread the disease, and because they had

1. ASMant., Carteggio Estero ad Inviati, Filza 1509, 30 June 1576.
2. Nunziatura di Venezia, vol. 11, op. cit., p. 567, 30 June 1576.
'Si sperava nella opinione delli medici di Padua che non fusse peste, ma hora li medesimi sono chiari et in gran timore, perochè lunedì passò il centinaro di morti in un giorno...'
3. Ibid.
4. ASV., Provveditori alla Sanità, Reg. 13, f. 211v (30 June 1576).
5. ASF., Archivio Mediceo del Principato, Filza 2984, f. 160r.

undermined the authority of the Health Office. (1)

Two main questions arise from the medical debate. First, why was the influence of Galen, which underlay the philosophy of Mercuriale and Capodivacca, so dominant in 1576? The question of authority underlay every aspect of medicine in the Renaissance. During the Middle Ages Avicenna was the dominant influence, and Galen and Hippocrates were known only through Latin translations from Arabic manuscripts. But as humanism brought to light Greek and Latin manuscripts with purer and more elegant texts, there was an upsurge of interest in the classical physicians. A vigorous movement looked to the recovery of ancient texts, purged of Arabic barbarism, for the revival and advancement of medicine. (2) The movement was particularly strong in the early decades of the sixteenth century, and its triumph was the publication in Venice in 1525 of the first Greek text of the works of Galen, the basis of all subsequent editions. (3) The authority of Avicenna and the Arabic physicians was increasingly under attack. The statutes of 1538 of the medical faculty at Tübingen, strongly influenced by Italian developments, stressed that Arabic authors were to be used as little as possible in the curriculum. It was better to draw on pure classical wisdom rather than later, more

1. ASV., Secreta, Materie miste notabili, Reg.95, f.162v ff.
'Il che fu causa chel male andò molto dilatandosi et serpendo per la città, si per il pratica che loro facevano per ogni luoco come ho detto, si anco perche dicendo loro non esser peste in Venetia questo popolo credendo che così fosse, persuaso dell'auttorità di questi eccellentissimi homeni et dal vederli così liberamente praticare, non volevano obedir a gl'ordini e provisioni che venivano fatte per l'Officio della Sanità dicendosi per tutta la città che non vi era peste, ma era inventione dell'Officio della Sanità, il che partorì tanto scandolo, confusioni et disordini che fu forsi la principal causa di tanta mortalità et rovina'.
2. On this subject in general, Oswei Temkin, Galenism. The rise and decline of a medical philosophy (London, 1973).
3. Richard J. Durling, 'A chronological census of Renaissance editions and translations of Galen', Journal of the Warburg and Courtauld Institutes, vol.24, 1961, pp.230-305.

corrupt, sources (consultius sit artis praecepta a fontibus quam turbidis rivulis haurire). (1)

In only a few instances were there practical divergences between classical and Arabic medicine. Yet they provoked intense controversy, revealing the strength of the humanist movement. The first concerned the use of bloodletting in the treatment of pleurisy. (2) The Arabs had advocated light bleeding from a vein distant from the site of the disease. Hippocrates, on the other hand, favoured copious bleeding from near the diseased area. The return to the classical method was first advocated by Pierre Brissot in Paris in 1514, and in succeeding decades the question divided European physicians. Brissot's supporters included Vesalius, Girolamo Cardano, Leonhart Fuchs, who was probably responsible for the Tübingen statutes, Matteo Curtio, who taught at Padua from 1524, and Giovanni Battista Susio, who was still an ardent classicist in the debates of 1575-6. (3) His opponents included Conrad Gesner, Francesco Bonafede, Prior of the Venetian College of Physicians in 1515 (4), and lecturer on simples at Padua from 1533 (5), and the Venetian physicians Marin Brocardo and Vettor Trincavella, who held the principal Paduan chair of practical medicine in primo loco from 1551. Brissot's opponents were a mixed group of traditionalists and distinguished humanists.

1. Gerhard Fichtner, 'Padova e Tübingen: la formazione medica nei secoli XVI e XVII', Acta Medicae Historiae Patavina, vol. 19, 1972-3, pp.43-62.
2. Andreas Vesalius, The bloodletting letter of 1539; an annotated translation by J.B. de C.M. Saunders and C.D. O'Malley (New York, 1947). The introduction, especially pp.6-21, gives a full account of the dispute.
3. Giovanni Battista Susio, Libri tres de venis e directo secandis in quibus Mathaei Curtii...sententia defenditur (Cremona, 1559).
4. BMV., MSS. Italiani, Classe VII, Cod.2379 (=9686), f.lr.
5. Francesco Bonafede, Quaestio...de cura pleuritidis per venae sectionem, adversus Curtium Ticinensem (Venice, 1533).

The latter, including Trincavella, were not concerned to uphold Arabic medicine, but dissented from Brissot's interpretation of Galen. (1)

The second controversy was more localised, and the divisions clearer. Theriac and mithridatum, composite drugs with dozens of ingredients, including vipers' flesh, had been manufactured since ancient times. They were meant to include the antidotes to every known poison, but were mainly prized as preservatives and antidotes against the plague. (2) In Venice their production was subject to strict supervision from at least the thirteenth century. (3) According to the statutes of the College of Apothecaries drawn up in 1565 the ingredients of theriac and mithridatum had to be displayed for three days, and licence for their composition obtained from the Giustizieri Vecchi. Chief officers of the College of Physicians had to be present at the composition, and samples of each batch were lodged with the Giustizieri Vecchi as a check against fraud. (4) The state took a close interest since these drugs were a source of civic pride and their export an important source of revenue. (5)

1. Vettor Trincavella, Omnia opera (3 vols., Venice, 1599), vol.2, pp.449-481, Rudimentum de vena pleuriticis et aliis qui viscerum inflammationibus tenentur secunda.
2. On these drugs in the ancient world, Gilbert Watson, Theriac and mithridatum (London, 1966). For their history in Venice, Girolamo Dian, Cenni storici sulla farmacia veneta al tempo della repubblica, op. cit., Part 2, La triaca. Dian's work was based in part on the Marlegole of the College of Apothecaries (3 vols., 1565-1804) in his possession at the time of writing but now untraced.
3. Ugo Stefanutti, Documentazioni cronologiche, op. cit., p.45. The Capitolare of the apothecaries c.1260 included the regulation:
'quod nullus apotecarius conficiat turiacam nisi tres meliores medici de terra sint ibi presentes, electi a dominis iusticiariis'.
4. BMV., MSS. Italiani, Classe VII, Cod.1971 (=9042), especially Capitolo 25.
5. ASV., Giustizia Vecchia, Busta 211, (Spezieri), includes original testimonials by ambassadors, including those of France, Holland and England (Sir Henry Wotton), to the reputation and widespread use of Venetian theriac and mithridatum in their countries. The testimonials were dated 1621.

In 1532 the ingredients of theriac and mithridatum were a subject of dispute. Concerning mithridatum the Venetian College of Physicians was divided. One party, led by Marin Brocardo and Valerio Superchio, defended the traditional recipe of Avicenna, whilst the other, led by Vettor Trincavella, recommended a recipe of Damocrates handed down by Galen. After a series of votes the College was in deadlock, and in compromise it was resolved that both recipes might be used. (1) The government however was anxious to preserve uniformity, and five patricians were chosen to decide the issue. (2) Summaries of the proceedings of the College of Physicians show that the relation of Arabic and classical authority was at the centre of the dispute. (3) The outcome was not clear, and the issue was still under debate in 1559. But elsewhere humanism made more definite progress. Part of the evidence in 1559 was that the Greek recipe for mithridatum rather than that of Avicenna had been standard for many years in Padua. (4)

After the early decades of the century controversies were less heated. Galen and Hippocrates had largely replaced Avicenna, but the latter continued to be respected, especially as his own work became subject to humanist revision. Girolamo Ramnusio had studied Arabic in Damascus and began a new translation of the Canon prior to his death in 1486. Andrea

1. ASV., Giustizia Vecchia, Busta 211. An account of the motions and votes cast (4 Jan 1531 m.v.).
2. Sanudo, Diarii, op. cit., cols. 648, 657 (17, 20 March 1532).
3. BMV., MSS. Italiani, Classe VII, Cod. 2342 (=9695) and Biblioteca Universitaria di Padova, MS. 318. The latter, f. 57r summarised Trincavella's viewpoint:
'sostenta dottamente e tra suoi colleghi, ed in Collegio l'auttorità dei Greci, mostra i sbagli degli Arabi contro Marin Brocardo e Valerio Superchio loro fautori, e poco amici dei Greci'.
4. ASV., Giustizia Vecchia, Busta 211. A report dated 26 July 1559 from the Vicario of Niccolò da Ponte, Podestà of Padua, based on advice from the leading apothecaries of the city.

Alpago's revision from Arabic manuscripts of Gerard of Cremona's Latin version of the Canon was published in 1527. (1) Andrea Graziolo used Ramnusio's manuscript and published a new translation of part of the Canon in 1580. (2) At Padua the medical syllabus was largely unchanged throughout the sixteenth century. The statutes published in 1589 which laid down the syllabus were almost identical to those of 1496. In theoretical medicine the first book of Avicenna's Canon continued to be the set work for the first year of study. (3) But there were differences of approach. Trincavella made clear in his lectures on Avicenna in 1553 that whilst he followed the traditional syllabus, he compared and tested the words of Avicenna by their archetype, the classics. (4) Trincavella died in 1563. His funeral ovation, pronounced by Domenico da Castello, looked back over his career. It traced his role in the mithridatum dispute, the decline of Scotism and Arabic medicine, and the recovery of

1. Marie-Thérèse d'Alverny, 'Avicenne et les médecins de Venise', Medioevo e Rinascimento: studi in onore di Bruno Nardi (Florence, 1955), pp.177-198.
2. Avicenna, Principis Avicennae liber primus de universalibus medicae scientia praeceptis, Andrea Gratiolo Salodensis interprete (Venice, 1580). The work was evidently planned over a long period. Graziolo referred to the encouragement of Fracastoro as well as that of Bernardino Paterno and Donzellini.
3. Statuta almae universitatis dominorum artistarum et medicorum Patavini gymnasii (Venice, 1589), especially ff.38r, 68r.
4. Trincavella, Omnia opera, op. cit., vol.3, p.1.
'De more autem huius gymnasii Avicennam sequemur. Ita olim per omnia gymnasia institutum erat, priori enim illa aetate cum iniuria eorum temporum bonae aliquin literae pessum penitus ivissent....Verum postquam meliores litterae in Italia atque adeo etiam in universa Europa unam cum Hippocrate et Galeno aliisque eruditionibus autoribus, perinde ac postliminio redeuntes reviviscere inceperunt. Avicenna quidem aliquid de autoritate et gratia detractum est, non adeo tamen adhuc ut contenendus author sit habendus, ob id maxime quod omnia quae literis mandavit ex prioribus illis tanquam ex limpidissimis fontibus hauserit, et se inde hausisse profiteatur. Unde et nos ita ipsum sequemur, ut omnes eius non modo sententias, sed ipsa etiam verba cum priori archetipo, hoc est cum primis illis medicinae parentibus, quatenus tamen per me illud fieri poterit, conferamus et observemus, an quod pollicitus est, praesteterit et se fidum interpretaem exhibuerit'.

the classics. (1) By this time the first enthusiasm for the humanist approach to medicine was passed, but the movement continued to be more influential than is generally recognised. Greek texts continued to be subject to emendation and development. Donzellini, for instance, worked on Greek texts in Venice and Rome in 1570 and 1571 in preparation for Theodor Zwinger's 1579 edition of Hippocrates. (2) But if any physician can be said to have taken up Trincavella's humanist mantle, it was Girolamo Mercuriale. Mercuriale studied at Padua whilst Trincavella held the chair of practical medicine and took his degree in the Venetian College of Physicians in 1555. (3) It was his appointment to Trincavella's old chair which brought him to Padua in 1569. A prolific writer on skin diseases, gynaecology, paediatrics, medical gymnastics and other topics, Mercuriale was also distinguished as a humanist editor. He was responsible for a new edition of Hippocrates (4), and was amongst the first to examine the Hippocratic writings as a corpus of varying authenticity and authority. (5) He was also the editor of the fifth Latin edition of Galen produced by the Giunta press in Venice, the first section of which appeared in the same year as the plague debate, 1576. (6) This included some of the older humanistic texts by Leonicensis and Linacre, as well as others by Donzellini and Trincavella, and a number of important studies by Mercuriale, including his De Galeni libris. In the dedication

1. Trincavella, Omnia opera, op. cit., vol.1, introductory matter.
2. Marie Louise Portmann, 'Der venezianer Arzt Girolamo Donzellini (1527-1587) und seine Beziehungen zu Basler Gelehrten', Gesnerus, vol.30, 1973, p.4.
3. BMV., MSS. Italiani, Classe VII, Cod.2342 (=9695), f.7v (18 April 1555).
4. Hippocrates, Opera quae extant Graece et Latine veterum codicum collatione restituta (Venice, 1588).
5. Mercuriale, Censura de Hippocratis operibus (Venice, 1583).
6. Galen, Omnia quae extant opera (Venice, 1576-7).

Mercuriale paid tribute to his predecessors, but added that there was still much to do in freeing the classics from impurity. It was this task to which he had dedicated himself. (1)

The continuing vigour of the humanist movement and the hope of progress through textual study in part explains the loyalty to Galen and Hippocrates expressed in the plague debates of 1576. On the other hand, another aspect of the sixteenth century was the growing appreciation of the role of experience and observation in medicine. Mention has already been made of the Paduan contribution to anatomical research, and of the development of botany and pharmacology through field work and the botanical gardens. It was also seen that in the plague of 1555-6 the classical theory of the causation of epidemics was developed through Fracastoro's synthesis in response to the careful study of natural phenomena. (2) Why did experience not lead at this time to a general questioning of the authority of Galen and a new basis for medicine in general? In the first place, some of the most vigorous developments in sixteenth century medicine, such as the botanical movement, did little to call classical statements into question. The identities of plants described by Dioscorides had largely been lost before the Renaissance, and much of the field work was an attempt to rediscover them. As a result, few classical opinions in botany could be falsified. If, on examination, a certain plant did not possess a property which Dioscorides attributed to it, then it was assumed that the true plant had not yet been found. Anatomy was another matter. As a

1. Galen, Omnia quae extant opera, op. cit.

'...inter alia studiorum meorum instituta illud quoque non minimum fuit, ut Hippocratis et Galeni libris a vitio vindicandis ornandisque aliquid opis doctorum virorum exemplo conferrem. Et postea, quam in Patavino hoc nobilissimo Gymnasio medicinam docere coepi, non solum non imminutam mihi esse hanc cupiditatem sensi, sed etiam mirabiliter adauctam'.

2. See above, Chapter 4.

result of his research, Vesalius, in the preface to the De humani corporis fabrica, asserted that Galen had never carried out a human anatomy, but had inferred the structure of the human body from dissections of apes and other animals. Galen was therefore prone to error. (1) But anatomical advances made little practical difference to curative medicine. Furthermore, the suggestion that Galen was fallible did not seriously shake the edifice of classical medicine. The diehards, amongst whom Capodivacca may be included, found shrift to defend Galen against the anatomists, mainly on the grounds that they had misinterpreted his works. (2) Mercuriale's view was different, and probably more typical. He was in the forefront of all the main developments of sixteenth century medicine. Well before his mission to Venice in 1576 he had built up an extraordinary reputation (3), and his patients had included the emperor Maximilian II. (4) He was involved in the botanical movement, and an intimate of Ulisse Aldrovandi, whom he had first met at Falloppia's house in Padua. (5) It is

1. A translation of the preface to the Fabrica has been printed in Logan Clendening, Source book of medical history (New York, 1960).
2. Girolamo Capodivacca, Opera omnia (Venice, 1606). In his De anatomica methodo commentarius scarcely a sentence is without a reference to Galen, whom, he argued, Vesalius and Colombo had misinterpreted. They had, for instance, condemned Galen for describing only 7 of the 8 bones of the head, whereas Galen had known the eighth but described it amongst the bones of the nose (p.99). On Capodivacca in general, Dizionario biografico degli Italiani, vol.8 (Rome, 1975), pp.649-651.
3. On Mercuriale in general, Italo Paoletti, Gerolamo Mercuriale e il suo tempo (Lanciano, 1963). On his work from 1587, Alessandro Simili, Gerolamo Mercuriale lettore e medico a Bologna (Part 1 published in Rivista di storia delle scienze mediche e naturali, vol.23, 1941, pp.161-196; Part 2 as a monograph (Bologna, 1966).
4. Padua, Biblioteca Universitaria MS.318, f.120r. Copy of the Senate's permission for Mercuriale to go to Vienna (25 Aug 1573).
5. Bologna, Biblioteca Universitaria, Aldrovandi MS.38², vol.1, ff.166r-171r. Six letters from Mercuriale to Aldrovandi, 1558-1573.

also in a letter to Mercuriale that Tagliacozzi's rhinoplasty operation is first recorded. (1) Mercuriale made no pretence that Galen was infallible. In his De Galeni libris he referred to errors in Galen's Libri de anatomia administratione, and stressed that it was foolish to think that Galen was never wrong or even, since he wrote so much, that his work was always consistent. (2) Perhaps to make the point more vivid, the title page of every volume of the 1576 edition of Galen bore an illustration of Galen carrying out a dissection, not of a human cadaver, but of a pig, reflecting Vesalius' critical account of the basis of Galen's anatomical studies. Mercuriale belonged to a new generation of humanist physicians who accepted the faults in Galen but still looked to him for inspiration. It is not surprising that they continued to do so. Galen's works were not a series of opinions which could be dismissed piecemeal. They represented a complete system within which the human body, its processes and illnesses, could be understood, and formed a basis for curative medicine. To stand aside from the Galenic system was to step into the anarchy of empiricism against which generations of physicians, surgeons and apothecaries had fought by forming guilds and colleges, and drawing up statutes backed by state authority.

1. M.T. Gnudi and J.P. Webster, The life and times of Gasparo Tagliacozzi, surgeon of Bologna 1545-1599 (New York, 1950), especially pp.128, 135.

2. Galen, Omnia quae extant opera, op. cit.

'Iam intelligitis iuvenes studiosissimi quod sit nostrum de omnibus Galeni nunc extantibus scriptis iudicium. In quibus cum fructu et iucunditate evoluendis tria vos spectare necesse est; Unum ne statuatis Galenum numquam falli, aut deteriora aliis probatis auctoribus interdum non dicere... mirari soleo nonnullos qui, quasi Galenus falli non potuerit, omnia illius dicta pro oraculis citant, nec quidquam verum putant, nisi a Galeno proditum reperiatur. Alterum est ne deterreamini quotiescunque ipsum sibi contraria alicubi scribere animadverteris....'

To appreciate the force of Galen's authority it is necessary only to look at the career of one Italian physician who sought to stand outside it. Leonardo Fioravanti (1517-1588) was the most distinguished of the Italian followers of Paracelsus. (1) The latter had begun by attacking the humoral theory of the body and its processes, and the use of composite drugs. He burnt the works of Galen and Avicenna but ended by devising a medical and cosmological system even more fantastic than that which he set out to destroy. (2) Fioravanti's approach was similar. In the Specchio della scienza universale, first published in Venice in 1564, Fioravanti attacked slavish adherence to Galen, and advocated an empirical approach to the study of drugs and their efficacy. (3) He also attacked the humoral theory as having no factual basis. But his most scornful remarks were reserved for the pharmacists and their composite drugs, especially theriac and mithridatum, which included contradictory ingredients. (4) Instead, Fioravanti manufactured a new range of drugs, the ingredients of which were in many cases as extraordinary as those which he sought to replace. Here, as elsewhere, Fioravanti's appeal to observation rather than authority did not produce any obvious progress. He came to reject anatomy as having no practical value for medicine, even though in 1551 he had carried

1. The main works on Fioravanti are Davide Giordano, Leonardo Fioravanti Bolognese (Bologna, 1920) and Domenico Furfaro, La vita e l'opera di Leonardo Fioravanti (Bologna, 1963).
2. Walter Pagel, Paracelsus: an introduction to philosophical medicine in the era of the Renaissance (Basle, 1958).
Paracelsus treated plague, for instance, as the result of a psycho-physical interaction between man and the stars. The cure was to interrupt the magnetic attraction of infected air to the body by 'insulators' worn as amulets.
3. 'senza l'arte medica le genti morirebbero disperate, quantunque ancora ne muoiano perche medicati ostinatamente secondo i canonici di Galeno come fossero leggi divine e non scritture umane, da medici che mai non cercherebbero di fare qualche bello esperimento di sua autorità e di sapere la certezza dei medicamenti che usano'.
Quoted by Giordano, op. cit., p.22.
4. Fioravanti, Miroir universel des arts et sciences (Paris, 1586), f.72.

out anatomies on living subjects whilst in Spanish service in Africa. In his Reggimento della peste (Venice, 1571) he attacked the practices of the Health Offices, especially the transport of the sick to lazarettos and the burning of infected goods, but he had little to offer as an alternative beyond a more humanitarian approach. His recommendations to the plague sick included prolonged sea bathing and burying up to the neck for up to fourteen hours.

The greater part of Fioravanti's life from 1558 was spent in Venice. There he practised medicine, published his works and carried out his pharmacological and chemical experiments. (1) Fioravanti's drugs were available at the Speziaria dall'Orso at Santa Maria Formosa and at the Fenice in San Luca. His confident approach found some favour in government circles, and from 1560 he undertook a project for the Provveditori sopra Beni Inculti to make healthy and repopulate Pola, an Istrian town which had steadily declined through the effects of plague and malaria. (2)

But, amongst the doctors of Venice, Fioravanti was regarded as a charlatan. In June 1567 he was brought before the Provveditori alla Sanità accused of practising medicine without qualifications. In consequence he was banned from practising in the city, and this sentence was upheld by a Senate committee on appeal. (3) Fioravanti's response was to obtain from Bologna

1. One outcome of Fioravanti's research was his discovery of a new form of pitch, the basis of a new method of boat building, for which he was granted a patent in 1560, ASV., Senato, Mar, Reg.35, f.40r (2 Sept 1560).
2. Ibid., f.36r (14 Aug 1560); f.145r (21 March 1562); ASV., Senato, Mar, Filza 22, 14 Aug 1560.
Fioravanti's offer was to 'dimostrar il vero modo di far popular la citta nostra di Puola, con la maggior parte del territorio suo, et coltivar quella in brevissimo spacio di tempo'.
124 families were registered for emigration by 1562.
3. ASV., Collegio dei Dieci poi Venti Savi del Corpo del Senato, Busta 24, Reg.6, f.172r-v. The appeal was dealt with on 27 Jan 1568 m.v.

a certificate of a degree in arts and medicine, (1) and in consequence the Provveditori authorised him to continue to practise in Venice. (2) The Venetian doctors remained dissatisfied. In a letter to their colleagues in Bologna they accused Fioravanti of illiteracy, calling him a peddler and murderer (circulatore et hominum homicidam), and claimed support from the medical Colleges at Padua and Ferrara. They doubted that he could have been awarded a degree. (3) The charges against Fioravanti were dismissed by his compatriots in Bologna after a formal enquiry. (4) But this did not end the hostility which his views aroused. In Milan in 1573 he was thrown into prison after the Milanese College of Physicians claimed that his treatments had caused the deaths of patients. (5)

1. Giuseppe A. Gentili, 'Leonardo Fioravanti bolognese alla luce di ignorati documenti', Rivista di storia delle scienze mediche e naturali, anno 42, 1951, pp.16-41.
The text of the award, dated March 1568, from the archives of the Collegio di Medicina ed Arti in Bologna. A copy of the text, presented by Fioravanti to the Provveditori alla Sanità, has also now come to light, ASV., Provveditori alla Sanità, Reg.731, ff.55v-58v. Fioravanti claimed that he had graduated twenty years earlier, and that the award was confirmatory.
2. ASV., Provveditori alla Sanità, Reg.731, ff.55v-58v (4 May 1568).
3. Gentili, op. cit. The letter was dealt with by the Bolognese College in October and November 1568.
4. Eugenio Dall'Osso, 'Due lettere inedite di Leonardo Fioravanti', Rivista di storia delle scienze mediche e naturali, anno 47, 1956, pp.283-291. The authenticity of the letter from Venice was doubted at first in Bologna, and Dall'Osso considers it a forgery by the Venetian pharmacists, since it was written at the Testa d'Oro pharmacy. But there is no reason to doubt its authenticity. The Colleges did not have their own buildings and meetings of officers were held at pharmacies. The College of Surgeons used the Testa d'Oro, and the Physicians may have done likewise.
5. Nicola Latronico, 'Una disavventura milanese di Leonardo Fioravanti', L'Ospedale Maggiore, anno 29, 1941, pp.481-2. In a defence written from prison Fioravanti offered to treat 20 or 25 patients whilst the Milanese physicians treated a similar sample with the same symptoms. His own remedies, he claimed, would prove their worth.

The persecution of Fioravanti is a measure of the conservatism of medicine at this time. To step outside the Galenic system was to be branded an empiric, a pejorative term often applied in this period to charlatans, mountebanks and the like. Departure from medical orthodoxy was also feared for its association with other forms of dissent. In assessing the comparatively small influence of Paracelsus in Italy, too little attention has been paid to the Church's opposition to his works. When the Anabaptist anatomist Niccolò Buccella left Padua in 1574 to become the doctor of Stephen Bathory, later King of Poland, his baggage was confiscated by the Venetian Holy Office. It was released in 1575 with the exception of certain works of Paracelsus (detractis tamen quibusdam libris Teophrasti Paracelsi tamquam haereticalia continentibus). Similarly in 1587 Claudio Textor was tried in Venice for possessing prohibited alchemical works, including Paracelsus' De summi natura misteris. (1)

Whilst therefore Galen's authority was challenged on certain points, and whilst it was subject to development in certain areas, as in Fracastoro's synthesis of classical and contagionist views on epidemics, it remained the inspiration of medicine throughout the sixteenth century. This was both because there was no practical alternative, and because the humanist movement, still vigorous in the last quarter of the century, continued to offer the hope of progress through a proper understanding of the classical texts.

The second question concerning the Venetian plague debate is no less complex. Why were Mercuriale and Capodivacca able to

1. Aldo Stella, Dall'anabattismo al socinianismo nel cinquecento veneto (Padua, 1967), especially pp.122-140, p.179 ff.

exert so profound an influence over the members of the Collegio and Senate? That they offered the city hope at a moment of acute fear assured them of a sympathetic hearing, but in part, too, the answer lies in the intellectual interests of the Venetian nobility and their close links with the University of Padua. Many young patricians attended the University and medical lectures were amongst the most appealing to those with scientific interests. The affairs of the University were governed in detail from Venice. Three Riformatori dello Studio di Padova, resident in Venice and usually holding other senior positions in government, kept a careful watch over the University. (1) They were men of keen intellectual sympathies. It was common in the sixteenth century for all three Riformatori to be graduates of Padua, and the fact that individuals often held the post time after time in the course of their careers emphasises their commitment to the University. (2) The Venetian Senate voted on the appointment of teaching staff, on salaries, contracts of employment, promotions and similar matters. It was also responsible for developments such as the foundation of the chair of medicinal simples in 1533 (3), and the creation of the botanical garden in 1545. (4) Such decisions reflected scientific interests not only at Padua, but amongst the patriciate in Venice.

1. ASV., Riformatori dello Studio di Padova, Reg.63. A file of letters from the Riformatori, mainly 1555-9. Aspects of concern included the development of the botanical garden, indiscipline amongst the students, the provision of corpses for Falloppia's anatomies and financial provision for Luigi Anguillara's botanical field trip to Zara.
2. Nicolo Papadopoli, Historia Gymnasii Patavini (Venice, 1726), p.72. A list of the Riformatori indicating their degrees.
3. Roberto de Visiani, op. cit. Bonafede was the first to occupy the chair.
4. ASV., Senato, Terra, Reg.34, ff.57v-58v (31 July 1545).

The impetus frequently came from the University, but the support of the Riformatori was necessary in order to bring the matter before the Senate with which the final decision rested.

Sebastiano Foscarini, Niccolò da Ponte and Marcantonio Venier, all graduates of the University and distinguished intellectuals, were the Riformatori who proposed the creation of the botanical garden. Other patricians deeply involved in its development were Daniele Barbaro (1) and Pietro Antonio Michiel (2), both intensely concerned with classical science and learning. Debarred by law from teaching at Padua and by custom from the practice of medicine, the area in which the nobility could most readily express its scientific interests was botany, the most rapidly expanding area of medical science. Filippo Pasqualigà kept a rich garden at Padua, and like Michiel, produced an illustrated herbarium. (3) The botanical gardens of Lorenzo Priuli in Padua and of Michiel in Venice were amongst the most praised by Luigi Anguillara. (4) Francesco Sansovino lauded those of Gasparo Erizzo and Francesco Bon, and referred to the gardens of other noble families including the Gritti, Contarini,

1. P.J. Laven, Daniele Barbaro, Patriarch elect of Aquileia, with special reference to his circle of scholars and to his literary achievement (London University Ph.D. thesis, 1957), pp.85-104.
2. ASV., Riformatori dello Studio di Padova, Reg.63, 18 Aug 1552, 5 Mar 1553 etc. The Capitano of Padua was requested to give support to Michiel che ha pigliato la cura della fabrica di quel horto nostro de simplici. The range of Michiel's work, and his relations with eminent botanists such as Luca Ghini, Gabrielle Falloppia and Melchior Guilandino, emerges from his letters to Ulisse Aldrovandi, published by G.B. De Toni, 'Contributo alla conoscenza delle relazioni del patrizio veneziano Pietro Antonio Michiel con Ulisse Aldrovandi', Memorie dell'Accademia di Scienze, Lettere ed Arti in Modena, series 3, vol.9, 1908, pp.21-70.
3. Ibid., p.60.
4. Luigi Anguillara, Semplici li quali in piu pareri a diversi nobilhuomini scritti appaiono (Venice, 1561), p.34.

Grimani, Pasqualigo, Mocenigo, Vendramin and Cornaro. (1)

The Collegio played a central role in the medical debates of 1576. It is not possible to trace in detail the intellectual interests of its members, nor to follow the individual contributions which they made to the discussions. But there are hints as to what these might have been. Doge Alvise Mocenigo, who favoured Mercuriale and Capodivacca, was a noted patron of science and the arts. His wife, who died in 1572, was one of the most scholarly Dogaressa. Whilst he was Podestà in Padua in 1561 she had attended medical lectures, notably those of the botanist Melchior Guilandino. (2) Sigismondo di Cavalli, Savio di Terraferma in 1576, collected and sent home numerous botanical specimens whilst Bailo at Constantinople, and was frequently mentioned in the botanical correspondence of Pietro Antonio Michiel and Ulisse Aldrovandi. (3) But the noblemen whose intellectual interests and support for the professors emerge most clearly were Niccolò da Ponte and Niccolò Barbarigo. These were named by Mercuriale and Capodivacca as their intermediaries with the Doge. (4)

Niccolò da Ponte, who became Doge in 1578, graduated in arts in 1514. The University being closed because of the war, the degree was bestowed by the Venetian College of Physicians. (5) During the 1520's he took part in disputations on logic, philosophy and theology, and taught philosophy in the Scuola di Rialto in Venice during the absence of Sebastiano Foscarini from 1521-3. (6) Da Ponte served as Riformatore dello Studio

1. Sansovino, op. cit., f.137r-v.
2. Andrea Da Mosto, I Dogi di Venezia (Milan, 1960), p.342.
3. G.B. De Toni, op. cit.
4. ASV., Secreta, Materie miste notabili, Reg.55 bis, f.1r.
5. Sanudo, Diarii, op. cit., vol.18, col.124.
6. Bruno Nardi, 'La Scuola di Rialto e l'umanesimo veneziano', in Umanesimo europeo e umanesimo veneziano, edited by Vittore Branca (Venice, 1963), pp.93-139.

di Padova at least seven times in the course of his career. He was therefore in close contact with Mercuriale and Capodivacca prior to the plague in 1576. In 1575 it was Da Ponte with his colleagues Zuan Donà and Marcantonio Barbaro (1) who proposed in the Senate a new condotta for Mercuriale, raising his salary from 600 to 900 fiorini. (2) At the same time he supported a petition from Mercuriale for a loan of no less than 1200 ducats for the marriage of a daughter. On this occasion Da Ponte and his fellow Riformatori described Mercuriale as persona literatissima, legge con gran scola, et fa honor al Studio. (3) As early as 1561 Da Ponte had advanced Capodivacca's career by proposing his promotion to the secondary chair of theoretical medicine in secundo loco. (4) In October 1575 he proposed a further promotion. Capodivacca's salary was increased from 320 to 520 fiorini, poiche dalla sua persona si riceve quel bon servitio che ad ogn'uno è noto. (5) Since he was also a Riformatore in the summer of 1576 it is entirely possible that Da Ponte was responsible from the outset for the University mission to Venice. A number of reports and documents written by the professors in the course of their work in Venice were addressed directly to him. These included their formal office of service with the conditions hostile to the Provveditori alla Sanità. (6)

1. Marcantonio Barbaro, brother of Daniele Barbaro, scholar and art patron.
 2. ASV., Senato, Terra, Filza 66 (March-June 1575), 11 June 1575.
 3. Ibid., 25 June 1575. Both his petition and the terms of the new contract (see note 2) received the consent of the Senate.
 4. ASV., Senato, Terra, Reg. 43, 19 Sept 1561. The motion was put by Da Ponte and his fellow Riformatori Marin di Cavalli and Piero Sanudo.
 5. ASV., Senato, Terra, Filza 67 (July-Oct 1575), 10 Oct 1575.
 6. ASV., Secreta, Materie miste notabili, Reg. 95, ff. 19r-20r. ASF., Archivio Mediceo del Principato, Filza 2984, f. 148v (23 June 1576).
ASMant., Carteggio Estero ad Inviati, Filza 1509, 23 June 1576.
ASP., Ufficio di Sanità, Reg. 239, 21 June 1576.
- All these sources refer to documents sent to Da Ponte by the professors. The latter source mentions a report from the professors on 20th June stating that the disease arose from poverty and the effects of inadequate diet (nella povertà è mal contagioso).

Niccolò Barbarigo (1534-1579) was also educated at Padua where his lecturers included Bernardino Tomitano. He was well known for his classical studies and rhetoric, his speeches being taken as models of formal perfection. (1) He received high praise from the humanist physician Girolamo Donzellini who dedicated to him the Epistolae principum (Venice, 1574). Other scientists with whom he remained in contact included the Veronese pharmacist and botanist Francesco Calzolari, whose natural history museum he supplied with a chameleon and other rare specimens, probably whilst Bailo at Constantinople from 1577. (2) In June 1576 Barbarigo was a member of the Collegio as Savio di Terraferma, and with Da Ponte, was named by Mercuriale and Capodivacca as their intermediary with the Doge. He was amongst the delegation which visited the professors on 27th June and reported to the Senate their insistence on the right to choose their own patients both in and out of quarantine. (3) A day or two later he spoke in the Senate against the attack on the professors made by the Provveditore alla Sanità Zuan Battista Bernardo, impugnando la sua opinion come dannosa, talche fu concluso et preso parte a favor di quelli di Padoa. (4)

Barbarigo's intellectual background led him to favour the classical apologetic of Mercuriale and Capodivacca. In addition he was influenced by his experience as Podestà in Verona during the epidemic of the previous year.

Disease broke out in Verona at the beginning of August 1575.

1. Dizionario Biografico degli Italiani, vol.3 (Rome, 1964), pp.76-78.
2. Umberto Tergolina-Gislanzoni-Brasco, 'Francesco Calzolari, speciale veronese', Bollettino dell'Istituto Storico Italiano dell'Arte Sanitaria, vol.14, 1934, p.301.
3. ASV., Provveditori alla Sanità, Reg.13, ff.207r-209r.
4. ASMant., Carteggio Estero ad Inviati, Filza 1509, 30 June 1576.

In correspondence with the Health Office of Padua the Provveditori alla Sanità of Verona admitted that on the night of preceding 3rd August a woman had died with swellings in the groin (alcune tumofattioni in inguine). (1) The city was formally banned on 9th September by the Provveditori alla Sanità of Venice, who expected their colleagues on the terraferma to take similar action. (2) It soon became clear that the ban applied only to the city of Verona and not to its territory. (3) This meant that the city was isolated from the surrounding country upon which it was dependent.

On 25th August the Veronese Consiglio di Dodici had taken advice from the city's College of Physicians. The majority view was that the epidemic was serious enough to merit the introduction of plague regulations. (4) Niccolò Barbarigo, on the other hand, supported the minority view that the disease was not plague but typhus. (5) He was strongly opposed to the ban on the city. In a despatch to the Consiglio dei Dieci on 19th September he

1. ASP., Ufficio di Sanità, Reg.295, 3 and 6 Aug 1575.
2. Ibid., Reg.239, 9 Sept 1575. A letter from the Provveditori in Venice to the Rettori of Padua:
'Habbiamo questa mattina bandita la città di Verona nella quale la peste va facendo ogni giorno progresso, di che per non manchar al debito nostro ne damo aviso alle V.S. Clarissime acio che le possino far quelle debite provisioni che a così importante materia si ricerca, et di ciò le ne darano aviso a tutti li luochi del suo territorio et altri convicini'.
- The Provveditori alla Sanità of Vicenza received a similar letter, which they reported to Padua, ASP., Ufficio di Sanità, Reg.298, 9 Sept 1575.
3. Ibid., Reg.239, 17 Sept 1575.
4. ASVerona, Ufficio di Sanità, Parte antica, Num.33, f.23r (25 Aug 1575).
5. Ibid. A draft of the Commentariolus on the plague by Gabriel Chiocco, Cancelliere of the Veronese Health Office.
'Erat Praetor Nicolaus Barbadicus vir acri ingenio et dicendi facultate instructus. Praefectus Dominicus Priolus vir integritate et modestia insignis. Praetor medicorum opinioni per aliquot dies adversari videbatur, et illis a principio ita contradicere, ut Veronam eo tempore pestilentia non laborare asseveranter affirmaret'.

stressed that non sia mai stata pur minima suspitione di peste in questa citta, and blamed the people of Peschiera for exaggerating the danger in order to divert the Veronese grain trade to their own advantage. He also pointed out the danger of civil unrest which could result from the mass unemployment caused by the isolation of Verona:

'noi convenimo dubitar che aggiungendosi a questa mala satisfattione del populo et a questo odio contra la nobeltà, et alla affliction et desperation nella qual si trova al presente, vedendo cominciar a levarsi il lanozar et modo di alimentarsi, essendo 40m persone che si sestentano d'industria, qual va cessando di giorno in giorno essendo interdetto il comertio quando le ville devedassero la pratica alla città et che non accettassero quelli che conducevano vettovaglie dentro a questi tempi, et che alle altre sue afflictioni il populo vedesse seguire questo assedio, et reduti a questa necessità dubitassimo senza dubbio che potesse seguir qualche importante sollevatione et saccheggio di granari di nobeli essendo troppo numeroso questo populo che ha bisogno, troppo sensitivo in questa matteredia di vittuarie e troppo essarcebato contra questi nobeli'. (1)

Barbarigo's complaints against the ban also came to the notice of the Venetian Provveditori alla Sanità. On 17th September they wrote a soothing, if disingenuous, letter to the Rettori of Verona, acknowledging responsibility for their own ban, but denying that they had encouraged other Health Offices to follow suit. (2)

Events in Verona during the summer of 1575 in a number of respects bore out Barbarigo's warnings. It was decided that the situation was not so serious as to require extensive use of the lazaretto. Instead, on 9th September, Barbarigo established isolation centres within the city at S. Zeno and in the Campo Marzo. (3) Barbarigo took charge at S. Zeno, visiting the

1. ASV., Consiglio dei Dieci, Lettere di Rettori ed altre cariche, Busta 195, 19 Sept 1575.
2. Ibid., 17 Sept 1575.
3. ASVerona, Ufficio di Sanità, Parte antica, Num.33, f.41r. A note that this measure proved deleterious and was not to be recommended for the future.

parish daily and distributing food to those in greatest need. Domenico Priuli, the Capitano, was responsible for the Campo Marzo. Both worked in such close contact with the sick without coming to harm that the diagnosis of plague seemed even more doubtful. (1)

The multiplicity of symptoms among the sick was perplexing. A document amongst the archives of the Health Office, reflecting only a proportion of the mortality, set out the symptoms of the dead from 27th September to 17th January 1576 under a number of headings. (2) A number of these (carboni, glandule) strongly suggest the presence of bubonic plague, but many physicians insisted that the disease was no worse than an outbreak of typhus. (3) On particular households the effect of the epidemic was disastrous. (4) But in overall terms the mortality was not

1. ASVerona, Ufficio di Sanità, Parte antica, Num. 33, Chiocco's Commentariolus,

'uterque visus est cum aegris tam saepe tractare et tam longos habere sermones ut eos minime pestilentia infectos arbitrari viderentur'.

2. Ibid., Num. 33, f. 57r.

	<u>Pettechie</u>	<u>Carboni</u>	<u>Tumori</u>	<u>Glandule</u>	<u>Lividezza o Negrezza</u>
Sept	9	1			
Oct	21	6	6	8	5
Nov	9	10	12	10	10
Dec	2	6	12	5	15
Jan	3				
	<u>44</u>	<u>23</u>	<u>30</u>	<u>23</u>	<u>30</u>

3. ASP., Ufficio di Sanità, Reg. 295, 27 Oct 1575.

'molti medici vogliono che veramente non vi sia stata peste ma dicono esser state pettechie pestilentiali'.

4. e.g. ASVerona, Ufficio di Sanità, Parte antica, Num. 157, Liber sequestratarum (25 Aug 1575 - 3 Jan 1576), f. 11r.

Die 15 Septembris: Fu sequestrato l'ecc. m. Piero Saibante con la famiglia et lavorenti per la morte d'una massara de esso Saibante, et due donne delli lavorenti et de una baila di Saibanti

Die ultima Septembris: Morse la sorella de Taminello, esso Taminello et una figliola di detta sorella in tre hore, quali erano sequestrati per haver praticato in casa del detto Saibante

Die 3 Octobris: Morse Gio. Francesco figliolo di m. Piero

Die 4 Sopradicti: Morse una figliola del detto m. Piero, un altro figliolo, una massara et un famiglia, una dona di lavorenti

Die 16 Octobris: Andete al lazareto m. Piero predetto con doi figlioli et un servitor

Die 16: Morse un figliolo

Die 18: Morse m. Piero

cataclysmic. Twenty-six homes were quarantined between 9th and 23rd September, and their inhabitants removed to the isolation centres. (1) By 27th October the number of affected homes exceeded 200, and the approximate total of deaths was put at 1,000, but by this time the epidemic was in decline. (2)

It was apparent that Verona was suffering more from the ban than from the disease itself. Industry had come to a standstill, the wool and silk trades being particularly hard hit. Measures had to be taken to assist workmen forced into destitution. The Maggior Consiglio of Verona resolved to levy an emergency tax to feed the unemployed. (3) Barbarigo and his colleague the Capitano pressed for a programme of public works in order to give the unemployed a livelihood (modo, senza interesse publico, di trattenersi et guadagnarsi il vivere).

On 26th October the Venetian Senate agreed to provide 5,000 ducats to be spent on fortifications. (4) But subsequent appeals from Verona for the despatch of the money went unheeded, though on 2nd November the orator of Verona pleaded that artesans were dying of hunger for lack of it, and that aid would be of no use unless effected quickly. As late as 15th November the Senate was not providing more than an assurance that the money would be forthcoming. (5) But long before then the situation in Verona was desperate. In an appeal to the Doge dated 21st

1. ASP., Ufficio di Sanità, Reg.295, 23 Sept. 1575. A letter from the Veronese Health Office.
2. Ibid., 27 Oct 1575. A letter from the Veronese Health Office. A further letter, dated 6th November, put the total of deaths from all causes in Verona, Sept-Oct 1575, at 900.
3. ASV., Senato, Terra, Filza 67, 10 Oct 1575. The measure was ratified on this date by the Venetian Senate.
4. Ibid., 26 Oct 1575.
5. ASV., Provveditori alla Sanità, Reg.13, ff.174v-177v. Senate decisions 3,5 and 15 November 1575.

October Marcantonio Corfino, the Veronese representative in Venice, argued that far more had died from sheer want than from other causes:

'per cagion d'esso interdetto moltissimi meschini infelicemente son morti, et senza paragone è stato molto maggiore il numero di quelli che son mancati di puro dissaggio che di petecchie o d'altro male contagioso'. (1)

He also insisted that typhus had been responsible for most of the deaths due to disease, and that the mortality from plague had been exaggerated. Furthermore, what disease remained in Verona was under control, and the city could be said to have recovered. If there were 90,000 inhabitants, 89,700 were well and it was unjust that they should all suffer. (2) Corfino followed this with a further address to the Doge on 25th October, in which he pointed out that there had only been two deaths in Verona in the previous few days, an indication that the epidemic was over. (3) Finally, on 26th October, in an audience with the Collegio, he made an impassioned speech, arguing that if Venice was to free Verona whilst its people were alive, it should do so in hours, not days. Civil unrest was otherwise to be expected:

'l'infima plebe di Verona e spetialmente i molti habitatori della contrada di S. Zen sono così incivili, petulanti, sfrenati e bestiali che per satiarsi la fame et fuggir la morte da essi può aspettarsi ogni sedition et crudele novità'. (4)

On the same day the Senate responded to Corfino's appeals and to the promptings of the Veronese Rettori, and lifted its ban on the city.

In the general view, the action of the Provveditori alla

1. ASV., Provveditori alla Sanità, Reg.13, ff.168r-171r.

2. Ibid.

'La contagione di Verona non è causata dall'aria, anzi è certissimo ch'è stato un'influsso di petechie causate del patire delle cose necessarie....et se pur nella città di Verona è stata qualche altra infirmità peggior delle petechie questa non ha fatto quel progresso ne quel danno che la fama ha divulgato'.

3. Ibid., f.173r-v.

4. Ibid., f.172r-v.

Sanità against Verona appeared excessive. The ambassador of Mantua claimed that even one of the Provveditori had admitted that they had gone too far. At the same time the Venetian physicians who had concluded that the disease in Verona was plague had been put to shame. (1) The precedent inevitably influenced policy in Venice in 1576. It led to a crisis of confidence in the measures of the Proveditori alla Sanità. It also demonstrated the social and economic consequences of a health ban, and strengthened resolve to avoid a similar ban on Venice. It was this combination of ragione di stato and intellectual sympathy for the professors which decided the issue of the Venetian medical debate.

Mortality continued to rise after the professors' withdrawal to Padua. From the city's death registers Morello found that there were 46,726 deaths between August 1575 and February 1577. He estimated the mortality for the following period up to the end of the epidemic at 4,000. (2) Altogether the plague cost between 50,000 and 51,000 lives, nearly one third of the population of Venice. That the professors were the cause of the rise in mortality, as Morello alleged, is unlikely. On the other hand, their attack on the Health Office's methods and authority at a

1. ASMant., Carteggio Estero ad Inviati, Filza 1509, 26 Oct 1575.
'si va scoprendo che questi Signori sopra l'Officio della Sanità per mantener la loro opinione habbino tenuto così longamente sequestrata detta città, et io lo credo che già prima ch'io venissi a Mantua uno di essi mi disse queste parole. Dubito che in bandir Verona siamo corsi troppo. Cosa gratiosa è al presente il sentir li pareri vari delli medici di Venetia, quali vista la relatione di medici di Verona per la qual concludevano non esser peste altrimenti non di meno per complacere a questi Signori della Sanità che pur volevano haver fatto bene et indutti da essi (per quanto però si dice) essi conclusero di sì, ch'era peste. Et al presente chi si scusa in un modo, chi in un altro, chi dice io non fui di questo parere, chi colpa la relatione di Verona come defettiva talche s'altrove li medici fallano in conoscere la peste, ne anco essi sono Asculapii'.
2. ASV., Secreta, Materie miste notabili, Reg.95, f.164r.

critical time may have been a contributory factor, and mortality was certainly higher in Venice than in most cities on the mainland. (1)

The long term effects of the professors' visit were in a sense contradictory. The Provveditori alla Sanità recovered their prestige as mortality rose. At the height of the plague they were able to carry out measures of a most authoritarian character (2), and in the wake of the plague the Office continued to expand and develop. The professors however were not disgraced. In his lectures on plague in 1578 Mercuriale maintained his opinion that there had been no plague in Venice in June 1576; only in July had the disease become a plague. (3) This argument evidently found support, and Mercuriale's career was unimpaired by the events of 1576. When he moved to Bologna in 1587 he was given a contract more flattering than any previously offered to a professor of medicine there. Later he accepted the offer of the Duke of Tuscany of a post in Pisa, and became chief physician to Gregory XIII. (4) Equally surprising was the failure of the medical profession to learn from the debate of 1576. During the Venetian plague of 1630-1 events followed a remarkably similar pattern to that of 1576. A small party led by Giovanni Battista Fuoli, physician to the Health Office, recognised the disease as plague. For his pains Fuoli was subject to public hostility and even threats on his life. It was the party led by the Paduan

1. On mortality on the terraferma, Pullan, Rich and poor in Renaissance Venice, op. cit., p.324 ff.
2. Ernst Rodenwaldt, 'Pest in Venedig 1575-1577', op. cit., includes a detailed résumé of measures taken during the plague.
3. Mercuriale, De pestilentia, op. cit., p.26.
'vera pestis in hisce regionibus nulla fuit ante Iulii MDLXXVI sed tantum perniciosae et pestilentiales febres'.
4. Gnudi and Webster, op. cit., p.135.

professor Santorio Santorio which carried the day with its denial that the disease was true plague. (1) The medical debates of 1576 were therefore a dramatic illustration of the authority of Galen in the latter part of the sixteenth century, and in no sense can they be said to have resulted in a decline in Galenic medicine.

1. Amongst the principal sources for the debates in 1630 are MCV., Raccolta Cicogna 1509, which includes an account of measures taken against the plague and a history of the plague by Fuoli's nephew, and ASV., Provveditori alla Sanità, Busta 562, Opinioni mediche sul contagio di Venezia, 1630.

CHAPTER 10
RELIGION AND THE PLAGUE

The theories held by the Health Offices and the medical profession were derived from experience and from classical doctrine. A separate theory originated from Hebrew tradition. Here pestilence was regarded as the manifestation of divine wrath against the wrong-doing of an individual or community, as in the plagues of Egypt, or the epidemic amongst the Philistines after their capture of the Ark. (1)

The theology of epidemics led on to a religious methodology for avoiding plague or preventing its spread. Personal righteousness was seen as a sure protection. (2) The Hebrew notion of the corporate responsibility of a family, or an entire people, for the sins of its members was also influential. In Christian theory, God's wrath was expressed not only against individuals, but against cities and states as units. This opened the possibility that a community could build up a pool of shared merits to set against its defects, so keeping epidemics at bay.

Once an epidemic had broken out, prayer and repentance were the fundamental weapons. (3) In Christian practice, prayer and repentance were expressed in, or supplemented by, processions, votive art and architecture, amulets, and the cult of saints and relics.

1. Exodus, Chapters 7-12; I Samuel, Chapters 5-6.
2. Psalm 91, verses 9-10.
'Because thou hast made the Lord, which is my refuge, even the Most High, thy habitation, there shall no evil befall thee, neither shall any plague come nigh thy dwelling'.
3. II Chronicles, Chapter 7, verses 13-14. The Divine promise after the construction of Solomon's temple was that:
'If I shut up heaven that there be no rain, or if I command the locusts to devour the land, or if I send pestilence among my people, if my people, which are called by my name, shall humble themselves, and pray, and seek my face, and turn from their wicked ways, then will I hear from heaven and will forgive their sin, and will heal their land.'

Amulets and written prayers, which frequently invoked the aid of S. Sebastiano, were thought to protect those who carried them about the person. (1) Occasionally they included a representation of the sign of the Thau. In the time of Moses, this was said to have saved from epidemic all those who looked upon it. It was used in the plague of Justinian in the sixth century (2), and in the fifteenth and sixteenth centuries it was still thought to offer protection to individuals and also to households in which it was depicted. (3) The anointing of houses with a sacred sign was popularised by San Bernardino of Siena. Preaching in Padua during the plague in 1448, he urged the faithful to paint the sacred monogram IHS on their houses:

'E la pestilenzia si toglie col nome di Giesù. Del che ne ho veduto l'esperienza in Ferrara, ove, essendo la peste, quel populo si accese tanto e con tanta fede verso il nome di GIESU, che lo posero sopra tutte le case per rimedio di quella pestifera contagione, e meritò che la peste cessasse nel tempo che secondo il corso naturale dovea maggiormente crescere. E doppo cessò ogni sospetto di tal morbo. E così fara l'istesso qui in Padova per sua gratia, et in ogn'altro luogo ove regnera la fede e divotione del suo glorioso nome'.
(4)

1. British Library, Additional MS. 41600, f.91v. A mid-fifteenth century prayer, probably Venetian, invoking S. Sebastiano:
'ut qui hanc orationem dipintam supra se portaverint ac de ea in cordibus eorum memoriam habuerint ac in nomine suo et in sue festivitatis die devote legerint, et sub eam confidentiam ad te confugerint, ipsius precibus et meritis ab ipsa peste et epidemia et morbo et ab omnibus nocumentis venenosis et ab subitanea morte liberentur'..
The same sentiment is expressed in a similar fifteenth century prayer to S. Sebastiano, British Library, Sloane MS. 775, f.10v, and a further example of the early fifteenth century is discussed by G. del Guerra, 'Per la storia degli amuleti: una preghiera contro la peste del '400', Bollettino dell'Istituto Storico Italiano dell'Arte Sanitaria, vol.13-14, 1933-34, pp.164-7.
2. Biraben, Les hommes et la peste, op. cit., vol.2, p.58.
3. e.g. British Library, Additional MS. 41600, f.91v.
'E tute persone da quella caxa in la qual sera depicta questo benedeto segno cum le oration serano secure da peste'.
4. Predicando il glorioso S. Bernardino da Siena in Padova...
A broadsheet published by the Camera Apostolica in Rome in 1691, of which there is a copy in the British Library.
cf. Iris Origo, The world of San Bernardino (London, 1963).

Amulets were however an aspect of popular religion which came to be treated with suspicion by the church. When Aurelio Stichiano, who earned a living in Venice as an unlicensed quack, was tried by the Holy Office in 1572, the evidence included spells to conjure disease and a lengthy prayer against plague with a representation of the Thau. (1) Amulets and charms were also among the superstitions repressed by Carlo Borromeo during the plague in Milan in 1576. (2)

Processions, on the other hand, were a fundamental resource of the church in time of plague. Frequently they had the backing of the state, as in Siena in 1411 (3), and in Venice in 1447 when the flagellant movement contributed to the penitential processions:

'Et adì 21 luio 1447 la Signoria Dogal de Venezia de ordene de il Magnifico vescovo fase far una bella, solenne e devota procession sulla piazza de S. Marco con tutte le chieresie de preti et frati et con le quattro scuole grandi de i battuti con le cappe sulle canne andando descalzi battendose le carne, cridando misericordia et cantando 'Alto Re di gloria, cazza via sta moria' et con altre assai oration et portando assai reliquie in procession'. (4)

It has been argued that the coming of the Black Death brought about changes in art, reviving the portrayal of God as a majestic, remote judge. Certainly the intercessory role of saints became especially important in relation to plague. Two saints, San Sebastiano and San Rocco, gained an extraordinary reputation in the fifteenth and sixteenth centuries as

1. ASV., Santo Uffizio, Busta 31.
2. A. Francesco La Cava, La peste di S. Carlo (Milan, 1945), p.157.
3. Luciano Banchi, 'Provvisioni della repubblica di Siena contro la peste degli anni 1411 e 1463', Archivio Storico Italiano, 4th series, vol.14, 1884, pp.325-332. Processions were to be held on three successive days, and at least one member of each household was to take part, 'acciò che esso Signore Idio per la sua piatà et misericordia degni fare gratia alla città di Siena et cittadini suoi, et rivochi questa crudelissima pistolentia'.
4. BMV., MSS. Italiani, Classe VII, Cod.56 (=8636), Cronica veneta di Marc'Antonio Erizzo, f.437v.

intercessors against the disease. The popularity of their cult is apparent in the number of churches and monasteries dedicated to them, and from their constant appearances in religious art.(1)

The cult of San Sebastiano was by far the older. Sebastiano was martyred in third century Rome, being shot through with arrows and beaten to death. Standard iconography shows him as a semi-nude youth pierced with arrows, and it is possible that his association with epidemics derived from the manner of his martyrdom. Apollo was represented in the Iliad as scattering pestilence with his bow, and the theme of God's avenging wrongdoing with arrows was present in the Old Testament (2), and common in the Christian era, especially in the syphilis literature of the late fifteenth century. The fortitude which Sebastiano displayed in his martyrdom made him a model of endurance, and suggested his sympathy for those struck by the plague-bearing arrows of God.

The cult of Sebastiano as a plague saint began in Rome in 680 A.D. when the dedication of an altar to him and devotion to his relics was given the credit for ending the plague. The cult survived the temporary disappearance of bubonic plague, and Sebastiano continued to be invoked in epidemics of other kinds before the Black Death.

The cult was widely extended in the fifteenth century. In 1453 Venice granted permission to a fraternity of San Sebastiano in Padua to acquire goods and property (3), and two years later licence was obtained from the Pope to found a church of

1. Raymond Crawford, Plague and pestilence in literature and art (Oxford, 1914).
Henri Mollaret and Jacqueline Brossollet, La peste, source méconnue d'inspiration artistique (Antwerp, 1965).
Louis Réau, Iconographie de l'art chrétien, vol.3 (Paris, 1959).
2. e.g. Job, Chapter 6, verse 4, 'For the arrows of the Almighty are within me, the poison whereof drinketh up my spirit'.
3. ASV., Senato, Terra, Reg.3, f.59v (5 March 1453).

S. Sebastiano in Venice. (1) In 1464 Sebastiano was invoked by the nuns of Santa Croce on the Giudecca after plague had carried off four of their number. Morning and evening prayers to the saint were thought responsible for ending the outbreak. (2) By 1471 the church of San Sebastiano was complete, and the Consiglio dei Dieci gave permission for the establishment of a Scuola. (3) By 1584 the church had acquired a notable collection of relics, testifying to the popularity of the cult. Included were a thorn from Christ's crown, a piece of his garment, a stone from the column against which he was flogged, wood from his cross, bones of St. Stephen, St. Catherine and other saints. Notably, the church boasted an arrowhead with which Sebastiano was wounded, and a piece of his skull. (4) The latter was probably the relic bequeathed by the diarist Sanudo:

'Item lasso alla chiesia di Miss. San Sebastian una dignissima reliquia che è uno osso de Miss. San Sebastian, qual havia la Dogaressa da cha Moro, fo da cha Sanudo, et la caxa nostra sempre è sta preservada di peste, e non ge l'avendo dato in vita voio el ge sia dato perche cussì feci vodo in la mia malattia di darglielo; a la qual prego la sia fatto un bel tabernacolo'. (5)

But of greater importance in Venice was the cult of San

1. Emmanuele Cicogna, Delle iscrizioni veneziane, vol.4 (Venice, 1834), p.129.
2. ASV., Procuratori di S. Marco de Citra, Collo LXIX, Sacco 163. A broadsheet, with prayers to S. Sebastiano, probably of the late sixteenth century. The deliverance was recalled during the plague of 1576, when the Patriarch ordered relics of San Sebastiano to be taken to the nunnery and cast into its well, drawing vast crowds to drink the water. The Doge and Patriarch later attended mass at the nunnery before laying the first stone of the Redentore. A fifteenth century manuscript describing the incident, formerly in the nunnery and now Wellcome Institute MS.808a, is the subject of William M. Schupbach's 'A Venetian 'plague miracle' in 1464 and 1576', Medical History, vol20, no.3, 1976, pp.312-6.
3. ASV., Consiglio dei Dieci, Reg.misto 17, f.115v (18 Jan 1470 m.v.).
'Quod iuxta supplicationem pauperum religiosorum fratrum Sancti Bastiani, qui ex elemosinis praeceptis hedificare fecerunt in contrata Sancti Raphaelis unam ecclesiam intitulatam nomine dicti gloriosi martiris Sancti Bastiani, concedat eis quod possint in ea ecclesia unam scollam hedificare sub nomine ipsius gloriosi martiris ut sua intercessione haec civitas a morbo epidemie preservetur et liberetur'.
4. ASV., Convento di S. Sebastiano, Busta 2, f.lr (1584).
5. Cicogna, op. cit., p.131. Sanudo's will is dated 4 Sept 1533.

Rocco. Rocco is said to have been born in Montpellier in the mid-fourteenth century. (1) After several years in Rome, he arrived in 1371 in the area of Piacenza, where he is said to have tended the plague sick before himself succumbing to the disease. Iconographically, Rocco appears in pilgrim's dress, carrying a staff, and with his upper thigh exposed to show a plague buboe. His cult did not replace that of San Sebastiano. The saints were often invoked jointly, and frequently appeared together in religious art. In 1631, for instance, the Venetian guild of Orefici e Gioiellieri donated to the church of S. Rocco a silver relief showing SS. Rocco and Sebastiano with the guild's patron, S. Antonio. The day chosen for the presentation at S. Rocco was the feast of S. Sebastiano. (2) S. Rocco is said to have been invoked by the Council of Ferrara in 1439, when plague necessitated the Council's removal to Florence. However the cult only became popular in the second half of the century. In June 1478 with mortality rising in Venice, the Consiglio dei Dieci conceded permission to a group of nobles and citizens to found a Scuola dedicated to S. Rocco in the church of S. Zulian. (3) On 16th July the Patriarch, Mafeo Girardo, laid in the graveyard of the Frari the first stone of a church dedicated to San Rocco:

'ut illius intercessione et precibus altissimus et misericors Deus dignetur hanc civitatem venetiarum a mortifera peste liberare et liberatam ab ea conservare'. (4)

Under the stimulus of the plague, the growth of the Scuola was spectacular, and at the end of November the Dieci granted it

1. Giovanni Poggi, 'Rocco di Montpellier, un infermiere-malato a Piacenza nel secolo XIV', Collana di Pagine di Storia della Medicina, Miscellanea 20, 1968, pp.67-75.
2. Giambattista Soravia, Le chiese di Venezia, vol.3, La chiesa e la Scuola Grande di S. Rocco (Venice, 1824), pp.346-7.
3. ASV., Consiglio dei Dieci, Reg. misto 19, f.73v (10 June 1478).
4. Soravia, op. cit., p.130.

permission to hold processions of up to 100 members. (1) In 1480 reference was still being made to the cult of San Rocco at S. Zulian, where an image of the saint was revered. (2) But in 1481, when its formal constitution was approved, the Scuola had moved to the Frari, where its own church was presumably complete. (3) The cult flourished on the real sense of terror inspired by the plague. In May 1483, though there was no hint of an epidemic in Venice, the German friar Felix Fabri witnessed the panic which the disease evoked in his party of pilgrims to the Holy Land:

'On the 16th, whilst we yet lay in our beds, we heard the family of the house weeping and wailing, for our landlord, Master John, had died in the night, and they were making ready for his burial. Wherefore some of us, thinking that he might have been plague-stricken, hired vessels and sailed up to Padua, where they stayed for some days. Howbeit, I and those who stayed behind went by water to the church of St. Roch in the city of Venice, and invoked the aid of the aforesaid saint, who is the especial helper of those who fear the plague, lest we should take the infection'. (4)

The Scuola was soon taking steps to acquire the body of S. Rocco. The body had been discovered in Voghera, near Piacenza, in 1469, but in the opinion of the Venetian Scuola it was not given the reverence there which it deserved. (5) In October 1484 two Paduan monks contracted with the Scuola to sieze as much of the body as they could. But in the event the burglary was successfully carried out by Fra Mauro Oblato of Murano. He set out for Voghera on 16th February 1485, broke into the church by night, removed the relics of the saint, and arrived back with them in Venice on 3rd March. Chronicles record that

1. ASV., Consiglio dei Dieci, Reg. misto 19, f.73v (30 Nov. 1478).
2. Ibid., Reg. misto 20, f.21v (31 Aug 1480).
3. Ibid., f.59v (16 May 1481).
4. Felix Fabri, Wanderings (London, 1892), p.103.
5. Soravia, op. cit., p.132. Soravia's work, which quotes amply from the archives of the Frari, the parish of S. Tomà, the Scuola and also from the local records of Voghera, is the source for what follows.

the body had had to be broken up to facilitate the robbery, (1) and the Milanese ambassador came to the same conclusion when he viewed the body, covered from the head down, on its first public appearance in Venice. On 29th April the Patriarch ordered a procession, and held an inquiry to establish whether the relics were genuine. Witnesses who had been at Voghera testified that the bones were those that they had seen there, identifying them from marks said to have been caused by the plague buboes. (2) At the same time, enquiries were made at Voghera to establish that the bones were no longer there. By 13th May the Patriarch granted the Scuola permission to demolish the existing church of S. Rocco, and rebuild on a more fitting scale. This was approved by the Consiglio dei Dieci which also granted the Scuola licence to double its size from 100 to 200 members. (3) On 5th June, after solemn mass in St. Mark's, the body of San Rocco was borne in procession to its temporary home in the church of S. Geminiano. The Milanese ambassador, who does not appear to have protested against the abduction of the relics from Milanese territory (4), reported the news on 8th June:

'Da pasca grande in qua se pur vociferato che lo corpo de Sancto Rocho era in questa terra: ma havendone io voluto cercare el fundamento et chiarirne bene per poterne dare certo aviso alla Excellentia Vostra ma non ho potuto cavare constructo perche alcuni dicevano esser vero, alcuni che no. Tamen dominica proxima passata alli 5 del presente la mattina cum molte processioni et cerimonie doppo la messa

1. Soravia, op. cit., p.15.
'Alvise dal Verme...dacordo con un prevosto de Voghera suo castello, consentì che fosse venduto il corpo di Sancto Roccho glorioso, qual si trovava in detto loco, per una frate, huomo di mala sorte et vagabondo, baro et di pessimi costumi, qual per forza di danari ebbe questo glorioso corpo, et per condur quello sicuro da tal territorio lo ruppe in più pezzi, ponendolo quello in una bisacha da pan, et portolo fino in Venezia'.
2. Ibid., p.154.
'ex ustione quadam e nigretudine apparente in osse cruris precise ut vidit in Ugheria'.
3. ASV., Consiglio dei Dieci, Reg.misto 22, f.138r (25 May 1485).
'possint etiam officiales scole prefate acceptare, sicut devote supplicaverunt, in dictam fraternitatem alios centum homines ultra centum primos, qui non sint de aliis scolis..'
4. Perhaps because Voghera was part of the semi-independent feudal territory of the Conti dal Verme.

solenne in Santo Marco dove era esso corpo sopra l'altare grande precedite prima tutte cinque le scole de questa terra et deinde tutti li ordeni di Frati et chieresia et cum molte altre reliquie fu levato esso corpo et uscendo de S. Marco per el mezo del pallazo fu accompagnato sotto uno balduchino per tutta la piazza grande in fino alla chiesa de Sancto Geminiano qual è in fondo de essa piazza dove è stato reposito in sino chel sia deliberato dove s'habia a meterlo perche orta est contentio tra doy lochi pii quali ciascuno lo voria per se. Seguiva esso corpo immediate il prencipe cum tutta la Signoria et longo ordine de zentilhomeni fu portato super lectica coperto de drapo doro rico. Scoperto tantummodo la testa, la qual deficit a mento inferius et e molto deffacta. Se dice essersi havuta da Vigueria loco del conta Piero dal Verme per trabuto et inganno facto alli custodi desso et chel corpo e roto in doe parte per el portare desconzo. Sono assai che vogliano dire non esser el vero corpo de Sancto Rocho nondimeno qua se ne facto grande demonstratione de leticia et piacere si per la Signoria come per tutta la terra'. (1)

In the following year the Patriarch bestowed on the Scuola an inn at S. Silvestro for restoration as its permanent home. The Consiglio dei Dieci confirmed the Scuola's tenure of this property (2), and the Scuole Grandi were invited to join in procession to bear the body of S. Rocco from S. Geminiano to S. Silvestro. (3) Misfortune evidently followed for within the year the Scuola made a further petition to the Dieci:

'essendo dicta scola povera et in grandissimo bixogno, et questo per esser sta per el passato mal tratada come è notoria'.

As a result, the maximum membership of the Scuola was raised to 300, and provision made for the admission of rich citizens on the same terms as in the four Scuole Grandi. (4) By 1490 the Scuola had returned to the Frari, where its new church was

1. ASM., Archivio Sforzesco, Carteggio delle Potenze estere - Venezia, Cartella 369 (8 June 1485).

2. ASV., Consiglio dei Dieci, Reg. misto 23, f.35v (21 July 1486).

'azo che de ostarie el retorni luogo sancto, come prima era, et sia ferma habitation et reduto perpetuo de questo sanctissimo pelegrin et di la sua scuola, mediante i pregi del qual questa inclita cita sempre sia libera da morbo'. A project for a Scuola at S. Samuele, planned in 1485, had evidently come to nothing, ibid., Reg. misto 22, ff.173v-174r (24 Sept 1485).

3. Ibid., Reg. misto 23, f.40r (9 Aug 1486).

4. Ibid., f.92r (26 March 1487).

sufficiently advanced to receive the body of S. Rocco. (1)

The expansion of the Scuola, and the decision to admit an order of rich citizens, raised its status to that of a Scuola Grande, and in 1489 its membership was allowed to increase to the full quota of 500 allowed to such bodies. (2) In consequence the Scuola ceased to be a purely religious fraternity, taking on general philanthropic functions. It was also increasingly preoccupied with its lavish building programme.

The church of S. Rocco continued nevertheless to be a centre of popular devotion, the object of vows on the part of the distressed (3) and even the site of miracles. (4) In 1516 pilgrims to the Holy Land were permitted to see the body of the saint, whose picture was also granted for the altar of the pilgrim galley. (5) The body was shown to the public at large four times a year, at least until 1553, when the Scuola decided on an additional display for those who flocked into Venice for the Ascension fair. (6) The Scuola also joined regularly in state processions, often carrying with it a finger bone of the saint. (7) Ritual flagellation, an attempt to placate the wrath of God by reenacting the sufferings of Christ, continued to be a feature of such occasions. The practice was particularly associated with the Scuola di San Rocco, which in 1530 provided no less than ninety flagellants for the Holy Thursday procession

1. Soravia, op. cit., p.19. The body was moved on 28 March 1490.
2. Pullan, Rich and poor in Renaissance Venice, op. cit., p.35.
3. Sanudo, Diarii, op. cit., vol.33, col.266 (May 1522).
4. Ibid., vol.27, col.107 (24 Mar 1519); vol.30, col.71 (29 Mar 1521). The Scuola possessed a thorn from Christ's crown which is said to have flowered on these occasions.
5. ASV., Scuola Grande di S. Rocco, Seconda Consegna, Reg.45, f.6r (18 May 1516). In 1519 over 100 pilgrims to Jerusalem were shown the body, Sanudo, Diarii, op. cit., vol.27, col. 377.
6. ASV., Scuola Grande di S. Rocco, Seconda Consegna, Reg.47, f.109r (15 Feb 1552 m.v.).
7. Sanudo, Diarii, op. cit., vol.16, col.287 (22 May 1513); vol.42, col.62 (8 July 1526).

at S. Marco. (1)

San Rocco and San Sebastiano were not the only plague saints. S. Bernardino of Siena, who had nursed the plague sick in the Ospedale della Scala in Siena in 1400, was frequently invoked in time of plague. A Scuola di S. Bernardino was established in 1452,⁽²⁾ and the cult was further promoted by the saint's personal friend Christoforo Moro after his election as Doge. An annual feast day was instituted in 1470 (3), and a chapel with an image of the saint was established at S. Giobbe, whose own patron saint was also connected with disease. (4) In addition, Venice boasted the whole body of San Lorenzo Giustinian, the first Patriarch of Venice. His beatification is recorded by the diarist Sanudo, who described the opening of the Patriarch's tomb and the display of his relics. (5) Giustinian was said to have saved 225 sick persons in the lazaretto as a result of a vow in the late fifteenth century, and his cult as a plague saint became widespread in the seventeenth century. (6)

Religious methods of dealing with plague were not necessarily antipathetic to those employed by the state. Whilst there was often conflict in Venice between church and state, especially over patronage in ecclesiastical appointments, the jurisdiction of ecclesiastical and civil courts, and political relations with Rome, the basis of the state was fundamentally religious. The state itself took responsibility for the

1. Sanudo, Diarii, op. cit., vol.53, col.144.
'Le scuole veneno molte ben in ordine a S. Marco a veder el sangue de Cristo, tra le qual era la scuola di San Rocco con 90 che si batteva...'
2. ASV., Consiglio dei Dieci, Reg. misto 14, f.159r (16 May 1452).
3. ASV., Senato, Terra, Reg.6, f.88r (15 May 1470).
4. Sanudo, Diarii, op. cit., vol.30, col.246 (1521). Sanudo also records the annual visits of the Doge Andrea Gritti to the church after his election on the feast of S. Bernardino, ibid., vol.41, col.375 (May 1526).
5. Ibid., vol.40, col.620 (8 Jan 1526).
6. See below, p.306.

religious health of the populace, in the belief that only divine favour could guarantee prosperity.

In particular the government repressed all things likely to provoke divine anger, and hence plague or other misfortune. (1) At least from the early fifteenth century the Consiglio dei Dieci, as part of its responsibility for state security, legislated against sodomy. (2) The spectre of the destruction of Sodom and Gomorrah underlay the persecution of the practice. Preaching against sodomy in Siena, San Bernardino declared:

'O fuoco di Dio, come non discendi tu di cielo, a ciò che tu disbrugi tutti questi paesi?...O Italia, aspettano vendetta. O Sodoma, O Gomorra, con quelle altre città, perche fusti tu sommersa? Qual fu la cagione? Erraverunt ab utero - perche errarono dal ventre. Simile hanno errato in questa patria. Oimmè, o non ponete voi mente che se voi fate a questo modo che mai non si spegne questo vizio senza il giudicio di Dio.' (3)

In Venice the Consiglio dei Dieci took note of the biblical precedent. It did so explicitly during the plague of 1464, when a motion was considered to change the penalty for sodomy to death by burning rather than decapitation. (4)

The repression of blasphemy and the profanation of churches were likewise the responsibility of the state. (5) In 1514 the Consiglio dei Dieci, 'mosso dal religioso instituto dela sua republica et dala abhomination de l'horendo vitio de blasphemia'

1. Military defeat, like famine and plague, was considered an expression of divine wrath. Girolamo Priuli blamed the defeat at Agnadello in 1509 on immorality in Venice. See Pullan, Rich and poor in Renaissance Venice, op. cit., pp. 484-5.
2. ASV., Consiglio dei Dieci, Reg. misto 9, f.20r (23 Jan 1408 m.v.).
'Quia debemus et tenemur totis sensibus et viribus nunquam desistere sed continue vigilare et facere omnem provisionem nobis possibilem ut peccatum sodomiti cesset, ne deus indignetur contra animas nostras et contra statum nostrum'. For similar legislation in 1418 and 1438, Rinaldo Fulin, 'Gli Inquisitori dei Dieci', Archivio Veneto, vol.1, 1871, pp.1-64, 298-313; vol.2, pp.357-391.
3. Bernardino da Siena, Le prediche volgari (Milan, 1936), sermon 39, pp.893-919.
4. ASV., Consiglio dei Dieci, Reg. misto 16, f.128 (25 Aug 1464).
5. Sanudo, Diarii, op. cit., vol.14, cols.257,473 (May, July 1512).

laid down severe penalties for the offence, comprising a 400 lire fine, exile from Venice and its District for five years, and deprivation of office. (1) Also of concern to the Dieci were prostitution and the corruption of the young (2), sexual licence in monasteries and nunneries, and heresy. (3) Ostentatious expenditure, whether on food, dress, or household decoration, was also prosecuted. In legislation passed by the Senate in 1443 it was argued that the wearing of cloth of gold by women 'est consumptio nostrorum civium, et quod peius est, provocatur ira summi creatoris nostri'. (4) Similarly, in 1476 expenditure on dress and household furnishings was said to have increased 'cum grande offension del nostro signor dio'. (5)

In the sixteenth century many of the state's religious concerns were made the responsibility of specialist magistracies. The Provveditori alle Pompe became a permanent institution in 1515, after a history of intermittent existence from the fifteenth century. (6) The Provveditori sopra Monasteri were founded in 1521, the Esecutori contro la Bestemmia in 1537, and the Savi sopra Heresia in 1547. That magistrates of the

1. Sanudo, Diarii, op. cit., vol.18, cols.133-6. The legislation is dated 19 April 1514.
2. At least until 1539, when responsibility was devolved to the Provveditori alla Sanità, see above, pp.216-219.
3. ASV., Consiglio dei Dieci, Reg. misto 10, f.51r (10 Mar 1423). Corruption at this time discovered at the Frari involved sodomy, sexual malpractice with the nuns of St. Clare, and heretical sacrifice in which an image of Christ was trodden underfoot. The Dieci, timentes iram omnipotentis brought the case to the attention of Rome. In his Tractatus legalis de peste published in 1524, the Bolognese lawyer Girolamo Previdelli also argued that in time of plague 'heretici sunt expellendi a civitate furore populi', Corradi, Annali, op. cit., vol.1 (1973 reprint), p.438.
4. M. Margaret Newett, 'The sumptuary laws of Venice in the fourteenth and fifteenth centuries' in T.F. Tout, Historical essays by members of Owens College, Manchester (London, 1902), pp.245-277.
5. Giulio Bistort, Il Magistrato alle Pompe nella repubblica di Venezia (Venice, 1912; Bologna reprint, 1969), pp.352-3.
6. Ibid., p.54. A Senate decision of 8 Feb 1514 m.v.

latter three bodies were elected by the Consiglio dei Dieci emphasised the connexion between their work and state security.

In Venice the state also sought to earn divine favour by good works. San Bernardino of Siena argued that through charity a community could build up merit sufficient to ward off the divine anger which it might otherwise have incurred. (1) State support for institutions such as the foundling hospital, the Pietà, was an aspect of medieval Venice. (2) The sixteenth century saw the foundation of three major hospitals, the Incurabili for syphilitics, SS. Giovanni e Paolo mainly for general ailments (3), and the Mendicanti for poor relief. The latter two were founded under government aegis and all three received a measure of government aid. Through the Provveditori alla Sanità there was also a new poor law, and support for societies and institutions such as the Poveri vergognosi for persons ashamed to beg openly, the Convertite for repentant prostitutes, and the Zitelle for girls in moral danger. In 1561 because of abuses in the financial administration of charities, con offesa del Signor Dio, a new government body, the Provveditori sopra Ospedali was created to supervise the management of hospital revenues. (4) All these developments have been discussed elsewhere. (5) In addition, charitable purposes were

1. Bernardino da Siena, op. cit., p.951.
'Se tu doi limosina tu fai placare Idio; che la limosina si pone innanzi a Dio e ora per te, e Idio si viene a placareIo conosco città al mondo involta in tanti peccati, che se non fussero le limosine che si fanno, io mi credo che Dio le darebbe una peccata'.
2. B. Cecchetti, 'Documenti riguardanti Fra' Petruccio di Assisi e lo spedale della Pietà', Archivio Veneto, vol.30, 1885, pp.141-7.
3. ASV., Ospitali e Luoghi Pii Diversi, Busta 910 includes a fragment of an admission register, 30 Sept - 5 Oct 1560, which reflects the hospital's general medical functions.
4. ASV., Provveditori sopra Ospedali, Busta 1, Capitolare 1, f.2r. A Senate decision of 24 July 1561.
5. Pullan, Rich and poor in Renaissance Venice, op. cit.

an aspect of many of the minor magistracies of Venice. In 1489 the Ufficio de le Legna e Boschi was described as the suffragio secondo de poveri, the first being the Ufficio della Farina.

It was also stated that 20,000 ducats worth of grain had in the past been dispensed annually to the poor. (1) A proportion of the fines imposed by every magistracy was donated to charities such as the Pietà by decree of the Senate (2), whilst further donations were made according to the wishes of each magistracy. Recipients of a proportion of the fines imposed by the Health Office between 1545 and 1553, in addition to the lazarettos and the city poor, included the hospitals of the Incurabili and SS. Giovanni e Paolo, and the nunneries of Corpus Domini, S. Iseppo, Santa Chiara, Santa Maria Maggiore, S. Francesco della Croce, S. Sepulchro and Santa Giustina. In one case a donation was made to the building of the church of the Santa Ternità. (3)

Each of the main councils of state made regular donations to the poor and to religious institutions. In 1549 in the annual distribution of wood ordered by the Consiglio dei Dieci, 830 carri were distributed to monasteries and luochi pii, and a further 3,500 to poor families in the city. (4) The motive for the donations to religious bodies was to enlist prayers for the prosperity of the state. The Friars of S. Giacomo di Paludo were granted six carri of wood annually in 1599,

'perche con tal suffragio possino riparar al loro bisogna, et habbino tanto maggiormente causa di pregar il Signor Dio per la conservatione et essaltatione del Stato nostro'. (5)

Annual gifts of salt were another form of largesse practised by

1. ASV., Senato, Terra, Reg.10, ff.167v-168r (28 Sept 1489).
2. ASV., Provveditori alla Sanità, Reg.2, f.135v (12 Aug 1564). A Senate decree granting the Convertite two soldi for every lira of fines collected in Venice, as in the case of the Pietà.
3. Ibid., Reg.729, passim.
4. ASV., Consiglio dei Dieci, Reg. Comune 19, f.74r-v (18, 27 Nov 1549). 3,500 carri of wood were likewise distributed to the poor in 1550, ibid., f.178r (11 Dec 1550).
5. Ibid., Reg. Comune 49, f.4r (5 Mar 1599).

the Dieci. Amongst the religious bodies added to the list of beneficiaries, or whose quota of salt was increased in the year 1580-1, were the nunneries of Santa Giustina, S. Francesco della Croce and the Spirito Santo, and the monastery of S. Nicolò de Tolentini in Venice, as well as similar institutions on Mazzorbo and Murano, and in Padua, Montagnana, Verona, Bassano, Rovigo, Vicenza, Cividale di Belluno and Treviso. Other beneficiaries included orphanages in Vicenza and Padua, the Povere Convertite in Treviso, the Zitelle and the hospital of SS. Giovanni e Paolo in Venice. (1) The Signoria also made gifts of salt, occasionally with an express statement of its motive. (2) Distributions of grain at Christmas and Easter were ordered by the Senate. In 1550, 400 staia of grain were distributed to nunneries in Venice and the Dogado at Easter, and a further 450 staia at Christmas. It was said that the nuns 'pregano continuamente la maestà di Dio per la conservatione del Stato nostro'. (3) For its part, the Maggior Consiglio donated the timbers of ships which had passed out of service for the building programmes of churches and monasteries. In the years 1538-40 galleys were assigned to the parish churches of Santa Maria Nuova, SS. Apostoli and to the monastery of S. Giobbe. (4)

1. ASV., Consiglio dei Dieci, Reg. Comune 35, passim (March 1580 -May 1581).
2. ASV., Magistrato al Sal, Serie 2, Reg.3, f.50r (23 Dec 1501).
'La Illustrissima Signoria comanda a voi Signori Provedadori al Sal che dar dobiate per elemosina ai venerandi frati de l'ordene de San Domenego de observantia, mendicanti in questa citta, stara quattro de sal per uso sua, accio possino de ben in meglio pregar il nostro Signor Dio per la salute et conservation de questo excellentissimo stato contra le rabie de infedeli'.
3. ASV., Senato, Terra, Reg.37, f.7r-v (27 Mar 1550); f.82r-v (3 Dec 1550).
4. ASV., Maggior Consiglio, Deliberazioni, Reg.27, Novus, ff. 48r, 57r-v, 61r (1 Apr 1538, 26 Oct 1539, 19 Mar 1540). Many of the petitions showing the uses to which the timbers were put survive in the filze of the Maggior Consiglio, e.g., Filza 5 (4 Apr 1542), a petition from the nuns of Santa Catarina in Venice following a fire at the nunnery.

The Senate and the Consiglio dei Dieci also made direct financial contributions to the building and repair of churches and monasteries. (1) In addition, legislation obliged notaries to remind testators of the existence of charities, and permitted tax exemptions on bequests to pious causes. (2)

The state also aimed to earn divine favour by amassing a collection of relics. In 1468, during plague in Cremona, the parishioners of S. Nazaro stole the body of San Arealdo from the Abbey of Ogni Santi, where it was said to have been accorded scant respect. After a new shrine had been established, the parish was freed from plague. The moral of this incident, pointed out in a letter from Cremona to the government in Milan, was that

'Dio justissimo non habandona l'osse di sancti suoy in veneratione et devotione a quelli'.

It was therefore hoped

'mediante la gratia di Dio et merito del prefacto gloriosissimo sancto, et le preghere di boni, che questa prefatta vostra citta se liberera in tutto da peste'. (3)

Venice was similarly confident of the value of its relics. Many of them had been acquired by gift. In 1423, for instance, the Duke of Savoy presented the Doge with relics of the martyred innocents, comprising a head, one foot and tibia, and a shirt with part of an arm in one sleeve 'per congelationem illius

1. ASV., Consiglio dei Dieci, Reg. Comune 19, f.178r (11 Dec 1550). A donation of 25 ducats for building work at S. Giacomo di Rialto; ASV., Senato, Terra, Reg.37, f.103v (17 Mar 1551). A donation of 30 ducats to the monastery of S. Cristoforo della Pace for repairs after flooding in the lagoon.
2. ASV., Fraterne Poveri, S. Maria Formosa, Busta 5. Copy of a Senate resolution of 31 March 1573.
'...Et perchè è conveniente alla pietà della Signoria nostra che li luoghi et opere pie massime in questi tempi siano in qualche sorte sollevati da questo peso a laude et onore del Signor Dio, sia preso che tutti li legati da ducati 200 in giu che per l'avenire saranno lasciati ad pias causas, siano esenti dalle dette cinque per cento...'
3. ASM., Miscellanea Storica, Cartella 2 (15 July 1468).

inocentissimi sanguinis quodammodo conglutinata'. (1) Others were obtained at greater expense and effort. In 1455, arguing that Venice was daily protected from adversity through the prayers of saints whose relics were venerated in the city, the Senate resolved to pay 10,000 ducats for a garment of Christ. (2)

In time of plague, the government made particular effort to win back divine favour. To this end grain was distributed to the city's monasteries, and flour to the poor, during the plague of 1456. (3) In the following year, when the epidemic was virtually over, processions and prayers of thanksgiving were ordered, and 200 ducats were distributed to pious causes in an attempt to secure the city's complete recovery. (4) Similarly, in 1464 it was decided that the Patriarch be asked to arrange ceaseless prayer in all religious houses for the health of the city. (5)

Later in the fifteenth century the growing conviction that plague could be controlled by practical techniques, which was

1. ASV., Collegio, Notatorio 5, f.194r (27 Mar 1423).
2. ASV., Senato, Terra, Reg.3, f.169r (26 Aug 1455).
'Quantum progenitores nostri vigilaverint continue et insudaverint pro honore dei et augmentum christiane religionis et devotionis huius nostre civitatis, non habentes respectum ad pericula, labores et expensas quod haberentur ad hanc civitatem nostram conducentur ex omnibus partibus mundi, secundum quod possibile fuit, corpora et diversa reliquie sanctorum multa que et varia ornamenta notabilissima et ad cultus ac honorem dei dedicata, adeo quod dei gratia ista civitas nostra ornata est multis sanctis et devotissimis corporibus et venerabilibus ac multis reliquiis sanctorum, quorum meritis et precibus credendum est civitatem istam liberatam esse quam pluries et omni die liberari atque tueri a multis adversitatibus gratia dei mediante'.
3. Ibid., Reg.4, f.18v (9 Sept 1456).
4. Ibid., f.48r (6 Aug 1457).
5. Ibid., Reg.5, f.76r (17 April 1464).
'Facienda est omnis possibilis provisio ad remedium pestis, inter quas in primis imploranda est clementia et misericordia salvatoris dei nostri Jesus Christi'.

expressed in the foundation of the Health Offices, opened a division between religious and civil notions of how plague should be dealt with. The year 1485 in the Venetian calendar saw both the decision to found the Health Office and the arrival in the city of the body of S. Rocco. Although both Office and Scuola arose in consequence of the epidemics of 1478 and 1485, they represented distinct approaches to the problem. There is no evidence that the Provveditori alla Sanità ever sought aid from the Scuola, or that it favoured the cult of S. Rocco in any way. The Provveditori were in no sense irreligious (1), but their task was conceived as a practical one to be achieved with temporal resources.

The work of the Health Offices ran the risk of being seen as an impious attempt to frustrate God's will to punish His people. To pray for plague to be revoked was one thing; to thwart God's weapons quite another. The question had been discussed as early as the fourteenth century, not in relation to the Health Offices, which did not then exist, but in terms of whether it was impious to flee from a city struck by plague. In a letter to Benvenuto da Imola in 1374, Coluccio Salutati rejected the option of flight from the plague in Florence on the grounds that 'nostrum non est summum illud frustrare numen'. (2) In 1383 Salutati sent a series of letters of reproof to Antonio di Ser Chello, who had abandoned

1. A list of Office expenses in 1561 included the regular replacement of a candelotto per la madona dell'officio, suggesting the existence of a shrine, ASV., Provveditori alla Sanità, Reg.13, f.56r (30 Nov 1561).
2. Coluccio Salutati, Epistolario (Rome, 5 vols., 1891-1911), vol.1, p.170.

'Et demum quod ad fugam pestis me ad lares tuos cum familia tam fraterne tamque amicabiliter invitas, mecum admiratus sum. Ubi enim fugiam a facie Dei mei? Si enim hec pestis divina dispositione totum concutit genus mortalium, sive, quod optem, sit talis peccatorum, sive alia quecunque summi illius opificis ordinatio; et nostrum non est summum illud frustrare numen, cum ubicunque sit, immensum et potens, quid iuvat inde fugere...?'

Florence for S. Miniato. In them he stressed that penitence was the only appropriate response to plague, and that it was futile to seek to escape since the date and manner of each person's death was predestined. (1)

Salutati's views were not without support in the fourteenth century. The chronicler Gazata, who recorded Bernabò Visconti's plague orders in 1373, charged Bernabò with hubris 'credens divinam posse potentiam coercere'. (2) Antonio di Ser Chello was himself a convert to Salutati's ideas. In 1399 he wrote to reprove the Professor of Law, Francesco Zabarella, who had fled to Monselice from the plague in Padua. On this occasion Zabarella proposed an influential counter-argument. If it was impossible to flout God's will and each person's death was predestined, then the flight of any person from a stricken city must also be part of the divine counsel. Zabarella also drew attention to the fundamental issue. Plague spread by contagion, and could therefore be avoided like other diseases:

'hec experientia oculorum, hec aurium docebit per paucos eorum qui secedunt extingui morbo, ut sic loquamur, epidimico, eorum verum qui residunt non paucos. Serpit enim talis contagio et ab egris ad sanos assistentes migrat, non aliter quam scabies aut quam lepra vel siquis est aliud ex his morbis qui contagiosi dicuntur, ut non tantum ex celi vel aeris inclementia sed etiam ex vicinitate languentium videamus exingui complurimos'. (3)

The idea that plague could be avoided by good and bad alike may well have suggested that the aim of the divine archer was not as accurate as it might have been. Observation of the plague certainly revealed phenomena which were difficult to reconcile with religious theory. In Pisa in 1464 it was argued

1. Salutati, op. cit., vol.2, pp.80-98, 114 ff. The letters are dated 7 Aug, 21 Aug, 30 Oct 1383.
2. Sagacius and Petrus, Gazata, op. cit., col.81.
3. Pier Paolo Vergerio, Epistolario (Rome, 1934), pp.400-422.

that maritime cities were more exposed to plague than inland areas because of the arrival of shipping from plague areas (1), and assumptions of this type were fundamental to the practices of the Health Offices.

Certain Health Office regulations struck at religious ideas of how epidemics should be treated. Whilst the Church sought to increase religious practice, and encouraged processions in time of plague, the Health Office strove to prevent church services and processions, since the gathering of crowds favoured the spread of the disease. For most of the fifteenth century religious ideas held their own. In Brescia in 1469 the civic authorities decided to proceed with preparations for the Corpus Domini procession notwithstanding the plague,

'cum potius ex dicta solemnitate et eius devotione de liberatione et salute sperandum sit quam de maiore infectione temendum'. (2)

But the authority of the Health Offices was steadily increasing. Preaching in Venetian churches was banned in 1485, and the ban remained in force during Lent 1486 despite moves to call it off.

(3) Sanudo's diaries record that bans on preaching were also enforced in 1497, 1509, 1510 and 1511; that processions were prohibited in 1512 and 1530, and that the celebration of feast days was cancelled or postponed in 1509 and 1529. (4) These examples, though only a portion of the total, are enough to

1. See above, p.49.

2. Guerrini, Le cronache bresciane inedite, op. cit., vol.1, p.14.

3. ASV., Senato, Terra, Reg.9, f.171r (6 Feb 1485 m.v.). A Senate motion to rescind the ban received 19 votes. The contrary motion was passed by 68 votes to 11, with 3 abstentions:

'Vult che considerando el pulular che al presente fa la peste in diversi luogi de la terra et che le predication per el coadunar del le persone sono molto nocive. Impero l'andera parte che la presente quaresema el non se predichi in niuno luogo de questa cita'.

4. Sanudo, Diarii, op. cit., vol.1, col.836; vol.9, cols.329, 425, 517; vol.10, col.23; vol.12, col.54; vol.14, col.246; vol.50, cols.271, 374; vol.53, col.267.

suggest that the banning of religious ceremonies was standard practice in the early sixteenth century. In addition, churches in plague centres were closed completely, as was the Frari in 1527, and the Scuola di S. Giovanni Evangelista together with its church in 1528 and 1529. (1) These measures were firmly based on experience. In 1497, for instance, preaching was banned and feast days at the Madonna dei Miracoli and S. Giovanni Crisostomo postponed after a woman who died at the lazaretto was found to have passed on the plague to two others during feast day celebrations in the church of Santa Lucia. (2) The Provveditori alla Sanità occasionally met opposition, as did Vettor Morosini in February 1510, when he was unable to gain a Senate majority for a ban on preaching during Lent. (3) In general, however, the Provveditori were not hindered, and during the plague of 1529 they were even able to shut up the Patriarch in his palace after two of his servants were found to have had contact with the disease. (4)

Perhaps the most telling aspect of the Health Office's attitude to the religious theory of plague was its treatment of the cult of San Rocco. In time of plague the church of S. Rocco was subject to closure by the Office like any other institution which drew crowds. It was closed, for instance, in 1523, even though the plague at that time was of little significance. Even celebration of the feast day of San Rocco was postponed, though no new cases of disease had been found for some days:

'Fo fato la festa di S. Rocho che fo eri. Et la chiexia di

1. Sanudo, Diarii, op. cit., vol.44, col.349; vol.49, col.291; vol.50, col.271.
2. Ibid., vol.1, col.836.
3. Ibid., vol.9, col.517. His motion was defeated by 119 votes to 33. In the following month Morosini was nevertheless able to persuade the Collegio to take action, ibid., vol.10, col. 23.
4. Ibid., vol.50, col.519 (20 June 1529).

San Rocho fo serato per il morbo. Tamen è tre zorni non è nulla'. (1)

The Health Office also closed the church in 1528. (2)

From the religious point of view, action which limited the divine cult may have seemed likely to increase rather than restrict the plague. In 1497 according to the wishes of the Doge, the ban on preaching was lifted to allow a Christmas Day sermon in San Marco. The preacher, an Observant Franciscan from S. Francesco della Vigna, strove to turn the Doge's attention to the root causes of plague:

'Signori vui fate serar le chiesie per paura di la peste: Fate prudentemente; ma se Dio vorrà non vallerà a far serar le chiesie. Se voria remedio a le cause che induce la peste, ch'è li peccati orendi che si fa, e biastemar Dio e santi, le scole di le sodomie, li infiniti contratti usurarii si fa a Rialto e per tutta el vender di la justicia et far in favor dil richo et contra il povero. Et pezo; quando vien qualche Signor in questa terra, li mostrate li monasterii di monache, non monasteri ma postribuli e bordeli publici. Serenissimo Principe! Io so che tutto sapeti meglio che mi. Provedete, provedete, e provedereti a la peste'. (3)

The contagionist philosophy of the Health Office gave a wholly secular account of plague and its causes. To some extent its attitude to religious theory even prefigured eighteenth and nineteenth century controversies over divine and natural causation. Nevertheless, the tensions which were becoming evident in the early sixteenth century do not appear to have been discussed openly as an intellectual problem, and they were increasingly submerged as the Counter-Reformation gathered strength.

In Northern Italy the occurrence in the 1570's, at the height of the Counter Reformation, of the most severe epidemic

1. Sanudo, Diarii, op. cit., vol.34, cols.294, 355-6, 368, 371, 376 (June-Aug 1523). Celebrations for the feast day were finally held on 23 August.
2. Ibid., vol.48, cols.281, 382 (July-Aug 1528).
'Fo levado li mercati di S. Polo e di S. Marco, la chiesa di San Rocho sta serada et li zorni di le feste di sancti non si apre le chiesie'.
3. Ibid., vol.1, col.836.

since the Black Death, gave new vigour to the concept of plague as a punishment for sin. To many the 1570's seemed a time of divine reckoning. In a speech during the plague of 1576 Doge Alvise Mocenigo recognised that the famine of 1569-70, fires in Venice (possibly the Arsenal fire of 1569 and the palace fire of 1574), and the Turkish war of 1570-3 had been warnings of God's wrath that had been ignored. (1) The same theme was taken up in the writings published by Cardinal Gonzaga of Mantua in 1577, which included the loss of Cyprus amongst the signs of disfavour that had been overlooked. (2) Alvise Mocenigo's subjects were also acutely aware of the misfortunes which accompanied his period as Doge, and Francesco da Molin was amongst those who took heart from his fatal illness in 1577. (3)

Throughout Northern Italy the failure of the Health Offices to restrain the plague was followed by recourse to sacred remedies. On 9th August 1576 Giovanni Trevisan, the Patriarch

1. BMV., MSS. Italiani, Classe VII, Cod.364 (=7934), Guerre col Turco e altri avvenimenti, 1566-1593, f.66r.

'Per niuna altra causa Clarissimi Senatori, Oratori et populo nostro la Cristianità et principalmente questa città sostiene questo flagiello di mortalità se non per li grandi et enormi peccati nostri, ch'è veramente el flagiello de Iddio, el qual castigo sempre i suoi populi con la misericordia, et quando vede li populi pertinaci va a mutando castigo come habiamo vedutto nella nostra città, in la quale è caduto prima la fame, il fuocho et la guerra et al presente la peste'.

He might also have mentioned the typhus and smallpox epidemics of 1570, which caused some 5,000 deaths in Venice as well as many thousands more in the fleet, ASV., Provveditori alla Sanità, Reg.805, Necrologio 12.

2. Cause et rimedi della peste et d'altre infermità.... raccolti per ordine di Mons. Marco Gonzaga, Vescovo di Mantova (Florence, 1577), p.17.

'non pensammo che questi avvisi erano citationi mandate dal Tribunale di Dio, le quali la sua lunganime pazienza ci faceva udire di lungi per convertirci'.

3. BMV., MSS. Italiani, Classe VII, Cod.553 (=8812), Compendio di me Francesco da Molino de Messer Marco delle cose che reputerò degne di tenerne particolar memoria, p.80.

'non si può considerare che sotto i suoi sfortunati auspitii non sieno intervenuti alla patria guerra, perdita di regni e cita, incendi, inondation d'acque, carestie, e finalmente orrenda pestilenza'.

of Venice, issued a pastoral letter to the people of Venice. Referring to the afflitioni che giustamente patimo per la moltitudine di peccati nostri, he appealed for penitence, for the use of confession and communion preceded by fasting, and for generous alms giving. All parish churches and monasteries were to ring their bells twice a day to announce a time of universal prayer. He accompanied his letter with a decree enforcing the Council of Trent regulations against profane activities in churches, et questo per mitigar l'ira del Signor Dio provocata contra di questa città per la poca riverentia che si ha alli sacri tempii. (1) On 3rd September 1576, with mortality in Venice running at more than 150 a day (2), the Senate resolved to add the influence of charity to the city's prayers, and donated 524 ducats to monasteries and luoghi pii. (3) At the same time it determined to make a solemn vow to build the church of the Redentore. For three days the Doge and Senators were to attend mass at S. Marco and to walk in procession with the Host. Then the Doge was to make the vow and declare an annual procession to the Redentore on the anniversary of the city's liberation. (4) Recourse to votive architecture in time of plague was not new. In the second half of the fifteenth century vows to S. Sebastiano and S. Rocco caused the erection of churches in many Italian cities. Occasionally, as in Bergamo in 1481, a single infected parish resolved to build a votive

1. ASV., Secreta, Materie miste notabili, Reg.95, ff.67r-68r.

2. BMV., MSS. Italiani, Classe VII, Cod.364 (=7934), f.69r.
A list of the daily death toll, June - December 1576, taken from the bills of mortality.

3. ASV., Secreta, Materie miste notabili, Reg.95, f.82r-v.

4. Ibid., f.83r.

'Da qual che si legge nella sacra scrittura, come nelle istorie delle cose passate, si conosce chiaramente che quando la maestà di Dio flagella un populo, non si placa prima che non sia publicamente con ogni segni di humiltà supplicata.....'

10,000 ducats were voted for the church at this time.

church. (1) More commonly the entire city shared in the vow, as in Vicenza in 1485 (2), or Brescia in 1469. (3) It was to such examples from the days before the Venetian Health Office that the Senate turned in 1576, imitando in cio i antichi progenitori nostri, as a contemporary observed. (4) The Doge's vow epitomised the religious feeling of the city. He appealed for justice, holiness, prayer and charity as means of obtaining grace, recalling examples of divine mercy, such as the provision of quails, manna and water to the people under Moses, and cited David's dedication of an altar to stay the plague as a precedent for building the Redentore. (5)

1. Bergamo, Biblioteca Civica, Archivio Storico Civico, Azioni, Lib.3, f.45v (9 Nov 1481). An appointment of valuers for the site of a church or chapel to SS. Rocco and Sebastiano, which the inhabitants of the Contrada of Broseta had vowed to build,
'ad hoc ut omnipotens deus sua clementia et intercessione ipsorum sanctorum dignet liberare ipsam contratam et habitantes in ea contagione pestis ibi regnantis'.
2. Mantese, op. cit., vol.3, part 2, p.283. The Vicentine church of S. Rocco owed its origin to a vow of 11 May 1485.
3. Guerrini, Le cronache bresciane inedite, op. cit., vol.1, p.15.
'Vadit pars quod expensis comunis Brixie fabricari debeat una capella seu una ecclesia quando et ubi melius videbitur consilio speciali, ad honorem et reverentiam S. Rochi, ut eius meritis et intercessione omnipotens et clementissimus Deus liberet et conservet civitatem nostram ab omni pestifera infectione'.
The motion was passed in June 1469.
4. BMV., MSS. Italiani, Classe VII, Cod.364 (=7943), f.65v.
5. Ibid., ff.66v-67r.
'Siamo certi che otteremo la gratia che fu concesso al detto Re David che per le sue orationi fu anonciato dal angliello che erano state esaudite dal Signore le sue preghiere et che pero dovesse esso Re erigier l'altare per immolar l'olocauste che sarebbono accetti al Signore Dio. Cusì noi con l'autorità del Senato, et in nome del popolo, facciamo votto d'edifichare una chiesa dedichata al nome del Redemptor nostro da esser visitata per noi della serenissima Signoria ogni anno per commemoratione della liberatione de cusì gran flagello. (et inchinatosi dice),
Parce Domine, parce popolo tuo, et qui fini. El Senato et tutto il popolo ingenochiati udirno la messa, da tutti ascoltata con grandissima devotione, et quelli che udirno questa sermone non si possero tenir le lacrime si come fece ancho Sua Serenissima'.
Contemporary accounts of the vow are also given in BMV., MSS. Italiani, Classe VII, Cod.553 (=8812), p.71, (Francesco da Molin); and in MCV., Raccolta Cicogna 3682, Successo della peste l'anno 1576 (anonymous).

In some respects religious practices in the plagues of the late sixteenth and seventeenth centuries were a revival of earlier forms of devotion. But in many ways the distinct piety of the Counter Reformation was influential. Christ the Redeemer and the Virgin, powerful intercessors against divine wrath, became more prominent objects of devotion and of votive art. (1) The cults of SS. Rocco and Sebastiano continued to flourish, but new plague saints were also invoked, such as S. Lorenzo Giustinian (2), and S. Carlo Borromeo. New forms of worship were called into action, as in Verona in 1630 where, according to Francesco Pona, la devotione del santissimo Rosario è stata l'Antidoto piu potente contro il morbo. (3) The new religious orders including Barnabites, Jesuits and Theatines, all played a role in caring for the sick. Most notable were the Capuchins who, in 1576 under the leadership of Paolo Bellintano da Saldò, administered spiritual care in the lazaretto in Milan and later took charge of administration there. (4) The Capuchins were also given charge of the Redentore in Venice. The role of the bishop in time of plague gained new dimensions. Agostino Valier, who is said to have distributed the greater part of his revenues to the poor during the epidemic of 1575, was praised by the Rettori of Verona as the ornamento e splendor di tutta l'Italia. (5) Domenico Bollani carried out diligent pastoral work in Brescia in 1577, including visits to the sick in the lazaretto. Most

1. The Redentore and S. Maria della Salute in Venice being votive churches dating from the plagues of 1575-7 and 1630-1.
2. Soravia, op. cit., p.342. S. Lorenzo Giustinian was declared patron saint of Palermo after plague there in the 1520's and was also invoked in Venice in 1630.
3. Francesco Pona, Il gran contagio di Verona nei milleseicento e trenta (Verona, 1631; reprinted Verona, 1972), p.101.
4. La Cava, La peste di S. Carlo, op. cit., especially p.179ff.
5. Rebesco, op. cit., p.137.

striking was the work of Carlo Borromeo, whose canonisation was to result in part from his devotion to the sick in Milan in 1576. (1)

It was also through Borromeo's work that metaphysical ideas of epidemics were systematised in detail in the church orders adopted by the 5th Provincial Council of the Archdiocese of Milan in 1579. (2) In the early stages of the Milanese plague it was Borromeo's experience that, in reliance on secular means of controlling plague, religious observances were neglected. Accordingly, it was the primary duty of the clergy to promote understanding of plague as the manifestation of divine anger against sin. (3) If plague broke out the Bishop was to order penitential processions (4), promote public prayers, and call for prayers throughout the whole province with the cooperation of the Archbishop. Confirmations were to be speeded up and charity encouraged, together with the practice of confession and frequent use of the eucharist. The Bishop was also to investigate the cause of divine anger. Discipline amongst the clergy and religious orders was to be reviewed, and city magistrates rebuked if they were guilty of wrongdoing. Heads of families were to be urged to put down profane songs, blasphemy, immodesty and intemperance in the home. Particular attention was paid to spiritual care within the lazarettos. In each lazaretto a cross was to be set up, and an altar positioned so that from every room

1. La Cava, La peste di S. Carlo, op. cit., pp.135-164.

2. Nearly 100 columns of type are given over to an examination of the church's role in time of plague, Acta ecclesiae mediolanensis, vol.2 (Milan, 1890), cols.555-632.

3. Ibid., col.559.

'Haec omnis cum sibi quisque perpetuo persuasa habeat; tum maxime et privatis colloquiis et publicis concionibus non solum episcopus sed parochi et concionatores pro suo quisque munere in hominum mentibus quam diligentissime inserere studebunt'.

4. Ibid., col.561.

'certas statasque publicas processiones triduanas, non semel sed iterum atque adeo saepius:.....'

the celebration of mass could be witnessed. In the wake of the epidemic, the clergy were to ensure that credit for the ending of the plague was given to God and not to human effort. (1)

At the same time, the church orders took note of the danger of contagion, and urged the clergy to cooperate fully with the Health Offices. Priests, for instance, were to denounce all cases of sickness that came to light. But Borromeo was adamant that in no respect should a Health Office impede the most important concern, that of placating divine wrath:

'Magistratus autem et decuriones, ut eidem publicae valetudini prospicietur et consulatur, cum omnia sapienter Christianaeque pietati congruenter agent, tum valde cavebunt quae divino cultui et caritatis officiis cum impedimentum affere possint, illa maxime fugienda suo loco infra demonstramus et vehementer in Domino monemus'. (2)

In particular, Health Offices were to do nothing to prevent the faithful from attending mass, hearing sermons and taking part in public processions. (3) General quarantines, in which the inhabitants of whole parishes or towns were confined to their homes, were therefore condemned. (4)

These examples show that points of dispute between Health Offices and the church were in no way resolved during the Counter Reformation. But the authority of the church was increased. In 1630 the Bishop of Volterra was able to bring a health officer to court accused of heresy, whilst the Pope, at the instigation of the Tuscan clergy, excommunicated the entire Florentine Health Office. (5) In particular, the influence of religious ideas on

1. Acta ecclesiae mediolanensis, op. cit., col.626.
'Id studebit, ut pestis extinctae beneficium plane agnoscat non ab hominum prudentia, consilio, medicamentorum procuratione existere; sed a Dio in primis, qui mortificat et vivificat, deducit ad inferos et reducit'.
2. Ibid., col.568.
3. Ibid., cols.589-590.
'Nihil obstant quo minus ad missae sacrificium fideles conveniant, conciones adeant, processionibus publicis intersint, orationes item publicae obeant'.
4. Ibid., col.590.
5. Cipolla, Public health and the medical profession, op. cit., p.37.

the state was strengthened. Both Milan and Venice ultimately had recourse to processions and votive art in the plague of 1576. (1) In 1630 the Venetian Senate had recourse to acts of piety even before the plague had reached Venice. The first case was discovered in the city in mid-July. But on 22nd June in response to the situation on the mainland, it was resolved that for three days the sacrament should be exposed in S. Marco, and processions held around the Piazza. The Doge and Senate were to take part in these as well as in other processions at S. Rocco and at S. Pietro di Castello, where the body of S. Lorenzo Giustinian was to be carried in state. Sermons were to be given, con eccitamento alla riforma de costumi, alle virtù, alla devozione per placarsi l'ira del Signor Iddio. The Essecutori contro la Bestemmia and the Sopraprovveditori and Provveditori alla Pompe were to be summoned to the Collegio and urged to greater efforts. (2) By the time of the final outburst of plague in Italy in 1656 it was even possible to argue that Venice was in no danger because of the strength of the cult of the Virgin in the city:

'dove mai imaginare si può antipatia maggiore che tra la peste e Maria. Quella è un flagello dell'ira celeste; questo è un gioiello della misericordia divina'. (3)

The church's attitude to disease brought it into occasional conflict not only with the Health Offices, but also with the medical profession. From the time of Galen the value of optimism to the sick was recognised, and doctors were expected to

1. On Venice, see above. On Milan, La Cava, La peste di S. Carlo, op. cit., p.135ff.
2. MCV., Raccolta Cicogna 1509, Memorie, decreti e provisioni al tempo della peste in Venezia 1630 e 1631, ff.4r-5v. The motion was passed with only one dissentient vote.
'sendo la più sicura confidenza e il più utile e necessario refugio nell'occorrenze quello che si fa al Signor Iddio, il quale suole mostrare il flagello della sua ira appunto per rivocarsi al ben et alla via migliore del suo servizio...'
3. Anatomia della peste a consolatione principalmente della città di Venetia, fatto in quattro lettere (Venice, 1657), p.16. This letter, dated 28 Nov 1656, is from Lorenzo Tasca to Alessandro Duodo.

encourage and instil confidence. The church, for its part, encouraged realism, even pessimism, in cases of serious illness in order to focus the mind of the patient on the need for repentance and the last rites. In 1571, when Vincenzo Morosini died without confession or communion under the care of the Venetian physician Gian Antonio Secco, the parish priest protested to the Holy Office. The College of Physicians was accordingly reminded that a doctor was not to go on treating a patient who, after two visits, had not made his confession. (1) This ordinance, which the church attempted to enforce at least from 1558, was regularly repudiated by the Venetian College of Physicians. (2)

In relation to plague, religious writers often satirised the pretensions of physicians. A Consilium contra pestem of the Benedictine Theophilus de Mediolano who became Abbot of S. Giorgio Maggiore in Venice in 1462, used the form of a medical prescription to recommend spiritual remedies, stressing that omnia alia medicorum remedia ab isto vana sunt. (3)

1. ASV., Santo Uffizio, Busta 35.

2. BMV., MSS. Italiani, Classe VII, Cod.2342 (=9695), Notizie cavate dalli libri del Priori del Collegio Medico Fisico, f.9v (1558).

'Vincenzo Diedo, Patriarca, chiamò il Prior per obligar li medici ad abandonar li infermi si doppo la seconda visita non si confessassero. Ma rispose non poter esser li medici a ciò obligati'.

Ibid., f.17v (14 Nov 1579).

'Ordine dell'Inquisition al Collegio che li medici non visitino li infermi che non si confessano. Risposta del Collegio non potersi questo eseguire per cinque ragioni'.

3. Wellcome Institute, MS.668, ff.97v-98r. Another copy has been described by Bottero, op. cit., p.25.

'Cum quis fuerit percussus statim sibi faciat hoc ultimum medicamen. Recipiat quantum potest de amaritudine mentis contra peccata commisa de vera cordis contritione magis libram quam untiam et predicta misceat cum aqua lacrimarum et vomitum per nudam confessionem et sic purgabitur pestiferum venenum delictorum. Tunc remanebit prius gravatus spiritus totus lenis et plenus felici gaudio et apostema mortiferrum peccatorum totum liquabitur et evanescet. Postea sumat suavissimum et refrigeratum lectuarium corporis et sanguinis domini nostri Jesu Christi. Demum ungant partes sensuales corporis oleo sancto et in modico spatio transibit ad incorruptibilem eterne vite patriam et sanus erit a peste et ab omnibus aliis infirmitatibus huius corruptibilis vite. Omnia alia remedia ab isto vana sunt'.

Doctors believed that a city could be prone to epidemics as a result of natural factors such as the unhealthiness of its site or climate, or the inadequacy of its sanitary provision. Health officers thought that cities could be at particular risk because of the pattern of their trading activities. It is difficult to see how these ideas could be reconciled with the belief that the frequency of plague was proportionate to the standard of public morality. In the plague in Padua in 1555 a member of the University argued that God's responsibility for plague was mythical, and he was supported by Vettor Bonagente who pointed out that Paduans were no more sinful than others who remained free from disease. (1) Although Bonagente did not name him, the author of the argument was Bassiano Landi, who held the principal chair of medicine at Padua, and whose treatise on the plague was completed in 1555 immediately before that of Bonagente. (2) But Landi's view was rarely expressed and at times repudiated, as it was by Bernardino Tomitano in 1556. (3) Other doctors who

1. Bonagente, op. cit., f.3r.

'Non possum non admirari quendam superioribus diebus ex Patavino gymnasio scripsisse, verisimile non esse Patavinum pestem esse iram dei, quoniam hoc est poeticum et fabulosum; qui etiam sibi mire complacens Patavinos cives indignos putat qui plectantur hoc morbi genere. Nam si conferantur cum aliis, fortasse sanctiores iudicabuntur'.

2. Landi, op. cit. Writing of the plague in Padua Landi wrote: 'non est verisimile esse iram dei, quoniam hoc est poeticum et fabulosum: quamquam ego confiteor omnium rerum Deum esse opificem et authorem, cuius nutu cuncta reguntur et gubernantur, quique ut nostri Theologi, bonorum est causa positiva, malorum vero privativa. Praeterea non est credibile, Patavinos cives solos esse obstrictos tanto scelere ut digni sint qui plectantur hoc genere morbi: quin si conferantur cum aliis, fortasse sanctiores iudicabuntur'.

3. Tomitano, op. cit., f.3v.

'Io non credo che sia cosa da poeti il dire che Iddio mandi la peste (sendo pur troppo chiaro che Iddio ci flagella molte volte per la grandezza e copia dei nostri delitti)...' Tomitano may admittedly have been sensitive after his brush with the Venetian Inquisition in 1555, but since that incident was occasioned by his translation of Erasmus' commentary on St. Matthew, there is no reason to doubt the sincerity of his religious opinions, Luigi de Benedictis, op. cit., p.28ff.

attributed the cause of epidemics to God included Andrea Gratiolo da Salò (1), Girolamo Donzellini (2), and Girolamo Mercuriale.(3) Religious divisions evidently made no difference, for whilst Mercuriale was an active supporter of the Counter Reformation (4), Donzellini was drowned for his Protestant leanings by the Venetian Sant'Uffizio in 1588. (5)

Yet few doctors were prepared to explore in detail the relationship of medical and religious theories. Donzellini was typical in his refusal to discuss non-medical causes of plague, lasciando a Theologi e Astrologi la parte sua, ma come medico parlando. (6) His recalcitrance may in part have resulted from

1. Andrea Gratiolo da Salò, op. cit., Chapter 2.
2. Donzellini, op. cit.
3. Mercuriale, op. cit., p.14.
4. A number of Jesuits were amongst the team which he took with him to Venice in 1576. For his hostility to Protestant students in Padua in 1579, Biagio Brugi, 'Gli studenti tedeschi e la Santa Inquisizione a Padova nella seconda metà del secolo XVI', Atti del R. Istituto Veneto di Scienze, Lettere ed Arti, series 8, vol.5, 1894, p.1028.
5. Padua, Biblioteca Universitaria, MS.318, Medici veneti e loro Collegio in Venezia, f.7v. Donzellini, physician, humanist and member of the botanical circle of Mattioli, was one of the most distinguished scientists condemned by the Holy Office. He was a cause of conflict between the Health Office and the church in 1576, when he was released from imprisonment in order to treat the sick. The Nunzio considered that this undermined the authority of the Holy Office, ASVat., Dispacci del Nunzio a Venezia, Filza 16, ff.83r-84r (28 Nov 1576). For further details on Donzellini's case, Nunziature di Venezia, vol.11, op. cit., pp.243,302-3, 318, 328-9, 346-7 (1575); ASMant., Carteggio estero ad inviati, Busta 1509 (13 June 1575); Marie Louise Portmann, 'Der Venezianer Arzt Girolamo Donzellini (1527-1587) und seine Beziehungen zu Basler Gelehrten', Gesnerus, vol.30, 1973, pp.1-6.
6. Donzellini, op. cit. Andrea Gratiolo da Salò wrote similarly of the plague in Desenzano in 1567:
'Hora quanto alla peste di Desenzano, se sia venuta per volontà di Dio, non mi estendero a ragionarne altrimenti, sapendo il giudicio divino essere occulto a noi mortali, massimamente non essendo io Theologo; ma solamente come medico discorrero le cagioni naturali et piu manifeste, dalle quali possa esser nasciuto questo morbo', Discorso, op. cit., p.19.

the church's repression of heterodoxy, but it also reflects the way in which thought was dominated by the professions. In the sixteenth century it was considered appropriate for a doctor to write as a doctor, and a theologian as a theologian. Argument in each profession was pursued largely by recourse to its own authorities, and this did not make for dialogue. (1) It may even be that many doctors felt no need to go beyond their profession in search of a more general wisdom. In some cases however there were hints as to how a synthesis might be developed. It was a commonplace that God was the ultimate cause of all things, and it was easy to attribute a divine origin to plagues in which factors such as weather conditions, which God was thought to control, were considered responsible. (2) Contagion was more intractable since the reasons for its spread were better understood. In Chapter 4 it was argued that by the mid-sixteenth century doctors reconciled 'contagionist' and 'miasmatic' theories of plague by agreeing that different causes could be operative at different times. The same approach was applied to astrological theories of plague (3), and even to religious theories. This meant that a variety of causes, or combinations of causes could be thought responsible in any particular outbreak of disease. Andrea Gratiolo argued that:

'Le cagioni della peste possino esser o remote e superiori, o propinque e inferiori, o remote e propinque insieme: se remote, sono ò per volonta del grande Idio, prima causa d'ogni cosa, non vi intervenendo alcuna altra causa mondana, della quale opinione sono li Theologi, o per influsso celesti, come tengono gli Astrologi; se propinque, ò sono communi e universali,

1. It is significant that even Mercuriale's stress on the divine origin of plague depended on the wisdom of Galen and the ancients, De pestilentia, op. cit., p.14.
2. Niccolò Massa in his Raggionamento, op. cit., f.23r thus advocated prayers to God for a cold, dry winter to improve conditions in the plague of 1555.
3. Ludovico Pasini, for instance, in his De peste patavina anno 1555, op. cit., argued that there were no celestial conjunctions that could have caused the Paduan disease in 1555 (f.5r), whilst dissenting in general from Pico della Mirandola's rejection of astrology (f.25v).

overo particolari; se comuni, altro certamente non è che l'aere che ne circonda, e che continuamente inspiriamo, et è comune à tutti gli viventi sopra la terra come dicono gli medici; se particolari (quali però non sono sì particolari che non siano anco comuni a molti) si attribuiscono o ad abbondanza di humori vitiosi generati ne i corpi humani da qualche cattivo nodrimento; o perche d'altronde vien portata, o alle immonditie delle proprie case'. (1)

This omnibus reasoning enabled medical and religious explanations to be held together. Disputes still remained over the causes in operation in any particular epidemic, and over the measures to be taken against it, for as Donzellini argued, 'secondo la varietà di cause si varia anco la cura'. (2) But in principle, at least, the medical profession, the Health Offices and the church were not hostile to each other (3), and could be seen as serving complementary functions in the struggle against the disease.

1. Gratiolo, op. cit., p.3.

2. Donzellini, op. cit. Both Donzellini and Gratiolo believed that in theory God could be the origin of plague without secondary causes. Donzellini argued that in such circumstances prayers and penitence would be the only remedy.

3. Rome itself employed Conservatori et Deputati della Sanità in 1576 to deal with the danger of contagion from Sicily and Northern Italy, although the development of the Roman Health Office was at least a century and a half behind that in the states of Northern Italy, and it was necessary to reestablish a Congregazione di Sanità in 1630.

See Placido Micheloni, 'Le misure di difesa sanitaria adottate dal Governo Pontificio al tempo della peste di S. Carlo', Humana Studia, 1950, pp.96-118.

Renato Minghetti, 'Un breve apostolico di Urbano VIII del 1630 per l'istituzione della Congregazione di Sanità', Atti della IV Biennale della Marca per la storia della medicina, 1961, pp.43-57.

The archives of the Roman Congregazione di Sanità (Archivio di Stato di Roma, Camerale Secondo, Sanità) contain no records of plague control earlier than the seventeenth century.

CONCLUSION

This thesis has examined a remarkable aspect of the administrative and intellectual history of Northern Italy in the mediaeval and early modern periods: a struggle against a disease, fought on a scale quite unparalleled in history. Europe was ill-prepared for the Black Death since plague had long been absent from the continent. There were no institutions for the control of epidemic disease, nor any appropriate legislation other than regulations for civic hygiene. In 1600 the situation was entirely different. The plague was now an old and familiar enemy. The governments of Northern Italy were committing substantial resources to the fight against epidemic disease, and were maintaining Health Offices to direct their efforts. These Offices had built up a formidable experience of plague from the close watch which they kept on its movements in Europe and the Mediterranean region, and from careful inquiry into the circumstances of each case of plague within their jurisdictions. Health officials had become aware that travellers transported the disease by land and sea, and that goods and merchandise, particularly textiles, could harbour it.

From these observations of the plague, the Health Offices developed techniques for its control. These were built up empirically, and in striking independence of traditional theories of epidemics held by the Church and the medical profession. At first attempts to check the spread of plague were spasmodic and localised in character. Later, as on the Venetian mainland in the sixteenth century, measures were taken on a broad geographical scale. Venice came to enforce plague control centrally within its own dominions, and by 1600 was in cooperation with neighbouring states to ensure frontier-long cordons sanitaires. The lazarettos, founded as local plague

hospitals, developed in the course of the sixteenth century as centres for quarantine and disinfection, playing a vital role in international trade.

These developments suggest a resourceful harnessing of experience, evident not only in the invention of cordons sanitaires, health passes, lazarettos and quarantine, but in practices such as the monitoring of deaths from all causes, the post-mortem investigation of suspicious cases, the evacuation of plague infected houses, the separation of the sick from the healthy, and the isolation of contacts. It is evident, too, in the disinfection of houses with fires of sulphur and other agents now known to have a pulicidal action (1), and in the recognition that infected clothing should be burned, or, failing that, disinfected by methods such as boiling or prolonged immersion in water.

The depth of experience which the Health Offices had of the plague, and the impressiveness of the measures with which they fought it, suggest two conclusions. First, the views of the health officials on the transmission of plague cannot be lightly ignored, but ought to carry weight in the controversy reviewed in the introduction to this thesis concerning the manner in which plague was transmitted in European history. It is striking, for instance, that whilst the Venetian Health Offices observed that plague was transmissible from man to man and could be carried by clothing, textiles and similar goods likely to harbour the human flea, they denied that grain could carry the disease. (2) This is in contrast to L.F. Hirst's view, based on the association in the Far East of grain with rats and rat fleas, that 'it is

1. L.F. Hirst, op. cit., p.413.
2. See above, p.200.

almost impossible to exaggerate the importance of the grain trade in disseminating plague infection'. (1) The experience of the Health Offices supports Rodenwaldt's contention that recent plague in the Far East may not provide the right model for an understanding of the disease in early modern Europe, and it is consistent with the view that the human flea, rather than the rat flea, may have been the principal agent in Europe for the transmission of plague.

Second, the impressiveness of the plague measures as they were applied in Northern Italy by 1600 is such as to support J.N. Biraben's argument that human effort against the disease may have been responsible for its retreat from Western Europe after the mid-seventeenth century. No satisfactory alternative theory has so far been proposed. (2) This is not sufficient to validate Biraben's contention, nor can the present thesis, which is limited to the period 1348-1600, itself do so. But the evidence presented in this thesis does confirm that, in Italy at least, plague control was being applied on a scale commensurate with the problem in the period prior to the recession of plague. It shows, too, that control was effectively established in Northern Italy at an earlier date than north of the Alps. Correspondingly, in

1. Hirst, op. cit., p.314.

2. As has been seen, the appearance of the brown rat in Western Europe cannot be a relevant factor, since it took place well after the disappearance of plague. There is no evidence that there was a change in hygiene or living conditions between 1600 and 1700 sufficient to affect the rat and flea populations. Christopher Morris has suggested that either rodents or men began to 'breed immune' to plague after the mid-seventeenth century (Local Population Studies, The plague reconsidered, op. cit., p.43). This however may be discounted in view of the harvest which plague was still able to reap in Europe on those few occasions, as in Marseilles in 1720 and Messina in 1743, when it breached the European measures of defence.

the period from 1530, Italy suffered less frequently from plague than did France, Germany or the British Isles. Whatever may have been the case elsewhere, Italy ceased to be an area of endemic plague after 1530. Before Dr. Biraben's thesis can be fully accepted, further research will be needed on the extent of plague control in the mid-seventeenth century in those countries, such as England, where health measures developed later than they did in Italy. The question of how far plague was endemic at that time in the various countries of Europe may also need investigation. (1)

The plague measures were certainly not infallible. Administrative weakness and confusing advice from the medical profession could limit their effectiveness, as happened in the plague of 1575-6. Warfare could spread the disease and prevent the plague measures from being carried into effect, as was the case during the plague of 1630. It may nevertheless be said, on the basis of Italian evidence of the character and scale of the plague measures, that human effort was becoming a match for the disease at the outset of the seventeenth century. Paradoxically, it may even be the case that the period covered by this thesis, when plague measures were being developed, represents the least successful years in the life of the Health Offices. For the Offices did not close their doors when plague receded from Western Europe. Hundreds of files in the archives of the Venetian Office reflect its continuing struggle throughout the eighteenth century to protect its overseas colonies and to prevent the reinfection of Europe in the

1. If plague was generally endemic, then only health measures by each separate state could have brought about its eradication. If, however, plague in Western Europe depended on fresh waves of infection from outside, then determined health measures at particular points in the channels of infection might have checked the disease throughout the continent.

face of plague in the eastern Mediterranean region, and especially in south-eastern Europe, where, in the absence of plague measures, the disease still flourished in the early nineteenth century. (1) Plague remained a real threat right up to this time, as is evident from the outbreak in Marseilles in the years 1720-21, which was introduced by merchandise from infected shipping, and which was one of the worst plagues in European history. That such instances were extraordinary, however, in the eighteenth century, is a tribute to the success of health measures developed much earlier, in the years from 1348-1600.

The plague measures employed by the Health Offices were particularly striking in that they ran ahead of contemporary medical and theological theories about epidemics. As has been seen, these theories derived from classical and biblical authorities which did not support the view that plague was transmissible from person to person. For this reason physicians were slow to learn from their experience of plague, since for them the operation of contagion posed an intellectual difficulty. In the sixteenth century, however, whilst physicians remained loyal to their classical authorities, they also began to take account of the findings of their own observation. During plague in

1. Biraben has pointed out that plague disappeared from Turkish territory within a year of the adoption of full scale plague measures in 1841 (Les hommes et la peste, op. cit., vol.2, p.184). Eighteenth century Venetian records include files on plague in the Morea 1710-19, Albania 1715-17 and 1723-24, Wallachia and Serbia 1719-22, Cairo, Constantinople, Smyrna and the Morea 1728, Bosnia 1765-67 and 1793-96, Scuttari 1770-71 and so on, and also relate to plague on board ships such as that carrying the Bailo home from Constantinople in 1724 (ASV., Indice 300, Provveditori alla Sanità, especially filze 592-700). Special Venetian Provveditori for the plague continued frequently to be sent to Venetian territory overseas, especially to Istria and Dalmatia (ASV., Indice 321, Provveditori da Terra e da Mar, especially filze 353-365 and 710-714).

Venice, for instance, it was noted that channels of water, such as those separating the city from the Giudecca and Murano, acted as barriers to the disease, contrary to what might have been expected on the basis of Galenic theory that the air in the vicinity was corrupt. (1) Accordingly, mid-sixteenth century treatises on plague reflect the intellectual problems involved in an effort to bring classical theory and contemporary experience into harmony. Fracastoro attempted a synthesis through a translation of Galenic theory into a new vocabulary more in keeping with contagionist views. Physicians writing on the plague in Venice and Padua in the years 1555-56 held fast to the classical view that the ultimate cause of plague was the corruption of the air, but accepted that from the place of its origin plague could also spread outwards by contagion alone. On this basis an epidemic in one city might derive immediately from the air, whilst in another contagion might be the only operative principle. This view allowed 'miasmatic' and 'contagionist' views to be held in parallel, whilst opening local, and often heated, debates about the factors operative in any particular outbreak of the disease. Some physicians, however, aware that the concept of a plague epidemic in which contagion was the only operative factor was quite foreign to classical medicine, doubted whether such an epidemic could be called 'true plague'. This terminological dispute, which came to the fore in Venice in the plague of 1576, revealed the continued vigour of the classical tradition in medicine. It also revealed the gulf between academic approaches to the disease and the pragmatism of the Health Offices.

1. See above, p.116.

In a similar way theological views of plague opened areas of conflict between the Church's approach to epidemics and that of the Health Offices. In the mid-sixteenth century a few writers rejected the belief that plague was the manifestation of divine wrath against wrong-doing. Others pursued a synthesis through notions of primary and secondary causation, and through the suggestion that differing causes could be operative in separate instances of the disease. Neither classical nor theological views of plague were forced into decline in this period by the influence of the Health Offices. On the contrary, theological views were reinforced by the coincidence in Northern Italy of the great plague of the 1570s with the full force of the Counter Reformation.

APPENDIX I.MEASURES AGAINST THE BLACK DEATH IN VENICE.

ASV., Senato, Deliberazioni miste, Reg. 24, f. 82r.

1348 die X Julii

praedicti sapientes

capta

Quoniam per misericordiam nostri altissimi creatoris satis nostra civitas ab ista pestilentia liberata videtur et sit, faciendum divino auxilio mediante est quod sic maneat liberata. Et corpora multa mortua ex Veneciis morientia se faciunt adduci Venecias, quod est causa corruptionis. Capta fuit pars quod aliquis quicumque sit qui moriatur extra Veneciis nullo modo possit adduci Venecias, aliquo modo vel ingenio sub pena barcheris qui adducerent dicta corpora comburendi barcham et standi per mensem l in carceribus, et illis a palata sub pena privationis a palata et standi per mensem l in carcere. de quibus pennis nec aliqua praedictarum non possit per dominos consiliarios et capita, neque per alios qui possent pondere partem facere gratiam ullo modo sub pena librarum X parvarum pro quolibet. Et duret hec pars per unum annum. Et domini de nocte, capita sexteriorum et capitanei postarum mandent praedicta exequutioni.

capita XL

praedicti sapientes

capta

Et quoniam plurimi infirmi qui veniunt Venecias inducere possunt corruptionem, quod absit, consulit quod nullus forensis tam homo quam femina et tam magnus quam parvus infirmus vel qui videretur infirmus sit qui vellit ullo modo possit venire Venecias de aliqua parte vel loco tam nobis subiecto quam non nobis subiecto undecumque sit, sub pena barcheris apportantibus aliquem praedictorum contra nostram intentionem et standi per l mensem in carceribus et combustionis barche quam duceret. Et sub pena illis a palatis qui permetterent aliquam transire palatas privationis a palata et ^{et} l mensem in carceribus. Et si aliqui praedictorum infirmorum ducerentur de aliquibus partibus per quas non esset necesse transire palatas, custodes nostri qui manent ad postas nostras teneantur temptare omnes barchas et si quos invenerunt de praedictis qui viderentur sive essent infirmi faciant illos reverti per viam per quam venerunt et custodes nostri manentes ad custodias capiant barcherios conducentes qui pati debeant pennas praedictas. Et si quis accuserit aliquem contrafacientem qui adduceret aliquem de praedictis, per cuius accusationem veritas haberetur habeat de libris decem partes duas quasolvere teneatur contrafaciens et terciam partem habeat officiales de nocte capita sexteriorum capitanei postarum quibus primo fiet accusatio qui teneantur mandare praedicta exequutioni. Neque contrafacientes possint exire de carceribus donec solverint dictas libras X de quibus omnibus pennis soprascriptis neque aliqua praedictarum non possit per dominos consiliarios et capita, vel per alios partem pondere possentes facere gratiam ullo modo sub pena librarum X pro quolibet durante presenti parte usque ad nativitatem.

Dux
 Marin. Celsi
 Paulus Lauredan.
 Petrus Fuscari
 Marin. Baduer
 Stephanus Contarenius

volunt partem praedictam, cum ista additione: salvo si quis
 Ambaxator aut manifestus mercator aut alia notabilis persona sive
 persone qui viderentur dominis consiliariis et capitibus quibus
 pro nostro honore non posset denegari quod venirent, praedicti
 possint dare licentiam intrandi secundum quod videbitur praedictis
 vel maiori parti

18

non _____ 6.
 non sincere _____ 0

Ego marcus cuppo
 Ego Ganinus Pollani

Ego Androclus(?) Justiniano
 Ego petrus marcello

Ego Raphaynus de Caresinis notarius curiae soprascripta duo
 consilia de mandato praescriptorum dominorum _____ (?)
 cancellavi
 1350 18 Junii

APPENDIX 2REFUGEES FROM PLAGUE IN RAGUSA MAY NOT APPROACH VENICE.

ASV., Senato, Deliberazioni miste, Reg.45, f.11r.

XI Maii 1400

Michael Steno, proc., Donatus Mauro, Nicolaus Fuscari,
Sapientes Consilii.

Capta

Quia clare sentitur quod de partibus Ragusii venit Venetias navis una Ragusinorum in qua sunt mortui plures et infirmi, qui Ragusini cum suis familiis recedunt deinde et veniunt ad standum Venetiis aliquo tempore eo quo ipsa civitas Ragusii est valde contagiata peste et sic satis constat quod adhuc complures de ipsa terra ipsa de causa venient et venturi sunt Venetias sicut semper fecerunt temporibus retroactis quod fuerint antea(?) et nunc est tenendi civitatem istam corruptam et non bene dispositam ubi sanificaretur cum gratia Yhesu Christi. Et adhuc plus quia videtur pure quod alias quando in hac nostra civitate extitit epidimia et civitas Ragusii extitit sana numquam illi de Ragusio consentane voluerunt quod aliquis Venetus seu de illis galearum vel navigiorum nostrorum intraverit ipsam terram suam. Propter quod satis justum est quod illamet provisionem faciamus in ipsos quod erit ea qua nostri semper receptabuntur alacriter prout fuerint in omnibus aliis terris maritimis cum personis et navigiis et quod ipsi de illa terra in tantum corrupta non venient cum illa sua intemperantia Venetias.

Vadit pars quod teneatur omnis modus possibilis mandando Rectoribus nostris a Grado ad Caputaggeris (1) ubi aliqua capitatur de navigiis vel barchis que veniunt Venetias et similiter officiis nostris contrabanarum quod ipsi Rectores quando predicti Ragusini cum familiis suis capitarent ad loca sibi commissa, et ipsi officiales quando invenirent ipsos extra vel super portum nostrum, stricte mandent et suprascripti navi et similiter aliis navigiis vel barchis venientibus Venetias in quibus essent Ragusini cum familiis suis quod nullo modo audeant venire Venetias sub pena librarum quingentarum pro quolibet qui reparetur de cetero venisse Venetias, cui contrafacienti non possit fieri gratia, donum, remissio vel revocatio sub pena librarum quingentarum pro quolibet ponente vel consentiente partem in contrarie, de qua pena similiter non possit fieri gratia aliqua sub pena predicta et sic usque ad infinitum. Et qui accusaret aliquem contrafacientem qui venisset vel foret Venetiis pena in qua incurisset dividatur per medietatem, et medietas sit accusatoris et alia deveniat in nostrum comunem. Et ad similem penam cadant praedicti Ragusini si se reducerent ad terras nostras a Grado ad Caputaggeris prostando in illis si eis foret notum et tunc pena dividatur per medietatem et medietas sit Rectoris et alia nostri comunis. Et si fuerit accusator, dividatur per tertium et una pars Rectoris, altera accusatoris, et tertia deveniat in nostrum comunem. Et de praedictis non possit fieri gratia ut supra. Et toties cadat quis contrafaciens quoties per

1. The area from Grado to Cavarzere, near the mouth of the Adige, constituted the 'district' of Venice, cf. BMV., MSS. Italiani, Classe VII, Cod.89 (=8381):

'qui comenza la cronicha di Veniexia e de tuto el sito che xe tra Grado e Chavarzene, le quale tute chontrade se apella el destricto antigo e proprio de Veniexia'.

eum fuerit contrafactum et iterum expellatur. Et duret presens pars ad beneplacitum Domini et istius consilii.

APPENDIX 3

THE FOUNDATION OF THE LAZARETTO VECCHIO

ASV., Senato, Deliberazioni miste, Reg-54, f.140v.

1423 die 28 Augusti

Dominus et Consiliarii

Capta

Cum civitas nostra Venetiarum quasi omni anno inficiatur pestifero morbo, et hoc solum procedat propter concursum personarum forinsecarum venientium Venetias de terris et locis pestiferatis morbo predicto. Et nisi fiat provisio debita super hoc continue civitas haec erit infecta morbo predicto, et bonum et iustum sit servare in civitate nostra Venetiarum illud quod servant comunitates et domini mundi, qui non permittunt ad terras et loca sua accedere personas quae fuerint in locis morbatis.

Vadit pars quod in bona gratia transacto mense martii futuri de 1424 sit in libertate domini et collegii et debeant quotiescunque sentiant aliquam civitatem esse infectam morbo, banire et banniri facere cives et habitatores talis civitatis vel loci pestiferati quod non possint venire Venetias. Et quia tale bannum nihil valeret nisi imponatur pena illis qui contrafacerent et venirent Venetias contra ordinamenta nostra ordinetur quod si post publicationem factam qui cives et habitatores alicujus terre vel loci pestiferati venirent Venetias, capi et detineri debeant, et stare debeant sex menses in uno carcere inferiori et solvere libras centum quae sint dominorum de nocte. Et si aliquis civis vel habitator Venetiis aliquem venientem a terris et locis pestiferatis et bannitis acceptaret in domo et eum non manifestaret stare debeat sex menses in uno carcere inferiori et solvere libras centum quae sint ut supra. Et si in aliquo dictionum casuum erit accusator habeat medietatem et alia medietas sit dominorum praedictorum de nocte. Et teneantur officiales de nocte predicti mittere executioni penas suprascriptas contra contrafacientes. Et si officiales de nocte non mittent partem executioni debeat dominium sub debito sacramenti illum vel illos expellere de officio et ultra hoc solvat penam officii de qua pena si accusator erit habeat medietatem et alia sit communis.

Verum quia haec provisio non sufficeret ad evitandum morbum predictum, nisi aliter provideretur, detur libertas dominio fabricari faciendi unum hospitale super littore sancti Nicolai aut in aliis locis circa Venetias sicut terminabitur per dominium. Et possint expendi pro fabrica dicti hospitalis ducatos mille usque duo millia de denariis offitii nostri salis littoris vel aliorum qui dominio videbitur quod hospitale fieri debeat per illum modum et sicut terminabitur per dominium et habere debeat ad minus cameras viginti.

In dicto autem hospitali deputari debeat unus prior aut priorisa sicut melius videbitur dominio et femine tres cui priori seu priorise et mulieribus provideri debeat per dominium de salario et suis expensis prout dominio videbitur. Quoque officiales salis debeant de tempore in tempus solvere expensas necessarias secundum tempora et causam sicut dominio apparebit.

Et ex nunc ordinetur quod tempore pestis que occurreret in Venetiis, Murano, Mazorbio et Torcello ac Mathemaucio omnes cives et habitatores Venetiarum et locorum suprascriptorum in quorum domibus aliquis morbo pestifero infirmaretur possint dictos tales

infirmos mittere ad hospitale predictum. In quo per priorem seu priorissam et mulieres ibi deputatas dicti tales infirmi recipi debeant faciendo dictis infirmis providere de his que erunt necessaria. Et non debeant recipi in dicto hospitali nisi infirmi ex peste ullo modo.

Et ut dictis infirmis provideri possit ad eorum liberationem deputari debeat per dominium unus vel duo medici qui stent et sollicitent ad liberationem infirmorum ad dictum hospitale missorum et mittendorum tempore pestis tunc existentis quibus medicis dominium habeat libertatem providendi de eorum mercede et salario sicut dominio videbitur faciendo dictis medicis solum in illis locis et offitiis nostris que fuerint per dominium deliberata. Et eandem libertatem habeat in providendo de medicinis necessariis pro infirmis predictis.

Et quia multoties haec civitas nostra infecta est morbo predicto per viam maris, quia cum navigiis nostris tam armatis quam disarmatis multoties veniunt Venetias persone pestiferae morbo predicto, quemadmodum per elapsum fuerunt, et nisi provideretur in futurum esset causa morbandi et infirmandi hanc civitatem, ordinetur quod omnes patroni nostri tam navigiorum nostrorum armatorum quam disarmatorum quam navigiorum forensium teneantur et debeant, si in adventu eorum Venetias haberent aliquem infirmum morbo pestifero super suis navigiis tam armatis quam disarmatis, dictum talem vel tales infirmos dicto morbo, subito cum intraverint portum Venetiarum, mittere ad dictum hospitale, et si hoc non observabunt stare debeant dicti patroni contrafacientes sex menses in carceribus et priventur quinque annis de non possendo esse nec ire patroni alicujus nostri navigii, tam armati quam disarmati, et solvere libras centum, quae sint dominorum de nocte, uti de aliis penis dictum est.

de parte	53
de non	31
non sinceri	12

APPENDIX 4

EPIDEMICS IN VENICE, 1348-1631.

The aim of this chronology is to document the frequency and severity of epidemics in Venice as a background to the development of plague control outlined in this thesis, and as a study of one factor which may have influenced the demographic history of Venice.

Annals of plague in Venice were published in the eighteenth and nineteenth centuries in the studies already cited by Gallicciolli, Frari, Corradi and Sticker. There is also a recent chronology in Salvatore Carbone, Provveditori e Sopraprovveditori alla Sanità della repubblica di Venezia: carteggio con i rappresentanti diplomatici e consolari veneti all'estero e con uffici di sanità esterni corrispondenti; inventario (Rome, 1962). None of these is satisfactory, and most are shot through with errors. Corradi's Annali is among the best of them, but is limited to published sources. Frari's influential chronology claims to be based entirely on the Health Office archive, but in reality contains no relevant documents earlier than the late fifteenth century. Even Carbone's chronology is derived only from eighteenth century and later sources, the best of which is the series ASV., Compilazione delle Leggi. In order to avoid traditional errors, the present chronology is based as far as possible on contemporary official sources, even where these give less colourful information than totals of mortality to be found in non-contemporary chronicles and other literary sources.

Only from the early years of the sixteenth century does the demographic history of Venice become relatively clear (see the studies by Beloch, Daniele Beltrami and Contento, op. cit.). Earlier than this there is an almost total lack of data, even though limited sources such as the early fifteenth century estimo of the sestieri of S. Paolo and Castello in the British Library (Egerton MS.611) remain to be explored. At present the population of Venice in the period 1348-1500 can only be guessed at, and for this reason studies of factors such as epidemics, which may have affected population growth, may be useful.

In terms of documentation the period from 1348 to 1631 falls into three parts. From 1348 to 1449 there is usually little information on mortality during epidemics in the city. From 1450 to 1557 source materials are richer, ambassadorial reports frequently giving a clear account of the course of epidemics. Thereafter to 1631 official statistics of mortality during epidemics are extant.

Despite the lack of documentation in the late fourteenth and early fifteenth centuries, certain conclusions are possible. The relative impact which epidemics made on the records of government councils offers a very rough comparison of their severity, provided that the steady growth in attempts at control is borne in mind. On this basis the epidemics of 1348, 1575-7 and 1630-31 stand out as overwhelmingly more intense than anything in the intervening years. Of the remaining epidemics the worst were probably those of 1382, 1423, 1447, 1478 and 1528-9, and of those three appear to have caused mortality in the range of 6,000 to 11,000. It would seem therefore that while Venice was infected with considerable frequency in the late

fourteenth and in the fifteenth century, few epidemics caused vast mortality, and in many cases the number of deaths was insignificant compared with the fear which the disease aroused. It is noteworthy that from at least the mid-fifteenth century the slightest outbreak of plague could cause a sensation, whilst severe epidemics of other diseases, such as the typhus and smallpox epidemic of 1570, passed almost without comment.

1348

Late Jan - c. July: Plague, with pneumonic and bubonic symptoms. On measures taken by the Maggior Consiglio and the Senate, and attempts to repopulate the city, which was described in August 1348 as depopulata et inhabitata, see Brunetti, 'Venezia durante la peste del 1348', op. cit.

Fourteenth century chronicles speak of a mortality of between one and two thirds of the population, e.g. BMV., MSS. Italiani, Classe VII, Cod.519 (=8438), Chronicle of Niccolò Trevisan (d.1369); MCV., Raccolta Cicogna, Num.2831, Copy of an anonymous chronicle c.1380.

1361

An epidemic, lasting a year, in Istria, Friuli and Venice. Heavy mortality, with Doge Zuan Dolfín (d. July 1361) among the dead, BMV., MSS. Italiani, Classe VII, Cod.519 (=8438), a contemporary chronicle.

Severe mortality, with bubonic symptoms, from April: sixteenth century chronicles including BMV., MSS. Italiani, Classe VII, Cod.56 (=8636).

1371

The Pietà resolves to admit children orphaned in the present epidemic (ob epidemiam presentis), ASV., Maggior Consiglio, Grazie, Reg.16, f.127v. (Aug-Sept 1371).

1373

Recognition of the services of a number of physicians in the late epidemic (tempore mortalitatis elapse), ibid., Reg.17, ff.17r-18r (Dec 1373).

Measures to repopulate Venice, maxime cum pro condicionibus proximis praeteritis multum sit depopulata, ASV., Maggior Consiglio, Novella, f.137r-v. (Oct-Dec 1373).

1382

March-October: estimates of mortality between 8,000 and 19,000: sixteenth century chronicles including BMV., MSS. Italiani, Classe VII, Cod.321 (=8838) and Cod.56 (=8636).

March, April, May: measures for repopulating the city, ASV., Maggior Consiglio, Novella, ff.171v-172v.

August: Shortage of officials who are out of Venice propter condiciones presentes, ibid., f.179v.

September: Physicians may not leave Venice until the epidemic (epydimia) is over, ibid., f.180v.

December: The Quarantia lacks a quorum propter condiciones temporis presentis, ibid., f.187v.

1388

September: The Quarantia lacks the quorum required for aspects of its work because of present conditions (condicionibus temporis presentis), ASV., Maggior Consiglio, Leona, f.20v.

1397

September: The Quarantia again lacks its quorum, ibid., f.96v.
 October: 300 ducats given to Fra Benedetto who has offered to bury the dead and care for those sick de passionibus epidymie sevientis, ibid., f.97r.

1400

Severe pestilence (pestilentia), BMV., MSS. Italiani, Classe VII, Cod.794 (=8503), a fifteenth century chronicle.

July: 800 ducats to be dispensed to the sick in all sestieri of the city, ASV., Maggior Consiglio, Leona, f.106v. Belluno bans Venice, Corradi, Annali, op. cit.

1405

July: Many noblemen elected to office are out of Venice because of the epidemic (occasione epidemie presentis), ASV., Maggior Consiglio, Leona, f.145v.

1411

August: Carlo Zeno visits Vergerio in Istria ob pestilentem cladem que urbem Venetiarum invasit, Vergerio, Epistolario, op. cit., p.335.

1413

June-November: Over 4,600 deaths from pestilence in Venice and over 800 deaths in Chioggia, BMV., MSS. Italiani, Classe VII, Cod.794 (=8503), a fifteenth century chronicle.

1414

August: Representatives of Cefalonia given leave to return home as the Collegio is not meeting et videmus quod nisi cesset ista novitas pestilentie numquam congregari poterit, ASV., Senato, Deliberazioni miste, Reg.51, f.152.

1423

May- October: 35-40 deaths a day, and more at the peak of the epidemic in August and September, BMV., MSS. Italiani, Classe VII, Cod.2049 (=8332), Antonio Morosini writing in October 1423.

August: Senate lacks a quorum propter epidimiam, ASV., Maggior Consiglio, Ursa, f.53r. Guards appointed in each sestiere for property abandoned in the flight from the city, ASV., Consiglio dei Dieci, Reg. misto 10, ff.56v, 92v. Lazaretto Vecchio established. Venice said to have plague almost every year, ASV., Senato, Deliberazioni miste, Reg.54, f.140v.

The total of deaths recorded by the Signori di Notte is quoted in various chronicles as 6,300, 11,300, 15,300 and 16,300. The earliest of these, the mid-fifteenth century Cronaca Zancarola, quotes 6,300, BMV., MSS. Italiani, Classe VII, Cod.49-50 (=9274-9275).

1427

July: Many have left Venice ob pestem, ASV., Senato, Deliberazioni miste, Reg.56, f.112r.

August: Guards appointed for property, ASV., Consiglio dei Dieci, Reg.misto 10, f.92v. Unusually severe epidemic (muoria...molto plu grande in Venetia de luxado tempo per avanti passado) with up to 45 deaths a day, BMV., MSS. Italiani, Classe VII, Cod. 2049 (=8332), Morosini writing in August 1427.

September: Quarantia lacks a quorum propter pestem, ASV., Maggior Consiglio, Ursa, f.70r.

October: Brescia bans Venice, BBQ., Archivio Storici Civico, Num.484, f.47r-v. Guards in Venice renewed to the end of November, ASV., Consiglio dei Dieci, Reg.misto 10, f.95r.

1435

Plague imported by sick Albanians (Albanesi), Sanudo, Vite de' Duchi, op. cit.

July: Shortage of porters for the ballot boxes in the Maggior Consiglio propter condiciones pestis ad presens crescentis in hac nostra civitate, ASV., Maggior Consiglio, Ursa, f.106r.

Guards posted to protect property, ASV., Consiglio dei Dieci, Reg.misto 11, f.129v.

1438

c.February: Plague with pneumonic symptoms (cum sputo sanguinis) brought by the galleys bearing the Byzantine delegation to Venice for the Council of Ferrara, Savonarola, op. cit., writing some ten years after the event.

September: Various fevers (omne genus febrium et alie multe incognite infirmitates) widespread throughout Venice, causing death or prolonged debility. Blamed on the condition of the lagoon, ASV., Senato, Deliberazioni miste, Reg.60, f.104r.

1439

September: Preaching is permitted in the open air of the squares as healthier in the present conditions (ob intemperiem aeris; propter suspitionem morbi contagiosi), ASV., Consiglio dei Dieci, Reg.misto 12, ff.28r, 37v.

1447

June: Cases of contagion (ex contagione morbati) in several parts of the city, ASV., Senato, Terra, Reg.2, f.36v. For some forty days the Senate has not been able to muster a proper quorum ex causa pestis, ASV., Maggior Consiglio, Ursa, f.160v (29 June 1447).

July: Indulgence granted by the Pope to priests and doctors attending the sick, Predelli, Libri Commemoriali, op. cit.

September: Milan bans Venice, ASM., Panigarola, Reg.6, f.15r-v. Worst plague in living memory, with over 300 deaths a day: sixteenth century chronicles including BMV., MSS. Italiani, Classe VII, Cod.56(=8636), f.437v, drawing on a cronica antiquissima.

1448

May: A prisoner with plague symptoms underneath his arm is sent to the lazaretto, ASV., Procuratori di S. Marco de Citra, Collo LXIX, Sacco 163.

August: Quarantia lacks a quorum, ASV., Collegio, Notatorio 8, f.79v. Milan bans Venice, ASM., Panigarola, Reg.6, f.70r.

1449

May: The sick to be reported as the epidemic is worsening (civitas ex morbo deteriorare videtur), ASV., Senato, Terra, Reg.2, f.110r.

1456

April: An epidemic (morbis) has begun, ibid., Reg.4, f.2v.
 June-September: measures against the epidemic, ibid., ff.10v-18v.
 June: 2-3 deaths a day.
 July: up to 12 deaths a day. In the last two months 160 deaths in the lazaretto and 48 recoveries (17 July).
 August: Up to 16 deaths a day apart from those in the lazaretto.
 September: Peak of the mortality around the third week of the month, 40 deaths a day in Venice and 20 in the lazaretto.
 October-December: Decline of the epidemic (peste) from 22 to 5 deaths a day, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 343, despatches 9 June-22 December.

1457

January-February: 1-4 deaths a day, ibid., Cartella 344.
 March: Plague increasing (pestis quotidie crescit), many sent daily to the lazaretto, ASV., Senato, Terra, Reg.4, f.31r;
 ASV., Consiglio dei Dieci, Reg.misto 15, f.117v.
 June: Guards posted for property, ibid., f.131r. Plague worsening, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 344.
 July: Plague measures, ASV., Senato, Terra, Reg.4, ff.42r, 46v.
 August: Venice virtually recovered a morbo pestifero, ASV., Consiglio dei Dieci, Reg.misto 15, f.140r.

1460

October: Plague in various parts of Venice (peste...sparsa per questa terra), ASV., Senato, Terra, Reg.4, f.157r. 26 deaths from peste in October, declining to no more than three in the first thirteen days of November, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 347.

1461

February: Plague in the house of a Ducal secretary, ASV., Collegio, Notatorio 10, f.20v.
 June: plague in various parts of Venice (pestis quae iam cepit in diversis locis ipsius civitatis nostrae crudeliter sevire), ibid., f.30v.

1462

May-June: Cases of plague (peste) in the parishes of S. Pantalon and Santa Margherita.
 August-October: 1-4 deaths a day, and 3-4 cases sent daily to the lazaretto, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 349.
 September: Lazaretto burdened (gravatus) by the number of the sick, ASV., Senato, Terra, Reg.5, f.18v.

1464

April-May: 6-12 deaths daily from peste and a further 10-12 in the lazaretto, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 351; ASMant., Carteggio Estero ad Inviati, Busta 1431.

June: c.204 sick in the lazaretto, ASV., Senato, Terra, Reg.5, f.83r.

June-September: provision for the sick in the lazaretto, ibid., ff.85v, 90r, 93r.

September: 8-16 deaths a day, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 351.

1468

April: Plague (peste) begins, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 354.

June: Plague worsening, c.12 deaths daily in Venice and 12 in the lazaretto, ibid.

July-August: 32-50 deaths a day at the peak of the epidemic at the end of July, ibid.; also ASMod., Archivio Segreto Estense, Cancelleria Estera, Ambasciatori a Venezia, Busta 1.

Foundation of the Lazaretto Nuovo.

August-October: Steady decline of the plague, ibid.

1478 (cf. Chapter 3, pp.59-62)

February: Outbreak of plague (peste za principiada), ASV., Senato, Terra, Reg.7, f.197v.

March-May: About one case a day of plague, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 365.

June: Senate lacks a quorum, ASV., Maggior Consiglio, Regina, f.179r.

Daily mortality rising to 32 deaths in the city and 31 in the lazaretto on 28th June.

July-October: Daily mortality rising to 44 deaths in the city and 36 in the lazaretto on 27th July; 72 in the city and 35 in the lazaretto on 18th August; 69 in the city and 61 in the lazaretto on 12th October.

November: Decline of the epidemic in the first week of November to 19 deaths a day in the city and 14 in the lazaretto, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 365, despatches of Leonardo Botta, March-November.

May-December: Mortality put at 10,825, comprising 6,662 deaths in the city and 4,163 in the lazarettos (see above, p.60).

1485 (cf. Chapter 3, pp.62-63)

May: Outbreak of plague, Malipiero, Annali veneti, op. cit.

June: Measures against the epidemic (causa morbi serpentis in hac civitate), ASV., Senato, Terra, Reg.9, f.146v. 7-15 deaths daily at the end of June.

July-August: Steady worsening of the plague (peste), ASMod., Archivio Segreto Estense, Cancelleria Estera, Ambasciatori a Venezia, Busta 4.

August: 103 persons died or fell sick of plague on 27th August, ASM., Archivio Sforzesco, Carteggio delle Potenze Estere, Venezia, Cartella 369.

Brescian representatives sent home because of plague (ex peste acriter serpente et saeviente in hac civitate), ASV., Collegio, Notatorio 13, f.95v.

1486 (cf. Chapter 3, pp.64-65)

January: Plague surviving the winter; election of Provveditori alla Sanità.

February: Preaching banned throughout Lent considerando el pulular che al presente fa la peste, ASV., Senato, Terra, Reg.9, f.171r.

Plague over at the beginning of Spring, BMV., MSS. Italiani, Classe VII, Cod.81 (=7303), f.146v.

1490

January: Election of Provveditori alla Sanità because of the onset of disease (contagiosus morbus qui iam serpere cepit).

January-August: Plague measures, with occasional references to deaths from plague, ASV., Provveditori alla Sanità, Reg.725, f.5 ff.

1493

June: Disease amongst the friars of S. Francesco della Vigna. Goods from the infirmary are burned, ASV., Magistrato al Sal, serie 1, Reg.12, f.171v; serie 2, Reg.3, f.15v.

1494

June: A death from plague (peste) in the hostaria del Lion at S. Marco, ASV., Provveditori alla Sanità, Reg.725, f.19r.

1495

October: Cases of disease (pestifero morbo) in the Merceria and elsewhere. Orders for infected house and for transport to the lazarettos, ibid., ff.25v-27v.

1497

December: Plague (peste) at S. Domenico di Castello spreading to other parishes, Sanudo, Diarii, vol.1, col.836.

1498

May-July: Outbreak of plague (peste) in May at S. Maria Maddalena and S. Giacomo dell'Orio; a few deaths from plague in June and July, ibid., cols.959, 1000, 1008.

July-August: Plague cases, including some at S. Canzian and on the Giudecca, ASV., Provveditori alla Sanità, Reg.725, f.42r.

1501

October-December: Disease, possibly typhus, described as febre di mala sorte, cito interficiens egros, una meza peste, and febre quasi pestilential, causing death in 8-10 days. Over 6,000 cases at one time in October, rising to nearly 9,000 in December, Sanudo, Diarii, vol.4, cols.159, 177.

1502

September-October: Plague (peste) in various parishes, ibid., col.393; ASV., Provveditori alla Sanità, Reg.725, ff.70v-71r.

1503

May: Plague (peste) affecting 17 parishes in the city, Sanudo, Diarii, vol.5, cols.29, 37.

June-September: Plague measures, ASV., Provveditori alla Sanità, Reg.725, ff.75r-80r.

1504

March-October: Outbreak of plague (peste); 2-6 deaths a day in April and May, Sanudo, Diarii, vol.5, col.1022; vol.6, cols. 9-13, 22, 88.

June-October: Plague measures, ASV., Provveditori alla Sanità, Reg.725, ff.96r-102r.

1505

May: Procuratori di S. Marco de Citra to pay 350 ducats to the Provveditori alla Sanità to finance compensation for burned goods, ASV., Procuratori di S. Marco de Citra, Collo LXIX, Sacco 163.

July-October: Suspicion of plague (peste) in Venice. The city and neighbourhood described as not entirely free from disease, ASV., Provveditori alla Sanità, Reg.725, ff.109r-111r.

1506

April: Typhus epidemic (un'influenza d'infermità acutissima di una certa febbre quasi diciam pestilenziale con febbri acutissime e dolore capitis...con alcune tacche sopra le persone che di poi questa infermità fu chiamata petecchie), Girolamo Priuli, 'I Diarii', in Muratori, Rerum Italicarum Scriptores, vol.24, part 3 (Bologna, 1933-37), vol.2, p.414.

1509

June-December: Plague (peste). 4-6 sent to the lazarettos in August and October, Sanudo, Diarii, vol.8, col.453; vol.9, cols. 161, 272, 329, 425.

1510

March-September: Disease (morbo) with bubonic symptoms (giandusa). 9 deaths occurred on 7th July, ibid., vols.10-11, March-September 1510.

1511

March-October: Plague (peste). 19 sent to the lazarettos on 12th July; 2-4 deaths from plague a day in September. A separate febrile epidemic (fievre) in September; on 11th September there were 2 deaths from plague and 48 di altro mal, ibid., vols.12-13, March-October 1511.

1512

March-September: Plague (peste). 70 inmates in the lazaretto at the end of March. Daily mortality 5-8 in April; improvement in July but mortality of 11-14 in September, ibid., vols.14-15, March-September 1512.

1523

April-September: Plague measures, ASV., Provveditori alla Sanità, Reg.726, ff.55v-75r.

June-August: Plague (peste). 45 deaths up to 3rd July, improvement thereafter, Sanudo, Diarii, vol.34, June-August 1523.

1524

April-September: Cases of plague (peste) with bubonic symptoms (giandusa), ibid., vol.36, April-September 1524.

April-September: Plague measures, ASV., Provveditori alla Sanità, Reg.726, ff.82v-89v.

1526

July: Cases of plague (peste) at S. Moisè and S. Salvatore, Sanudo, Diarii, vol.42, cols.28, 228.

1527

March-December: Cases of plague (peste) spreading from the Frari to various parishes, ibid., vols.44-46, March-December 1527.

1528-9

February 1528-November 1529: Plague measures, ASV., Provveditori alla Sanità, Reg.726, ff.129r-194v; Reg.727, ff.1-43r.

March 1528-November 1529: Plague (peste) with bubonic symptoms (landuse); estimated mortality of 1,400 from plague.

April-August 1528, February-May 1529: Typhus (mazucho, petecchie). Mortality from causes other than plague March-May 1528 totalled 3,146, possibly not including c.600 deaths in the shelters for the destitute (i.e. a mortality of c.2,100-c.2,700 above average and attributable to typhus). Mortality from typhus in 1529 light, Pullan, 'The famine in Venice', op. cit., based on Sanudo's diaries.

Probable mortality from plague and typhus 1528-29: between 5,500 and 7,000.

1530

May-June, October: Cases of plague (peste), Sanudo, Diarii, vols.53, 54.

1532

Epidemics of pleuro pneumonia (ponta, pleurites) and diphtheria (schellenzie), Bernardino Tomitano and Giovanni Battista da Monte, quoted in Corradi, Annali, op. cit.; despatch of Roberto Maggio to Jacopo Salviati in Rome, 3rd November 1532, describing the prevalence of a malattia come mal di mazucco che spaccia fra tre e quattro giorni in Franco Gaeta, 'Origine e sviluppo della rappresentanza stabile pontificia in Venezia', Annuario dell'Istituto Storico Italiano per l'Età Moderna e Contemporanea, vol.9-10, 1958, p.249.

1535

Epidemic of pleuro pneumonia (ponta, mal di punta, pleuresi), see above, Chapter 5, p.140.

1555-58

Plague, with cases of typhus. Influenza epidemic in 1555. See Chapter 4.

1570

Epidemics of typhus (petecchie) and smallpox (varioli). c.10,000 deaths in Venice in the year 1570 m.v., about twice the normal annual mortality, ASV., Provveditori alla Sanità, Reg.805, Necrologio 12. A major typhus epidemic (mal de mazzucho et petecchie) also decimated the Venetian fleet: see Paolo Paruta, Della historia venetiana, parte seconda, libro 1 (Venice, 1605), p.57; Ugo Tucci, 'Processo a Girolamo Zane mancato difensore di Cipro', Il mediterraneo nella seconda metà del '500 alla luce di Lepanto, ed. Gino Benzoni (Florence, 1974), p.409 ff.

1575-77

Plague: mortality of 50-51,000, see above, Chapter 9, p.277.

1630-31

July 1630-October 1631: Mortality of 46,490. The exact figures for deaths each month in the city and in the lazarettos are given in ASV., Provveditori alla Sanità, Reg.17, f.407.

APPENDIX 5DEATH IN VENICE, 1537-1580.

The figures given below are derived from the earliest extant death registers of the city, ASV., Provveditori alla Sanità, Registri 794-812, excluding the incomplete registers of deaths during the plague of 1576, Registri 807-810. The series, which contains many lacunae, becomes more complete after 1580.

In each case, the year referred to is that in the Venetian calendar, running from March to February. Totals of mortality have been estimated for those years where the records are incomplete, and these figures are quoted in parentheses.

This study was part of an attempt to evaluate mortality in the plague years 1555-56 (see above, p.109). More detailed study of the comprehensiveness of the registers is needed before their general significance can be understood. It is clear, for instance, that the register for the years 1537-39 is less comprehensive than those that follow. It seems, too, that deaths in the lazarettos during plague epidemics are excluded.

<u>YEAR</u>	<u>MORTALITY</u>	<u>NO. OF DAYS RECORDED</u>
1537	(1207)	274
1538	(1971)	353
1539	(2527)	263
1550	4437	
1551	4176	
1552	5465	
1553	3843	
1554	3917	
1555	(4584)	339
1556	(5516)	243
1558	(5209)	177
1559	(4178)	153
1563	4978	
1564	4929	
1565	5254	
1566	(5211)	174
1568	(5858)	153
1569	5470	
1570	(9972)	342
1573	5129	
1579	3954	
1580	(4236)	298

APPENDIX 6THE FOUNDATION OF THE VENETIAN HEALTH OFFICE.

ASV., Provveditori alla Sanità, Reg.2, f.lr.

In Rogatis 1485 Die vii Januarii

Niuno è il qual non intendi quanti incomodi, iacture et danni habi sustenuto questa nostra cita, si per privato come per publico respecto per la peste la qual nello passato estate cossi crudelmente in quella regnò: et al presente non cessa, et perche apresso la divina gratia et clementia l'è etiam dal chanto nostro da proveder, con convenienti rimedii per ogni modo et via sarà possibile in remover li nutrimenti per li quali quella si potesse conservar. Perche per quello che al presente si puol intender, se el non se socorre verissimilmente el se puol dubitar de mazor inconveniente nel anno che die vegnir. Et perche si come questa cosa è di gran peso et momento, che el si governi et procuri con ogni possibil cura, studio et diligentia et per li primi nobeli nostri. Perho

L'andara parte che de presenti per scrutinio di questo consiglio siano eletti tre solemni et honoreveli gentilhomini nostri sopra la sanità de la terra, li quali habiano piena et omnimoda libertà, facultà et potestà essi tre dacordo de imponer pene, et scuoder quelle, et de spender delli danari del offitio nostro del sale et finalmente de far tutte e ciaschadune provisione le qual opportune et necessarie iudicherano per conservation della sanità et ciaschaduna cosa che per li dicti tre terminà conclusa et fatta sarà sia ferma et ratta non altramente che se la fusse sta fatta per questo Consiglio. Possendo etiam sempre che alli ditti over alcuni de quelli li apparesse vegnir a questo Consiglio con le sue opinion et poner in questa materia quelle parte che a ciaschadun de quelli li apparerano. Siano li prefatti tre da esser eletti per anno uno proximo nel qual tempo possino esser elletti a chadauno offitio magistrato consiglio et rezimento si dentro come de fuora. Non possono refudar sotto pena de ducati CCM per chadauno oltra tutte le altre pene de l'ultima parte de'gran consiglio contra li furanti li officii alli quali siano elletti con pena.

APPENDIX 7THE PROVVEDITORI ALLA SANITÀ, 1486-1600.

The following is a list of Provveditori, in many cases with the names of their fathers, (preceded by the letter f), and a note of the public office held prior to appointment as Provveditore alla Sanità.

The main source is a list of Provveditori compiled in the late eighteenth century by Giovanni Antonio Boncio from signatures validating documents in the Health Office Notatorii, ASV., Provveditori alla Sanità, Reg.8. A gap in this list from 1508 to 1515, showing that the Notatorio for these years was already missing in the eighteenth century, has been filled from registers of elections. The latter comprise BMV., MSS. Italiani, Classe VII, Codice 813 (= 8892) et seq., and of these I have used Codici 813-831 (=8892-8910), covering the years 1498-1595. I have also consulted a separate series, ASV., Segretario alle Voci, especially Serie mista, Registri 7 and 10-11, 1492-1556. Boncio's list names only the Provveditori; details of parentage and of offices held have been drawn from registers of elections.

Terms of office rarely coincided with the calendar year. In most cases the year quoted reflects the date of appointment. The background of the early Provveditori alla Sanità is discussed above, pp.77-78.

1486

Domenico Morosini
Nicolò Muazzo
Antonio Grimani
Zuan Pisani
Costantin Priuli

1490

Ambroso Contarini
Antonio Grimani
Marco Foscolo
Luca Pisani
Nicolò Muazzo

1492

Girolamo Zorzi, eques.

1493

Girolamo Malipiero
Antonio Bernardo, doctor et eques.

1494

Zaccaria Sagredo

1495

Perazzo Malipiero
Francesco Falier
Giacomo Venier da San Samuele

1497

Lunardo Marcello
 Girolamo Bon
 Anzolo Trevisan

1498

Andrea Gradenigo (Zonta)
 Piero Priuli (Pregadi)

1499

Francesco Capello
 Imperial Contarini (Pregadi)
 Andrea Dandolo (Zonta)

1500

Piero Donà
 Piero Duodo f Nicolò (Zonta)
 Girolamo Contarini f Battista (Provveditore sopra il regno di
 Cipro)

1503

Giacomo Trevisan el grande f Silvestro
 Valerio Marcello (Sopracomito)
 Zuan Capello (Ufficiale alla Camera degli Imprestiti)

1504

Zuan Arsenio Foscarini (Ufficiale alle Rason Nove)
 Alvise Zen f Francesco (Provveditore sopra i Dieci Uffici)
 Valerio Valier (Camerlengo di Comun)

1505

Alvise Gradenigo f Andrea f Domenico
 Nicolò Marin
 Zuan da Canal el grande f Zuan
 Giacomo Contarini f Battista

1506

Vielmo Tagiapera f Alvise
 Girolamo Corner

1507

Girolamo Gritti (Podestà, Lovere)
 Stefano Priuli (Podestà e Capitano, Sacile)
 Filippo Bernardo f Dandolo

1508

Agostino Venier f Marco
 Giacomo Malipiero (Provveditore sopra i Dieci Uffici)

1509

Girolamo Grimani f Alessandro
 Vettor Morosini f Giacomo
 Niccolò Memmo f Andrea (Savio sopra Conti)
 Zuan Corner

1510

Zuan Marcello f Piero (Provveditore, Legnago)
 Girolamo Nani (Podestà e Capitano, Bassano)
 Polo Trevisan f Andrea

1511

Nicolò Soranzo f Giacomo
 Francesco da Lezze f Lorenzo (Provveditore sopra Camere)

1512

Andrea Contarini f Pandolfo (Capitano, Galere di Baruto)
 Pancrazio Dolfin
 Maffio Michiel (Podestà, Lendenara)
 Zuan Francesco Marcello
 Andrea Malipiero f Mattio (Ufficiale alle Rason Vecchie)
 Nicolò Mocenigo el grande f Francesco

1513

Polo Zorzi (Camerlengo di Comun)
 Andrea Bragadin f Alvise

1514

Benetto Dolfin (Camerlengo di Comun)
 Domenico Bon f Ottavian (Ufficiale al Cattaver)
 Marco Memmo (Zudese del Procurator)

1515

Alessandro Contarini (Podestà e Capitano, Sacile)
 Zusto Guoro f Pandolfo (Pregadi)
 Piero Mocenigo f Lunardo f il Serenissimo Prencipe

1516

Francesco Minoto el grande
 Francesco Michiel
 Antonio Foscarini (Podestà e Capitano, Feltre)
 Lunardo Contarini el grande

1517

Alessandro da Pesaro (Provveditore sopra i Dieci Uffici)
 Cristoforo Duodo (Provveditore, Peschiera)
 Andrea Baseggio (Conte, Spalato)

1518

Domenico da Mosto
 Andrea Donà (Conte, Sebenico)
 Francesco Valaresso (Provveditore di Comun)

1519

Nicolò Bragadin
 Marcantonio Venier, doctor

1520

Cristolano Morosini (Savio sopra le Decime)
 Donà Onoradi (Pregadi)
 Girolamo Marcello (Savio alla Mercanzia)
 Andrea Lion (Podestà, Chioggia)

1521

Zaccaria Valaresso f Zuan
 Sebastian Contarini f Antonio (Provveditore, Zante)

1522

Marcantonio Gradenigo f Polo (Pregadi)
 Marco Barbarigo f Andrea (Ufficiale al Cattaver)
 Andrea Valier f Antonio (Zudese de Petition)

1523

Nicolò Trevisan f Pietro (Sopracomito)
 Alvise da Riva f Bernardino (Sopracomito)
 Antonio da Ponte f Zuan

1524

Girolamo Erizzo f Zuan (Ufficiale alle Cazude)
 Andrea Priuli, doctor
 Zuan Alvise Venier f Piero (Zudese del Proprio)

1525

Nicolò Donà f Andrea (Sopracomito)
 Benetto Guoro f Pandolfo (Savio sopra Conti)

1526

Lunardo Contarini f Zuan (Provveditore alla Sanità)
 Secondo da Cha da Pesaro f Nicolò (Provveditore alle Legna)
 Filippo Lion f Tomà (Consigliere, Candia)

1527

Ruggier Contarini f Bernardo (Ufficiale alle Rason Vecchie)
 Giacomo Pisani f Domenico, eques (Provveditore sopra i Dieci
 Uffici)
 Francesco Manolesso f Silvestro (Provveditore di Comun)
 Zuan Sanudo f Andrea f Mattio da S. Silvestro

1528

Alvise Capello f Girolamo (Pregadi)
 Girolamo Giustinian f Benedetto (Rettore, Rettima)
 Carlo Moro f Lunardo (Pregadi)
 Andrea Valier f Zorzi (Savio sopra Conti)

1529

Daniel Trevisan f Nicolò, Procuratore
 Andrea Dandolo f Alvise (Pregadi)
 Alvise Bon f Girolamo (Provveditore sopra i Dieci Uffici)
 Mattio Orto f Zuan (Rettore, Lendenara)

1530

Giacomo Loredan f Zuan
 Gasparo Contarini f Francesco Alvise (Auditore)
 Marcantonio Foscarini f Almorò (Provveditore sopra Camere)

1531

Tomà Michiel f Francesco (Provveditore sopra Camere)
 Mattio Malipiero f Bartolomeo (Camerlengo di Comun)

1532

Zorzi Bembo f Polo
 Stefano Loredan (Sopragastaldo)
 Pietro Bernardo f Nicolò
 Francesco di Priuli f Mapheo (Ufficiale alle Rason Vecchie)

1533

Marco da Pesaro (Ufficiale al Cattaver)
 Matteo Zantani f Antonio (Ufficiale alle Rason Vecchie)
 Giacomo Contarini el grande f Pietro

1534

Francesco Lippomano (Provveditore sopra Uffici)
 Lorenzo Loredan f Fantin (Auditore)
 Zuan Corner f Antonio

1535

Andrea Trevisan
 Ferigo Contarini f Nicolò (Provveditore sopra Datii)
 Zuan da Pesaro el grande f Andrea
 Antonio Malipiero f Pasquale (Savio sopra Conti)

1536

Zuan Bollani (Sopragastaldo)
 Giacomo Vitturi (Camerlengo di Comun)
 Girolamo Cicogna (Zudese de Petition)

1537

Francesco Morosini, doctor (Capitano, Vicenza)
 Piero Dandolo (Capitano, Corfù)
 Marco Querini (Provveditore sopra Uffici)
 Marco Malipiero (Savio sopra Conti)

1538

Polo Morosini (Provveditore sopra Datii)
 Salvador Michiel (Provveditore sopra il Cottimo)
 Bortolo Navagera (Ufficiale alla Camera degli Imprestiti)
 Francesco Morosini (Camerlengo di Comun)

1539

Agostin Gritti (Provveditore alle Pompe)
 Francesco da Mosto (Provveditore sopra il Cottimo)
 Lunardo Dolfin (Provveditore sopra Camere)

1540

Andrea Dolfin f Zuan (Pregadi)
 Alvise da Mula (Conte, Trau)
 Alessandro Loredan (Camerlengo di Comun)
 Domenico Trevisan

1541

Alvise Dolfin (Sopragastaldo)
 Tommaso Marcello
 Alessandro Contarini f Stefano (Provveditore alle Pompe)

1542

Bertucci Emo f Giacomo (Provveditore sopra il Cottimo)
 Zuan Mocenigo f Tomà (Ufficiale alle Cazude)
 Lorenzo Loredan f Girolamo (Camerlengo di Comun)

1543

Zuan Francesco Malipiero f Andrea (Provveditore sopra le Fuste
 del Lago)
 Alvise Basadona f Alvise (Provveditore alle Pompe)
 Antonio Longo f Francesco (Ufficiale alla Camera degli Imprestiti)
 Zuan Alvise Badoer f Piero (Provveditore alle Pompe)
 Francesco Salamon f Girolamo (Sindico in Terraferma)

1544

Francesco Cocco f Antonio (Provveditore alle Pompe)
 Giacomo Gradenigo f Gabriel (Provveditore sopra Banchi)
 Marco Foscolo f Zaccaria

1545

Girolamo Donà f Vincenzo (Provveditore sopra Banchi)
 Polo Tron f Santo (Camerlengo di Comun)
 Vincenzo Orio f Zuan (Ufficiale alle Cazude)

1546

Giàcomo Emo f Giacomo
 Anzolo Badoer f Piero
 Zuan Antonio Valier f Francesco
 Girolamo Soranzo f Alvise

1547

Silvestro Morosini f Zuan
 Polo Querini f Zuan
 Benetto Soranzo f Bernardo
 Domenico Priuli f Giacomo

1548

Francesco da Molin f Marco
 Zuan Michiel f Francesco
 Zuan Francesco Priuli f Zaccaria

1549

Antonio Bragadin f Andrea
 Marin Donà f Vettor
 Stefano Magno f Andrea
 Giacomo Foscarini f Michiel

1550

Andrea Gradenigo f Alvise
 Francesco Ferro f Zorzi
 Alvise da Ponte f Antonio

1551

Alvise Diedo
 Domenico Bragadin f Andrea (Zudese del Procurator)
 Marin Pisani f Alessandro (Essecutore alle Acque)
 Costantin Priuli (Capitano, Vicenza)

1552

Bernardo Morosini f Marco (Provveditore alle Pompe)
 Nicolo Mocenigo f Tomà (Provveditore sopra il Cottimo
 d'Alessandria)
 Zuan Gradenigo f Zaccaria (Ufficiale alle Cazude)

1553

Marin Manolessò f Francesco (Provveditore sopra Conti)
 Piero Pisani f Vettor (Capitano, Zara)
 Andrea Bembo f Girolamo (Provveditore sopra Datii)
 Silvestro Loredan f Alvise
 Almorò Lombardo f Girolamo (Ufficiale alle Cazude)

1554

Nicolò Morosini f Giacomo
 Agostin Barbarigo f Lorenzo (Provveditore sopra Banchi)
 Francesco Soranzo f Zuan Alvise (Ufficiale alla Camera degli
 Imprestiti)

1555

Girolamo Lando (Auditore, Sindaco in Terraferma)
 Girolamo Balbi (Provveditore sopra il Cottimo di Damasco)
 Alessandro Basadona (Provveditore alle Pompe)

1556

Piero da Mosto (Provveditore sopra il Cottimo di Londra)
 Sebastian Pisani
 Francesco Michiel f Tomà
 Alvise Minoto f Francesco (Provveditore sopra Datii)
 Zuan Polo Contarini f Sebastian (Ufficiale alle Cazude)

1557

Francesco Venier f Andrea (Sopraconsolo)
 Girolamo Valier f Francesco (Provveditore, Legnago)
 Francesco Diedo (Provveditore sopra Uffici)
 Vettor Pisani f Zuan

1558

Carlo Zane (Camerlengo di Comun)
 Benetto Longo f Giacomo (Provveditore sopra Banchi)
 Lorenzo Soranzo f Francesco (Provveditore sopra Conti)

1559

Giacomo Priuli f Michiel (Provveditore sopra Uffici)
 Zuan Corner f Fantin (Provveditore sopra Uffici)
 Vettor Correr f Anzolo (Provveditore sopra Camere)
 Paolo Antonio Falier f Bortolo (Ufficiale alle Cazude)
 Zuan Francesco Priuli f Lunardo (Provveditore sopra il Cottimo
 di Alessandria)
 Francesco Badoer (Provveditore sopra Banchi)

1560

Bortolo Gradenigo
 Steffano Erizzo f Girolamo (Provveditore sopra il Cottimo di
 Damasco)
 Marco Lando f Francesco (Provveditore sopra Uffici)

1561

Giacomo Foscarini (Essecutore alle Acque)
 Marco Cicogna (Provveditore sopra il Cottimo di Londra)

1562

Vicenzo Querini f Polo (Provveditore alle Pompe)
 Alessandro Trevisan (Provveditore alle Camere)
 Andrea Basadona
 Girolamo Bragadin

1563

Alvise Contarini f Sebastian (Provveditore sopra Datii)
 Giacomo Minoto f Lunardo (Provveditore sopra Banchi)
 Iseppo Dolfin (Provveditore sopra il Cottimo di Damasco)
 Zorzi Zorzi
 Michiel Contarini f Sebastian (Provveditore sopra i Dieci Uffici)

1564

Girolamo Condulmer
 Vicenzo da Molin
 Bortolo Vendramin f Andrea (Ufficiale alle Cazude)
 Antonio Morosini (Provveditore sopra Conti)

1565

Marcantonio Lippomano f Fantin (Provveditore sopra Uffici)
 Zaccaria Contarini
 Marco Bragadin f Nicolò (Provveditore sopra il Cottimo di
 Damasco)
 Piero Morosini f Michiel (Provveditore sopra Uffici)
 Girolamo Priuli (Capitano, Vicenza)

1566

Francesco Michiel f Giacomo (Ufficiale alle Cazude)
 Bortolo Lippomano f Tomà
 Polo Rimonda f Andrea
 Gasparo Soranzo f Mattio

1567

Bortolo Capello f Girolamo (Provveditore sopra Datii)
 Girolamo Loredan f Lunardo (Capitano, Vicenza)

1568

Daniel Vitturi f Giacomo (Provveditore sopra Datii)
 Zuan Corner f Marco (Provveditore alle Pompe)
 Benetto Giustinian f Francesco (Provveditore, Legnago)
 Alvise Diedo f Francesco (Provveditore sopra il Cottimo di Londra)

1569

Marco Corner f Alvise (Capitano, Vicenza)
 Zuan Malipiero f Marco (Podestà, Vicenza)
 Ottavian Grimani f Marcantonio (Provveditore sopra Uffici)
 Girolamo Vendramin f Nicolò (Provveditore sopra Uffici)

1570

Nicolò Salamon f Alvise (Provveditore sopra Banchi)
 Andrea Malipiero f Polo (Provveditore sopra il Cottimo di
 Damasco)
 Piero Bon

1571

Sebastian Marcello f Piero (Sopragastaldo)
 Marin Corner f Polo (Provveditore sopra Banchi)
 Zuan Arsenio Capello f Vettor (Provveditore alle Pompe)
 Piero Balbi f Anzolo

1572

Vicenzo Correr f Zuan Francesco
 Nicolo Querini f Piero (Essecutore alle Acque)
 Domenico Donà f Alvise (Provveditore sopra Datii)

1573

Ferigo Renier f Bernardino
 Ludovico Emo f Alvise
 Almorò Grimani f Girolamo (Ufficiale alle Cazude)

1574

Andrea Diedo (Provveditore sopra Camere)
 Nicolò Contarini f Dionisio (Provveditore sopra Datii)
 Aurelio Condulmer (Provveditore sopra Banchi)
 Alvise Corner f Francesco (Provveditore sopra Datii)
 Ottavian Donà.

1575

Benetto Moro f Bortolo (Essecutore alle Acque)
 Nicolò Foscarini f Alvise (Provveditore alle Pompe)
 Priamo da Lezze f Zuan (Provveditore sopra Banchi)
 Vicenzo Gussoni f Giacomo (Provveditore sopra il Cottimo di
 Alessandria)
 Zuan Battista Bernardo (Capitano, Vicenza)
 Bernardo Navagero f Bortolo

1576

Bernardo Zane f Girolamo (Provveditore sopra il Cottimo di
 Alessandria)
 Alvise Dolfin f Andrea
 Piero Gritti (Podestà, Vicenza)
 Andrea Zorzi f Vicenzo (Essecutore alle Acque)
 Pietro da Mosto f Francesco (Podestà, Verona)
 Nicolò Bernardo f Girolamo (Provveditore alle Pompe)
 Michiel Tron

1577

Marcantonio Badoer f Francesco (Ufficiale alla Camera degli
 Imprestiti)
 Francesco Bollani f Marco (Provveditore sopra il Cottimo di
 Alessandria)
 Nicolò Malipiero f Antonio (Capitano, Vicenza)
 Polo Dandolo f Lunardo (Ufficiale alla Camera degli Imprestiti)

1578

Marco Venier f Francesco (Ufficiale alle Cazude)
 Marcantonio Lion f Girolamo (Provveditore sopra Banchi)
 Alvise Malipiero f Michiel (Camerlengo di Comun)
 Piero Capello f Carlo (Essecutore alle Acque)
 Marin Gradenigo f Giacomo (Provveditore sopra Banchi)
 Zuan Surian f Antonio (Podestà, Veglia)

1579

Francesco Foscarì f Nicolò
Filippo Pasqualigo f Vincenzo

1580

Polo Morosini
Marcantonio Pisani f Francesco
Lazaro Moro f Marcantonio
Bernardo Contarini f Sebastian
Antonio Priuli f Girolamo (Provveditore alle Pompe)
Andrea Minoto f Alvise

1581

Agostin Nani f Battista (Provveditore sopra Conti)
Giacomo Querini f Michiel (Provveditore sopra Datti)
Bortolo Magno f Marco (Ufficiale alle Cazude)
Francesco Donà f Zuan (Provveditore sopra Uffici)

1582

Alvise Corner f Zuan (Provveditore alle Pompe)
Piero Emo f Zuan (Provveditore sopra il Cottimo)
Zuan Michiel f Iseppo (Provveditore, Peschiera)
Francesco Morosini f Almorò (Provveditore sopra Conti)

1583

Gasparo Bragadin f Zuan (Ufficiale alle Cazude)
Piero da Ponte f Alvise (Essecutore alle Acque)
Francesco Correr f Vincenzo (Camerlengo di Comun)
Ruggier Ruzzini f Marcantonio (Provveditore sopra il Cottimo)
Alvise Sanudo f Andrea (Provveditore sopra il Cottimo)

1584

Girolamo Marcello f Andrea
Mattio (Maffio?) Pisani f Polo (Provveditore sopra Uffici)
Girolamo Giustinian f Marco (Provveditore sopra Banchi)
Tomà Contarini f Marcantonio (Ufficiale alle Cazude)

1585

Agostin Morosini f Piero
Bernardo Zane (Provveditore alle Pompe)
Zuan Corner f Benetto (Provveditore alle Pompe)
Antonio Michiel f Iseppo (Provveditore sopra il Cottimo)
Bernardo Loredan f Andrea (Provveditore sopra il Cottimo)

1586

Francesco Malipiero f Alvise (Provveditore sopra Datti)
Francesco Morosini f Girolamo
Alvise Priuli f Girolamo (Ufficiale alle Cazude)
Giacomo Zancarual f Alvise (Camerlengo di Comun)

1587

Piero Rimondo f Baldessare (Ufficiale alle Cazude)
Piero Loredan f Alvise (Provveditore sopra Conti)
Alvise Loredan f Lorenzo
Alvise Malipiero f Francesco (Provveditore sopra il Cottimo di
Damasco)

1588

Nicolò Memmo f Zaccaria (Ufficiale alle Cazude)
 Bortolo Moro
 Girolamo Priuli f Costantin (Provveditore sopra il Cottimo)
 Nicolò Pisani f Polo (Provveditore sopra il Cottimo)

1589

Trifon Gabriel f Giacomo (Provveditore sopra Banchi)
 Lunardo Loredan f Piero (Provveditore alle Pompe)
 Marco Capello f Alvise (Provveditore sopra Banchi)

1590

Zuan Vitturi f Daniel (Provveditore alle Pompe)
 Zuan Minoto f Piero (Podestà, Cividale)
 Girolamo Loredan f Bernardo (Provveditore sopra il Cottimo di
 Londra)
 Costantin (Cristoforo?) Lion f Girolamo (Provveditore sopra Datii)

1591

Fantin Giustinian (Diedo?) f Alvise (Provveditore sopra il
 Cottimo di Londra)
 Zuan Dandolo f Lunardo (Provveditore sopra il Cottimo di Londra)
 Andrea Marcello f Polo (Essecutore alle Acque)
 Andrea Contarini f Polo (Provveditore sopra il Cottimo di
 Damasco)
 Marin Balbi f Alvise (Provveditore sopra Banchi)
 Polo Loredan f Alvise (Provveditore sopra Banchi)

1592

Alvise Grimani f Zuan (Sindico in Levante)
 Piero Soranzo f Benetto (Provveditore sopra il Cottimo di
 Alessandria)
 Benetto Zorzi f Alvise (Podestà, Vicenza)
 Zuan Alvise Bondumier f Francesco (Provveditore sopra Conti)

1593

Tomà Gritti f Nicolò (Provveditore sopra Datii)
 Francesco Correr f Zuan (Essecutore alle Acque)
 Ferigo Dandolo f Lunardo (Provveditore sopra Datii)

1594

Marcantonio Malipiero f Alvise (Provveditore sopra Uffici)
 Marco Gradenigo
 Vettor da Molin f Zuan (Provveditore sopra il Cottimo)
 Zuan Contarini f Bernardo (Ufficiale alle Cazude)

1595

Piero Barbarigo
 Piero Mocenigo
 Zuan Francesco Lippomano
 Andrea Paruta
 Bortolo Navagero

1596

Piero Pasqualigo
 Cristoforo Valier
 Lorenzo Bernardo
 Marco Trevisan

1597

Marin Barbo
Tomaso Loredan
Francesco Soranzo
Ottavian Bon.
Francesco Diedo

1598

Alvise Foscari
Cristoforo Venier
Zuan Battista Foscarini

1599

Marcantonio Mocenigo
Marco Foscari
Bernardo Tiepolo

1600

Girolamo Vendramin
Antonio Mocenigo
Battista Nani
Piero Navagero

Sopraprovveditori alla Sanità, 1556-1600

1556

Girolamo Grimani (Savio del Consiglio)
 Alvise Mocenigo, eques (Capo dei Dieci)
 Vettor Grimani, Procuratore (Savio del Consiglio)
 Sebastiano Venier (Capo dei Dieci)
 Marin Cavalli, eques

1557

Girolamo Grimani
 Girolamo Zane f Bernardo (Savio del Consiglio)
 Marcantonio da Mula, eques (Capo dei Dieci)

1575

Zuan Alvise Bragadin
 Vincenzo Morosini, eques, Procuratore
 Francesco Venier

1576

Alessandro Bon, Procuratore
 Benetto Giustinian f Girolamo
 Girolamo Priuli
 Zuan Soranzo, eques
 Zuan da Lezze, eques, Procuratore
 Vincenzo Morosini, eques, Procuratore

1577

Piero Foscari
 Francesco Duodo
 Giacomo Soranzo, eques, Procuratore
 Polo Tiepolo, eques, Procuratore
 Marcantonio Barbaro, Procuratore

1598

Vincenzo Gussoni
 Zuan Battista Bernardo

1599

Costanzo Loredan
 Francesco Giustinian

APPENDIX 8.PLAGUE AREAS ISOLATED BY ITALIAN HEALTH OFFICES 1590-99.

This list is far from complete. It is intended merely as an indication of the wide range of Health Office concerns in this period.

<u>DATE</u>	<u>PLACE</u>	<u>BANNED BY</u>	<u>REFERENCE</u>
Dec 1591	Tunis	Genoa (noted partic. at this time, though N. Africa (Barbaria) was subject to a constant ban on the part of Genoa).	1.
Dec 1591	Languedoc (esp. Narbonne and Béziers)	Florence, Genoa, Milan, Venice	1.
Jan 1592	Livigno (in the Valtellina)	Milan, Venice	1.
Feb 1592	Perpignan	Genoa	1.
Apr 1592	Candia (Crete)	Quarantine of shipping in Venice	1.
Jul 1592	Candia, Constantinople, Alexandria, the Morea	Quarantine of shipping in Ferrara	1.
Sep 1592	Augsburg	Venice	1.
Oct 1592	London, Ravensburg, Memmingen, Kempten and neighbouring towns	Genoa	1.
Mar 1593	Augsburg	Padua, Venice	3.
Sep 1593	London	Verona, Venice, Genoa	4.
Oct 1593	England	Venice, Padua	3.
Apr 1594	Basel, Chiavenna and part of the Grisons	Venice, Genoa, Ferrara	1.
Sep 1594	The Morea, Rhodes	Venice	1.
Dec 1594	Switzerland	Venice	1.
Dec 1594- Jan 1595	Milan	Bologna, Venice, Genoa, Ferrara, Mantua	1,4.
Sep 1595	Milan, Berne	Venice	1.
Feb 1596	Fribourg, Altdorf	Milan, Venice, Padua	3.
May 1596	Lugano	Venice, Padua	3.
Jun 1596	Provence	Venice, Milan	1.
Aug 1596	Paris	Venice, Florence	3.
Nov 1596	Lille	Venice	1.

<u>DATE</u>	<u>PLACE</u>	<u>BANNED BY</u>	<u>REFERENCE</u>
Aug 1597	Bohemia, parts of Austria, Germany and Flanders	Venice	2,5.
Sep 1597	Antwerp, Flanders, England, Holland, Zealand, Paris	Venice, Genoa, Lucca	1.
Jun 1598	Marignano, Milan	Venice	1.
Jun 1598	Savoy	Venice	2.
Aug 1598	Turin, Piedmont	Milan	6.
Sep 1598	Cividale di Friuli	Venice	3.
Dec 1598	Gratz, Ljubljana	Venice, Mantua	3.
Jan 1598	Lisbon, Prague, Vienna	Venice	4.

References.

1. ASF., Ufficiali di Sanità, Num.134.
2. ASV., Provveditori alla Sanità, Reg.9.
3. ASP., Ufficio di Sanità, Num.240.
4. ASVerona, Ufficio di Sanità, Parte antica, Reg.33.
5. ASM., Sanità, Parte antica, Cartella 7.
6. ASVat., Dispacci del Nunzio a Venezia, Filza 33.

APPENDIX 9.THE FOUNDATION OF THE LAZARETTO NUOVO.

ASV., Senato, Terra, Reg.6, f.29r

MCCCCLXVIII, die XVIII Julii

Sapientes consilii, sapientes terrefirme, sapientes ordinum.

Capta

Locus Nazaret, prout omnibus notum est, singulari remedio et beneficio fuit, et est, ad praeservandum hanc civitatem a pestilentia, sed hujusmodi remedium et beneficium non potest perfecte proficere, propterea quod illi, qui discedunt sanati a Nazaret, quam primum huc redeunt, et inficiunt ac corrumpunt eos, cum quibus versantur. Cui rei necessario providendum est. Quamobrem

Vadit pars quod provisores nostri salis auctoritate hujus consilii edificari faciant super vinea murata unum locum quemadmodum eis convenire videbitur, ad quem se reducere habeant illi qui discedent sanati a Nazaret, stando ibi diebus quadraginta priusquam huc redeant. Et expensa quae fiet in edificando dicto loco fieri debeat de pecuniis pensionum apotecarum, et riparum nostri Domini. Et quoniam dicta vinea murata est Fratrum Sancti Georgii, captum sit quod per suprascriptos provisores nostros dari debeant dictis fratribus ducati quinquaginta singulo anno de livello. Qui provisores habeant plenariam libertatem faciendi omnem expensam tam in fabricando loco supradicto, quam in faciendis aliis expensis prout fit loco Nazaret.

De parte	124
De non	19
Non sinc.	5

PRINCIPAL MANUSCRIPT SOURCESVENICE: ARCHIVIO DI STATO

1. Decisions of main councils of state, 1348-1486.
 These records form the principal source for plague control in Venice prior to the establishment of the Health Office.
Maggior Consiglio, Deliberazioni, Spiritus, Novella, Leona, Ursa, Regina, Stella, 1325-1502. Later copies of these registers were consulted where available, e.g. Reg.20, Copia del Libro Novella, 1350-84.
Senato, Deliberazioni miste, Registri 1-60, from before the Black Death to 1440. A proportion of these volumes was examined, sufficient to give a picture of plague control throughout the period.
Senato, Terra, Registri 1-10, 1440-89.
Collegio, Notatorii 3-14, 1397-1498.
Consiglio dei Dieci, Registri misti 8-23, 1392-1488.

2. Decisions of main councils of state, 1486-1600.
 The archives of the Provveditori alla Sanità contain copies of all important decisions of the main councils after 1486 relevant to their work. The following series were consulted for related topics such as attitudes to natural calamities and the provision of state charity.
Maggior Consiglio, Deliberazioni, Registri and Filze.
Senato, Terra, Registri and Filze.
Consiglio dei Dieci, Registri comuni.

3. Correspondence, reports and papers submitted to main councils of state.
Senato, Secreta, Dispacci di Costantinopoli.
Filze 1A, 2B, 3C, 4D, 1484-1564.
Rubricari D1-D6, 1558-1599. The Rubricari provide a summary of the main series of despatches, filze etc. from 1566. Rich in information on plague in the near east.
Consiglio dei Dieci, Lettere di Rettori ed altre cariche ai Capi del Consiglio dei Dieci.
Busta 195, Verona, 1566-81. Includes despatches on the plague in Verona in 1575.
Busta 225, Vicenza, 1577-79.
Collegio, Secreta, Relazioni di Provveditori, Rettori ed altri pubblici rappresentanti.
Busta 33, Relazioni da terra. Includes relazioni on Padua and Treviso.
 Busta 35 Bergamo
 Busta 37 Brescia
 Busta 50 Verona
 Busta 51 Vicenza
 Valuable on the effect on the Venetian terraferma of the plague of 1575-77.
Senato, Provveditori da Terra e da Mar.
Filza 307. Despatches, 1598-99, of Niccolò Donà, Provveditore for the plague in Friuli.

Secreta, Materie miste notabili.

A miscellany of documents, reports etc. commissioned by, or presented to, councils of state.

Reg.55 bis includes the report of Mercuriale and Capodivacca on the plague in 1576, and papers relating to an inquiry by the Cinque Savi alla Mercanzia in the early 1570's into charges on trade imposed by Health Office officials.

Reg.95. Cornelio Morello's account of measures taken during the plague, 1575-77.

4. Provveditori alla Sanità.

Registri 1-4. The Capitolari of the magistracy, 1485-1726, (3 volumes with an index).

Registri 7-11, Rubrica delle leggi del magistrato eccellentissimo alla sanità. An eighteenth century summary of health legislation compiled by Giovanni Antonio Boncio, arranged by subjects.

Registri 12-16, Leggi sanitarie deliberate in Pregadi. Copies from the registri and filze of Senate decisions relating to public health, 1486-1610.

Reg.17, Decreti del Maggior Consiglio e di Pregadi, 1, 1321-1631. Mainly concerned with the plague of 1630-31.

Reg.51, Decreti del Maggior Consiglio e del Senato comunicati ai Provveditori alla Sanità, 1, 1427-1723.

Busta 562, Opuscoli e relazioni stampate e manoscritte sopra oggetti storico-scientifici. Includes a report on medical opinions on the plague in Venice in 1630.

Registri 725-735, Notatori 1-11, 1486-1583. This series, which records penal sentences, elections and other decisions of the magistracy, is complete apart from a gap 1508-15.

Registri 794-829, Necrologi. The city's death registers, 1537-1609 (with gaps).

Disegni. A series of maps and plans, mainly of lazarettos in Venetian territory and elsewhere, 17-18th centuries.

5. Savi ed Esecutori alle Acque.

The magistracy responsible for the Venetian lagoon.

Registri 342-346, Capitolari 1-5, 1415-1589.

6. Provveditori di Comun.

The magistracy responsible for various aspects of civic life including the maintenance of bridges, canals and wells, and, with the Giustizia Vecchia, the supervision of important guilds, including the medical colleges.

Reg.2, Capitolare 1, 1315-1661.

7. Magistrato al Sal.

Responsible for the government salt monopoly, the revenues from which financed works such as the lazarettos. The magistracy was responsible for the control of plague prior to the foundation of the Health Office.

Prima serie:

Reg.1a, Capitolare, 1277-1792.

Reg.4, Summario di leggi formato nell'anno 1521.

Registri 8-12, Registri del Collegio del Sal, 1411-1531.

Seconda serie:

Registri 1-3, Notatori 1-3, 1479-1529.

8. Procuratori di San Marco de Citra.

The Procuratori acted as trustees for endowments of the lazarettos.

Collo LXVIII, Sacco 162, Libri riguardanti i lazaretti, 1439-1588.

Collo LXIX, Sacco 163, Libri, processi e carte riguardanti i lazaretti, 1423-1737.

9. Compilazione delle leggi.

Eighteenth century copies of Venetian statutes, arranged by subjects.

Busta 337, Sanità pubblica.

10. Riformatori dello Studio di Padova.

Responsible for the University.

Reg.63, Lettere degli Riformatori a diversi Rettori, mainly 1555-59.

11. Segretario alle Voci.

Records of elections to government offices, including

Serie mista, Registri 7, 10-12 (Consigli e Uffici, 1492-1556).

Elezioni dei Pregadi, Reg.2, 1554-59.

12. Sant'Uffizio.

The magistracy responsible for the repression of heresy.

Busta 30, Trial of Orazio Perugino for practising medicine by witchcraft, 1571.

Busta 31, Trial of the quack Aurelio Stichiano for witchcraft, 1572.

Busta 35. Against doctors treating the sick who had not made confession, 1571-73.

13. Avogadori di Comun.

Busta 159, Necrologio nobili, 1526-1616. Includes the earliest surviving fragment of a Venetian Health Office necrologio, 1527.

14. Giustizia Vecchia.

Responsible for the guilds.

Busta 211, Spezieri. Papers relating to the apothecaries.

15. Provveditori sopra Ospedali e Luoghi Pii.

Busta 1, Capitolare 1, 1561-1750.

Busta 17, Registro 20, Atti e terminazioni, 1561-75.

16. Ospitali e Luoghi Pii Diversi.

Busta 910. Documents relating to the hospital of SS. Giovanni e Paolo, including a fragment of an admissions register, 1560.

17. Fratere Poveri.

Papers relating to parish fraternities and the poor law. The few documents from the sixteenth century include

Busta 9, Fraterna di San Canziano, Capitoli e ordini della congregazione de poveri infermi della contra di S. Cantian, 1577.

18. Scuola Grande di San Rocco.

Seconda Consegna, Registri 45 and 47. Including documents on the cult of San Rocco in the sixteenth century.

19. Convento di San Sebastiano.

Busta 2, Libri e inventari diversi. Includes an inventory of relics, 1584.

VENICE: BIBLIOTECA NAZIONALE MARCIANA

The following manuscripts all form part of the series MSS. Italiani, Classe VII.

1. Chronicles.

For an account of these, Freddy Thiriet, 'Les chroniques vénitienes de la Marcienne', Ecole Française de Rome: Mélanges d'archéologie et d'histoire, tome 66, 1954, pp. 241-292.

Cod. 1 (=8356), Cronaca Agustini, 421 A.D.-1570.

Cod. 10 (=8607), Cronica Veneta detta Veniera. Terminates in 1479.

Codici 49-50 (=9274-9275), Copy of the Cronaca Zancarola. Terminates in 1446. Thiriet attributes the whole to Gasparo Zancaruolo, but at least part was written in 1348.

Cod. 51 (=8528), Cronaca di Venezia dalla sua origine fino all'anno 1475. Fifteenth century.

Cod. 56 (=8636), Cronica veneta di Marc'Antonio Erizzo. Sixteenth century.

Cod. 321 (=8838), Cronaca Savina, 421 A.D.-1588.

Cod. 519 (=8438), Cronaca di Niccolò Trevisan. The first part is by Trevisan (d. 1369).

Cod.794 (=8503), Cronaca di Zorzi Dolfin. A contemporary journal, particularly valuable for the period 1423-58.

Codici 2048-2049 (=8331-8332), Cronica di Antonio Morosini (copy). From c.1400 the chronicle takes the form of a contemporary journal, invaluable on the early decades of the fifteenth century.

2. Other manuscripts.

Cod.364 (=7934), Guerre col Turco ed altri avvenimenti, 1566-93. Includes a complete series of figures for deaths in Venice, June-December 1576, as recorded in the bills of mortality.

Cod.553 (=8812), Compendio di me Francesco da Molin de Messer Marco delle cose che ruputerò degne di tenerne particular memoria. Diary of events from 1558.

Cod.806 (=9557). Includes papers relating to the service of Mercuriale and Capodivacca in the plague of 1576, and an anonymous medical text on the same plague, Proemio dell' autore all' ecc. dottor di legge il Sr. Claudio Pozzo.

Codici 813-831 (=8892-8910), Consegi, 1498-1594. Records of elections of officials by the Senate and Maggior Consiglio.

Cod. 1971 (=9042), Ordini e capitoli del Collegio degli Speciali. The statutes of the apothecaries, drawn up on the foundation of their college in 1565, with later additions.

Codici 2328-2329 (=9722-9723), Atti del Collegio Medico-Chirurgico, 1478-1628. The records of the Venetian College of Surgeons.

Cod.2342 (=9695), Notizie cavate dalli libri di Priori. A summary of the principal events recorded in the records of the Venetian College of Physicians from 1503.

Cod.2371 (=9665), Sindicazione dell'opera intitolata 'statutorum ac partium antiquarum et recentium collectio'. Miscellaneous transcripts from the records of the College of Physicians.

Cod.2379 (=9686). Lists of principal officers of the College of Physicians, 1503-1806, and of degrees granted by the College.

VENICE: MUSEO CIVICO CORRER.

1. Raccolta Cicogna.

Num.788. A private notebook, fifteenth or sixteenth century, including figures for mortality in the epidemic in Venice in 1478.

Num.1243 (= mariegola 57), Matricula DD. Doctorum Artistarum et Medicorum Sacri Collegii Patavini, 1550.

Num. 1330, 3236, 3239. Eighteenth century notes on the lazarettos and the history of plague in Venice, including copies of a few papers from the records of the monastery of Santa Maria di Nazaret.

Num.1509 and 3055. Papers relating to plague in Venice, 1630-31, including copies of major government decisions, and a narrative by Cecilia Fuoli, nephew of the Health Office physician.

Num.2072. Copies of plague measures, 1575-77, drawn up by Marco Veronese, with the names of all male nobles who died, 1724.

Num.2831. Copy of a chronicle, written c.1380.

Num.3284. Report on the background to funds of the lazarettos kept by the Procuratori di S. Marco de Citra, 1771.

Num.3284, Successo della peste l'anno 1576. An anonymous contemporary narrative.

2. Donà delle Rose.

Busta 411. Correspondence of Giovanni Battista Donà, Luogotenente in Cyprus at the time of the plague in Venice, 1556-57.

PADUA: ARCHIVIO DI STATO.

1. Ufficio di Sanità.

This archive includes a fine series of correspondence with other Health Offices, mainly from the second half of the sixteenth century.

Num.5, Atti riguardanti l'istituzione dell'Ufficio e della sua autorità. From 1438.

Num.14. Lazaretto. From 1459.

Num.239-240. Letters from Venice, 1563-1656.

Num.295. Letters from Verona. From 1575.

Num.298. Letters from Vicenza. From 1564.

Num.301. Copies of letters from the Office to Venice, 1575-1758.

Num.353, Processo per rilevare le operazioni di Giacomo Copa medico di Modena per la peste del 1555-56 nel lazaretto, 1558.

Num.452, Copie di ducali e lettere relative all'istituzione e al funzionamento dell'Ufficio. From 1531.

Num.543, Lazaretto - ducali e bolle pontificie. From 1453.

2. Archivio Civico Antico.

Lettere ai Deputati ad Utilia, Busta 15, 1576. Letters from the Paduan representatives in Venice.

PADUA: BIBLIOTECA UNIVERSITARIA.

MS.318, Medici veneti e loro Collegio in Venezia. Eighteenth century notes from the records of the Venetian College of Physicians.

PADUA: ARCHIVIO ANTICO DELLA UNIVERSITA.

Filza 421, Consultazioni mediche di vario argomento, 1552-1794. Consultations of the Paduan College of Physicians.

VICENZA: BIBLIOTECA BERTOLIANA.Archivio Storico Civico.

No archive of the Provveditori alla Sanità of Vicenza could be traced at the Archivio di Stato, Vicenza, or at the Bertoliana. Papers relating to public health may be found in the records of the main civic councils through the Catastico of the Archivio Storico Civico, tomo 21, under the heading Sanità.

Num.794-795, Libri provisioni, Num.1-2. Early decades of the sixteenth century.

Num.863-864, Libri parti, Num.1-2, c.1530-c.1565.

Num.256-257, 265, Marostica. Papers relating to this community give an indication of the relation of the Provveditori alla Sanità of Vicenza to its dependent Vicariati in the sixteenth century.

VERONA: ARCHIVIO DI STATO.1. Ufficio di Sanità, parte antica.

Num.1, Raccolta di decreti, ducali e parti. From 1451.

Num.8, Decreti, denuncie, legati, 1511-13.

Num.33, Proclami, 1555-1600.

Num.157, Peste, 1575-77.

2. Antico Archivio del Comune.

Num.89, Atti del Consiglio, 1573-77.

BRESCIA: BIBLIOTECA QUERINIANA.

No archive of the Brescian Health Office could be traced. The following records in the Archivio Storico Civico nevertheless contain documents relating to plague:

Num.482-495, Provisioni del Consiglio Cittadino, 1422-51. An unbroken series revealing the continuity between the Milanese and Venetian administrations of Brescia.

Num.1140-1141, Lettere autografe, 1576-77. Mainly letters from Brescian representatives in Venice.

Num. 1079, Ducali. Includes a number of documents relating to plague, 1472-1579.

BERGAMO: BIBLIOTECA CIVICA.

No archive of the Bergamese Health Office could be traced at the Archivio di Stato, Bergamo, or at the Biblioteca Civica. A number of documents were found in the Archivio Vecchio del Comune, especially in the volume Azioni, Libro 3, 1481-85.

MILAN: ARCHIVIO DI STATO.

1. Miscellanea Storica, Cartelle 1-4, Peste.
Miscellaneous papers relating to plague, mainly original correspondence of the Duke of Milan, the Secret Council and the Health Office, removed from their original archival series. Dating mainly from the second half of the fifteenth century.

2. Sanità, parte antica.
Little, other than death registers, survived the fire in the Health Office in 1502. Thereafter records are more profuse.
Cartella 3, Provvisioni generali diversi. Gride, Stato di Milano, 1549-78.
Cartella 7, Provvisioni generali. Stati esteri, Venezia. Mainly copies of decrees issued in Venetian territory, 1567-1760.
Cartelle 38-39, Milano, provvisioni generali. Ordinazioni, 1522-1743.
Cartella 278, Peste. Certificati di sanità. Documents relating to the banning of plague areas, with many original health passes, sixteenth to eighteenth centuries.
Cartella 279, Provvisioni generali, 1545-75. Mainly correspondence with other Health Offices relating to outbreaks of plague.

3. Popolazione, parte antica.
Cartella 73 and ff., Registri mortuari. From 1452, with gaps. The death registers compiled by the Health Office.
Cartelle 17-19, Nascimenti, morti ecc., 1451-1513.

4. Panigarola.
An extensive series of registers of government decisions, including many concerning the banning of plague areas. Particularly rich in the latter respect are Reg.6, 1447-50, and Reg.22, 1461-87.

5. Archivio Sforzesco, Carteggio delle potenze estere, Venezia.
The despatches of the Milanese ambassadors in the second half of the fifteenth century contain regular reports on plague in Venice.
Cartelle 343-344. Include reports on plague, 1456-57.
Cartelle 347-349. Include reports on plague, 1460-62.
Cartella 351. Includes reports on plague, 1464.
Cartella 354. Includes reports on plague, 1468.
Cartella 365. Includes reports on plague, 1478.
Cartelle 369 and 1268. Include reports on plague, 1485.
Microfilm of these despatches was read at the Fondazione Giorgio Cini, Venice.

MILAN: BIBLIOTECA AMBROSIANA.

MS. D 195 inferiore. A miscellany of documents including an anonymous letter, dated 15th June 1576, giving an account of the medical debate in Venice on the plague, and a personal narrative,

Informatione intorno alla peste che fu in Trento prima l'anno del 74 e 75.

MS. G 67 inferiore, Confutationes medicae adversum Hieronymum Mercurialem de causis pestis agentem.

MS. R 96 superiore. Letter from Torquato Tasso to Girolamo Mercuriale giving an account of his medical condition, 1583.

MS. S 94 superiore, Ricette contro la peste di Nicolò Colochi.

CREMONA: ARCHIVIO DI STATO.

No substantial Health Office archive could be traced.

Miscellaneous decrees and correspondence relating to plague, and original health passes, survive in Inventario 11, Busta 23 and in Inventario 16, Busta 135.

FLORENCE: ARCHIVIO DI STATO.1. Ufficiali di Sanità.

A substantial archive, 1555-1778.

Num.45-46, Libri di copialettere degli Ufficiali, 1555-67, 1576-77.

Num.134, Filza di negozi, 1589-1606.

2. Archivio Mediceo del Principato.

Filze 2971, 2974-2975, Carteggi con Venezia. Despatches from Piero Gelido, Florentine Secretary in Venice, on the plague, 1555-56.

Filza 2984. Despatches from Orazio Urbani on the plague, 1575-77.

Microfilm of these was read at the Fondazione Giorgio Cini, Venice.

MODENA: ARCHIVIO DI STATO.

Archivio Segreto Estense, Ambasciatori a Venezia.

Busta 1. Despatches of Giovanni Ludovico Marchesi on plague in Venice, 1468.

Busta 4. Despatches of Alberto Cortesi on plague in Venice, 1485.

Busta 44. Despatches of Girolamo Faletti on plague in Venice, 1555-56.

Microfilm of these was read at the Fondazione Giorgio Cini, Venice.

MANTUA: ARCHIVIO DI STATO.Carteggio Estero ad Inviati.

Filza 1431. Despatches from Venice on the plague, 1464.

Filza 1488. Despatches of Benedetto Agnello and Ludovico Nelli on the plague in Venice, 1555-56.

Filza 1509. Despatches from Paolo Moro on the plague in Venice, 1575-76.

Microfilm of these was read at the Fondazione Giorgio Cini, Venice.

TURIN: ARCHIVIO DI STATO.Lettere Ministri, Venezia.

Num.1. Despatches from Bernardo Rovero in Venice to the Duke of Savoy, 1576-77.

Microfilm of these was read at the Fondazione Giorgio Cini, Venice.

ROME: ARCHIVIO SEGRETO VATICANO.Dispacci del Nunzio a Venezia alla Segreteria di Stato.

Filza 16. Despatches on plague in Venice, 1576, including a few items relating to the imprisonment of Girolamo Donzellini not published in the Nunziatura di Venezia.

Filza 33. Despatches from the Nunzio Graziani, Bishop of Amelia, on plague in Friuli, 1598.

Microfilm of these was read at the Fondazione Giorgio Cini, Venice.

ROME: ARCHIVIO DI STATO.Camerale Secondo: Sanità.

A small archive relating to plague and public health, mainly 1625-1837.

Busta 2, Istituzione di una Congregazione per Roma e lo stato, 1630.

LONDON: BRITISH LIBRARY.

Add MS. 10779, Registro di lettere dell'offizio di sanità di Venezia: risposte et lettere scritte nel regimento dell' Ill.mo S. Filippo Bon. dig.mo Podestà di Chioza 1656-57.

Measures taken during the final plague emergency in northern Italy.

Add MS. 41600. Sign of the Thau with prayers to St. Sebastian. (Venetian?), c.1454.

Sloane MS. 775, Oratio ad S. Sebastianum contra pestem.
Fifteenth century.

Cotton MSS. Nero. B. VI. Includes a letter from Bernardino Sandro to Thomas Starkey, 13th April 1535, on the epidemic in Venice.

LONDON: WELLCOME INSTITUTE FOR THE HISTORY OF MEDICINE.

MS. 223. Letter book of Ludovico Cucino as physician to the Venetian Health Office, 1555-58.

MS. 668. Collection of medical recipes (Venetian?) late fifteenth century, including Consilium Reverendissimi patris domini Theophili de Mediolano ordinis sancti Benedicti contra pestem.

BIBLIOGRAPHY

ACTA Ecclesiae Mediolanensis (vol.1 never issued, vols.2-4, Milan, 1890-1900).

AGRICOLA, Georgius. De peste libri tres (Basle, 1554).

AGRIFOGLIO, Lino. 'Argomentazioni sulla peste in un libro di Andrea Graziolo, medico del XVI secolo', Rivista Italiana d' Igiene, vol.20, 1960, pp.492-499.

AGRIFOGLIO, Lino. 'Una convenzione tra il Magistrato di Sanità di Milano e la Svizzera stipulata nel 1585 per la profilassi della peste', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, vol.21, 1955, pp.15-23.

ALBERI, Eugenio, ed. Le relazioni degli ambasciatori veneti al Senato (series 2, vol.3, Florence, 1846; series 3, vol.3, Florence, 1855).

ANATOMIA della peste a consolatione principalmente della città di Venetia, fatta in quattro lettere (Venice, 1657).

ANCONA, Romolo. I diritti dei farmacisti veneti (Venice, 1891).

ANGUILLARA, Luigi. Semplici li quali in piu pareri a diversi nobil huomini scritti appaiono (Venice, 1561).

ANTERO Maria da San Bonaventura. Li lazzaretti della città e riviere di Genova del MDCLVII (Genoa, 1658).

ASTEGIANO, Giovanni. 'Su la vita e le opere di Tommaso da Ravenna', Bollettino del Museo Civico di Padova, 1925, pp.49-70, 236-260.

AUTHENTICK account of the measures and precautions used at Venice by the Magistrate of the Office of Health for the preservation of the publick health (London, 1752).

AVICENNA. Liber Canonis (Basle, 1556).

AVICENNA. Principis Avicennae liber primus de universalibus medicae scientia praeceptis, Andrea Gratiolo salodensis interprete (Venice, 1580).

AYMARD, Maurice. Venise, Raguse et le commerce du blé pendant la seconde moitié du XVIIe siècle (Paris, 1966).

BANCHI, Luciano. 'Provvisioni della repubblica di Siena contro la peste degli anni 1411 e 1463', Archivio Storico Italiano, series 4, vol.14, 1884, pp.325-332.

BASCAPE, Giacomo C. 'L'assistenza e la beneficenza a Milano dall'alto medioevo alla fine della dinastia sforzesca' in FONDAZIONE G. TRECCANI DEGLI ALFIERI, Storia di Milano, vol.8 (Milan, 1957).

BAZALA, Vladimir. 'Della peste e dei modi di preservarsene nella repubblica di Ragusa', Atti del XIV Congresso Internazionale di Storia della Medicina, Rome, 1954, pp.723-756.

BAZIN, Janine. L'évolution du costume de médecin de peste en Europe de 1348 à 1720, Doctor of Medicine thesis, University of Paris, 1971.

BAZZI, Franco. 'Notizie storiche sulla fondazione del lazzaretto di Bergamo (1503-4) tratte da inediti documenti', Primo Congresso Europeo di Storia Ospitaliera, Reggio Emilia, June 1960, pp.85-104.

- BELLONI, Luigi. 'Pestilenza e contumacia nelle oselle di Venezia', Annali di Medicina Navale e coloniale, vol.55, 1950, pp.379-383.
- BELLORINI, Mariagrazia. 'Un medico italiano alle corte di Elisabetta: Giulio Borgarucci', English Miscellany, vol.19, 1968, pp.251-272.
- BELOCH, K. Julius. 'La popolazione di Venezia nei secoli XVI e XVII', Nuovo Archivio Veneto, new series, vol.3, 1902, pp.5-49.
- BELTRAMI, Daniele. Storia della popolazione di Venezia dalla fine del secolo XVI alla caduta della repubblica (Padua, 1954).
- BELTRAMI, Luca. Il lazaretto di Milano (1488-1882) (Milan, 1899).
- BELTRAMI, Luca. 'Il lazaretto di Milano', Archivio Storico Lombardo, series 1, vol.9, anno 9, 1882, pp.403-441.
- BENEDETTI, Alessandro. De observatione in pestilentia (Venice, 1493).
- BENEDICTIS, Luigi de. Della vita e delle opere di Bernardino Tomitano (Padua, 1903).
- BENNASSAR, Bartolomé. Recherches sur les grandes épidémies dans le nord de l'Espagne à la fin du XVIIe siècle (Paris, 1969).
- BENUSSI, B. Pola nelle sue istituzioni municipali sino al 1797 (Deputazione Veneto-Tridentina di Storia Patria, Miscellanea di storia Veneto-Tridentina, vol.1, Venice, 1925, pp.1-516).
- BENZONI, Gino, ed. Il mediterraneo nella seconda metà del '500 alla luce di Lepanto (Florence, 1974).
- BERNARDI, Francesco. Prospetto storico-critico dell'origine, facoltà, diversi stati, progressi, e vicende del Collegio Medico-Chirurgico e dell'arte chirurgica in Venezia (Venice, 1797).
- BERNARDINO DA SIENA. Le prediche volgari (Milan, 1936).
- BERTOLASO, Bartolo. 'I "Terzi Luoghi" nello Studio Padovano', Acta Medicae Historiae Patavina, vol.6, 1959-60, pp.1-15.
- BERTOLASO, Bartolo. 'Ricerche d'archivio su alcuni aspetti dell'insegnamento medico presso la Università di Padova nel cinque e seicento', Acta Medicae Historiae Patavina, vol.6, 1959-60, pp.17-37.
- BERTULUS, Évariste. Marseille et son intendance sanitaire (Paris, 1864).
- BESTA, Enrico. Il Senato Veneziano (Venice, 1899).
- BIRABEN, Jean-Noël and LE GOFF, J. 'La peste dans le Haut Moyen Age', Annales, vol.24, 1969, pp.1484-1510.
- BIRABEN, Jean-Noël. 'La peste dans l'Europe occidentale et le bassin méditerranéen', Le Concours Médical, 1963, pp.781-790.
- BIRABEN, Jean-Noël. Les hommes et la peste en France et dans les pays européens et méditerranéens (2 vols., Paris, 1975-6).
- BISTORT, Giulio. Il Magistrato alle Pompe nella repubblica di Venezia (Venice, 1912; reprinted Bologna, 1969).
- BOCCALINI, Francesco. De causis pestilentiae urbem Venetam opprimentis anno MDLVI (Venice, 1556).
- BOGNETTI, Gian Piero. 'Il lazaretto di Milano e la peste del 1630', Archivio Storico Lombardo, series 5, vol.50, 1923, pp.388-442.

- BONAFEDE, Francesco. Quaestio...de cura pleuritidis per venae sectionem, adversus Curtium Ticinensem (Venice, 1533).
- BONAGENTE, Vettor. Decem problemata de peste (Venice, 1556).
- BONGI, S. ed. Inventario del R. Archivio di Stato in Lucca (4 vols., Lucca, 1872-88).
- BORGARUCCI, Prospero. Trattato di peste (Venice, 1565).
- BOTTERO, Aldo. 'La peste in Milano nel 1399-1400 e l'opera di Gian Galeazzo Visconti (da documenti inediti)', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, vol.8, 1942, pp.17-28.
- BRAUDEL, Fernand. Capitalism and material life 1400-1800 (London, 1973).
- BRAUDEL, Fernand. The Mediterranean and the Mediterranean world in the age of Philip II (2 vols., London, 1972-3).
- BREDA, A. 'Contributo alla storia dei lazzaretti (leprosari) medioevali in Europa', Atti del R. Istituto Veneto di Scienze, Lettere ed Arti, vol.68, 1909, pp.133-194.
- BRUGI, Biagio. 'Gli studenti tedeschi e la Santa Inquisizione a Padova nella seconda metà del secolo XVI', Atti del R. Istituto Veneto di Scienze, Lettere ed Arti, series 8, vol.5, 1894, pp.1015-1033.
- BRUNETTI, Mario. 'Venezia durante la peste del 1348', Ateneo Veneto, vol.32, 1909, pp.3-62.
- BRUZZA, Antonio Luigi. Sull'origine dei lazzaretti e dei magistrati di Sanità (Genoa, 1874).
- BUSBECQ, Ogier Ghiselin de. Turkish letters (Oxford, 1927, reprinted 1968).
- CAIRNS, Christopher. Domenico Bollani, Bishop of Brescia: devotion to Church and State in the republic of Venice in the sixteenth century, Ph.D thesis, University of Reading, 1971.
- CALENDAR of State Papers and Manuscripts relating to English affairs existing in the archives and collections of Venice and in other libraries of Northern Italy, ed. Rawdon Brown (vol.5, 1534-54, London, 1873).
- CALZA, Carlo. 'Delle leggi di pubblica igiene nella repubblica veneta dal secolo XII al XVII', Atti dell'Ateneo Veneto, series 2, vol.2, 1865, pp.319-335.
- CAMPBELL, Anna Montgomery. The Black Death and men of learning (New York, 1966).
- CANALIS, A. and SEPULCRI, P. 'Il malaere e le febbri intermittenti in Venezia dominante e nelle isole lagunari', Annali della Sanità Pubblica, vol.19, 1958, pp.1051-1063.
- CANALIS, A. and SEPULCRI, P. 'Prescrizioni mediche ufficiali e altri provvedimenti di governo in Venezia nella peste del 1575-6', Annali della Sanità Pubblica, vol.19, 1958, pp.1201-1214.
- CAPASSO, Gaetano. 'L'ufficio della Sanità di Monza durante la peste degli anni 1576-7', Archivio Storico Lombardo, vol.33, 1906, pp.299-330.
- CAPITOLI da osservarsi nelli lazzaretti, stabiliti e decretati da gl'Illustrissimi et ecc. Signori. Sopraproveditori, Aggiunti e Proveditori alla Sanità (Venice, 1656).

CAPITOLI stabiliti dall'Illustrissimi e Eccellentissimi Signori Sopraproveditori e Proveditori alla Sanità: dessunti dall'antiche leggi in tale proposito per la continuatione, rinovatione, e riforma delle Fraterne de Poveri in ciascuna contrada di questa città (Venice, 1731).

CAPODIVACCA, Girolamo (Hieronymus Capivaccius). Opera omnia (Venice, 1606).

CAPPARONI, Pietro. Profili bio-bibliografici di medici e naturalisti celebri italiani dal secolo XV al secolo XVIII (2 vols., Rome, 1925-28).

CARABELLESE, F. La peste del 1348 e le condizioni della sanità pubblica in Toscana (Rocca S. Casciano, 1897).

CARBONE, Salvatore. Note introduttive ai dispacci al Senato dei rappresentanti diplomatici veneti (Rome, 1974).

CARBONE, Salvatore. Provveditori e Sopraproveditori alla Sanità della repubblica di Venezia. Carteggio con i rappresentanti diplomatici e consolari veneti all'estero e con uffici di sanità esteri corrispondenti. Inventario (Rome, 1962).

CARPENTIER, Elisabeth. Une ville devant la peste: Orviète et la peste noire de 1348 (Paris, 1962).

CARTER, Francis W. Dubrovnik (Ragusa): a classic city state (London, 1972).

CARTWRIGHT, F.F. A social history of medicine (London, 1977).

CASTIGLIONI, Arturo. A history of medicine (2nd. ed., New York, 1947).

CAUSE et rimedi della peste et d'altre infermità...raccolti per ordine di Mons. Reverendiss. Marco Gonzaga Vescovo di Mantova (Florence, 1577).

CAVRIOLO, Elia. Delle historie Bresciane libri dodeci (Brescia, 1585).

CECCHETTI, Bartolomeo. 'Documenti riguardanti Frà Petruccio di Assisi e lo spedale della Pietà', Archivio Veneto, series 1, vol. 30, 1885, pp.141-147.

CECCHETTI, Bartolomeo. 'La medicina in Venezia nel 1300', Archivio Veneto, series 1, vol.25, 1883, pp.361-381; vol.26, 1883, pp.77-111, 251-270.

CERVETTO, Giuseppe. Di Giambattista da Monte e della medicina italiana nel secolo XVI (Verona, 1839).

CESSI, Roberto. 'Alvise Cornaro e la bonifica veneziana nel secolo XVI', Accademia dei Lincei, Rendiconti della Classe di Scienze Morali, series 6, vol.12, 1936, pp.301-323.

CHAMBERLIN, E.R. The Count of Virtue (London, 1965).

CHAMBERS, David S. The imperial age of Venice 1380-1580 (London, 1970).

CHEREAU, Achille, ed. Les ordonnances faictes et publiées a son de trompe par les carrefours de ceste ville de Paris pour éviter le dangier de peste 1531 (Paris, 1873).

CHIAPELLI, A. 'Gli ordinamenti sanitari del Comune di Pistoia contro la pestilenza del 1348', Archivio Storico Italiano, series 4, vol.20, 1887, pp.3-24.

CICOGNA, E.A. Delle iscrizioni veneziane (6 vols., Venice, 1824-1853).

- CIPOLLA, Carlo M. Chi ruppe i rastelli a Monte Lupo? (Bologna, 1977).
- CIPOLLA, Carlo M. Cristofano and the plague. A study in the history of public health in the age of Galileo (London, 1973).
- CIPOLLA, Carlo M. 'Per la storia delle epidemie in Italia: il caso di una borgata lombarda ai primi del quattrocento', Rivista Storica Italiana, anno 75, 1963, pp.112-119.
- CIPOLLA, Carlo M. Public health and the medical profession in the Renaissance (Cambridge, 1976).
- CLENDENING, Logan. Source book of medical history (New York, 1960).
- CONTARINI, Gasparo. La repubblica e i magistrati di Vinegia (Venice, 1551).
- CONTENTO, Aldo. 'Il censimento della popolazione sotto la repubblica veneta', Nuovo Archivio Veneto, vol.19, 1900, pp.5-42, 179-240; vol.20, 1900, pp.5-96, 172-235.
- CORNARO, Luigi. Sure methods of attaining a long and healthful life, with the means of correcting a bad constitution (13th ed., London, 1872, from the Venetian ed. of 1620).
- CORNER, Flaminio. Ecclesiae venetae antiquis monumentis... illustratae (16 parts, Venice, 1749).
- CORRADI, Alfonso. Annali delle epidemie occorse in Italia dalle prime memorie fino al 1850 (8 vols., Bologna, 1865-94).
- CORRADI, Alfonso. Annali delle epidemie occorse in Italia dalle prime memorie fino al 1850, vol.1, Avanti l'era volgare. Dopo l'era volgare fino all'anno 1600 (reprinted Bologna, 1973).
- CORRADI, Alfonso. 'Degli esperimenti tossicologici in anima nobili nel cinquecento', Annali Universali di Medicina e Chirurgia, vol.277, 1886, pp.73-100.
- CORSINI, Andrea. La moria del 1464 in Toscana e l'istituzione dei primi lazzaretti in Firenze ed in Pisa (Florence, 1911).
- CORYAT, Thomas. Crudities (2 vols., Glasgow, 1905).
- CRAWFURD, Raymond. Plague and pestilence in literature and art (Oxford, 1914).
- CREIGHTON, Charles. A history of epidemics in Britain (new ed., 2 vols., London, 1965).
- CROWN, Alan D. ed. 'The world overturned: the plague diary of Abraham Catalano', The Bridge, August 1972, pp.6-14.
- DALL'OSSO, Eugenio. 'Due lettere inedite di Leonardo Fioravanti', Rivista di Storia delle Scienze Mediche e Naturali, anno 47, 1956, pp.283-291.
- D'ALVERNY, Marie-Thérèse. 'Avicenne et les médecins de Venise', Medioevo e Rinascimento: studi in onore di Bruno Nardi (Florence, 1955), pp.177-198.
- DA MOSTO, Andrea. L'Archivio di Stato di Venezia (2 vols., Rome, 1937-40).
- DA MOSTO, Andrea. I Dogi di Venezia (Milan, 1960).
- DAVIS, James Cushman. The decline of the Venetian nobility as a ruling class (Baltimore, 1962).
- DEBUS, Allen G. The English Paracelsians (London, 1965).

- DECIO, Carlo. La peste in Milano nell'anno 1451 e il primo lazzaretto a Cusago (Milan, 1900).
- DE GAZATA, Sagacius and Petrus. 'Chronicon Regiense' in L.A. MURATORI, ed., Rerum Italicarum Scriptores (vol.18, Milan, 1731).
- DEL GARBO, Tommaso. Consiglio contra la pestilentia (Florence, 1522).
- DEL GUERRA, G. 'Per la storia degli amuleti: una preghiera contro la peste del '400', Bollettino dell'Istituto Storico Italiano dell'Arte Sanitaria, vols.13-14, 1933-34, pp.164-167.
- DE TONI, G.B. 'Contributo alla conoscenza delle relazioni del patrizio veneziano Pietro Antonio Michiel con Ulisse Aldrovandi', Memorie dell'Accademia di Scienze, Lettere ed Arti in Modena, series 3, vol.9, 1908, pp.21-70.
- DE VISIANI, Roberto. Della vita e degli scritti di Francesco Bonafede (Padua, 1845).
- DIAN, Girolamo. Cenni storici sulla farmacia veneta al tempo della repubblica (7 parts, Venice, 1900-1908).
- DIAN, Girolamo. Memoria sulle condizioni, sugli statuti e sugli ordinamenti dei farmacisti sotto la repubblica veneta (Milan, 1891).
- D'IRSAY, Stephen. 'Defence reactions during the Black Death 1348-1349', Annals of Medical History, vol.9, 1927, pp.169-179.
- DIZIONARIO Biografico degli Italiani (in progress, Rome, 1960-).
- DOLCETTI, Giovanni. 'I barbieri chirurghi a Venezia', Ateneo Veneto, Sett-Oct 1896, pp.1-27.
- DOLFIN, Paolo. Della peste: opinioni dei medici di Venezia nel 1630 (Padua, 1843).
- DONZELLINI, Girolamo. Discorso nobilissimo e dottissimo preservativo et curativo della peste (Venice, 1577).
- DURLING, Richard J. 'A chronological census of Renaissance editions and translations of Galen', Journal of the Warburg and Courtauld Institutes, vol.24, 1961, pp.230-305.
- FABRI, Felix. Wanderings (London, 1892).
- FACCIOLATI, Jacobus. Fasti Gymnasii Patavini (Padua, 1757).
- FAINELLI, Vittorio. Storia degli ospedali di Verona (Verona, 1962).
- FAVARO, Antonio. 'Notizie storiche sul magistrato veneto alle Acque', Nuovo Archivio Veneto, new series, vol.9, 1905, pp.179-199.
- FAVARO, Giuseppe. Gabrielle Falloppia, modenese 1523-1562 (Modena, 1928).
- FERRARI, Ciro. 'Il lazzaretto di Padova durante la peste del 1630-31', Bollettino del Museo Civico di Padova, vol.7, 1904, pp.106-115.
- FERRARI, Ciro. 'Il lazzaretto di Verona e il gran contagio del 1630', La Lettura: Rivista mensile del Corriere della Sera, anno 3, no.9, Sept 1903, pp.782-789.
- FERRARI, Ciro. 'Proibizioni e transgressioni sanitarie a Padova', Bollettino del Museo Civico di Padova, vol.7, 1904, pp.30-40.

- FERRARI, Ciro. L'Ufficio della Sanità di Padova nella prima metà del secolo XVII (Deputazione Veneta di Storia Patria, Monumenti Storici, serie 4, Miscellanea serie 3, tomo 1, Venice, 1910).
- FERRARIO, Giuseppe. Statistica medica di Milano dal secolo XV fino ai nostri giorni (2 vols., Milan, 1838-40).
- FERRO, Filippo Maria. La peste nella cultura lombarda (Milan, 1973).
- FICHTNER, Gerhard. 'Padova e Tübingen: la formazione medica nei secoli XVI e XVII', Acta Medicae Historiae Patavina, vol.19, 1972-73, pp.43-62.
- FICINO, Marsilio. Consiglio contra la pestilentia (Florence, 1522).
- FIORAVANTI, Leonardo. A joyfull jewell, contayning... preservatives for the plague (London, 1579).
- FIORAVANTI, Leonardo. Miroir universel des arts et sciences (Paris, 1586).
- FIORAVANTI, Leonardo. Il reggimento della peste (new ed., Venice, 1594).
- FISCHER, Alfons. Geschichte des deutschen Gesundheitwesens (2 vols., Berlin, 1933, reprinted 1965).
- FLETCHER, Robert. 'A tragedy of the Great Plague of Milan in 1630', Bulletin of the Johns Hopkins Hospital, vol.9, no.89, August 1898, pp.175-180.
- FRACASTORO, Girolamo. De contagione et contagiosis morbis et eorum curatione, libri tres, text with translation and notes by Wilmer Cave Wright (London, 1930).
- FRARI, Angelo A. Della peste e della pubblica amministrazione sanitaria (Venice, 1840).
- FRIGIMELICA, Francesco. Consiglio sopra la pestilentia qui in Padoa dell'anno MDLV (Padua, 1555).
- FULIN, Rinaldo. 'Gli Inquisitori dei Dieci', Archivio Veneto, vol.1, 1871, pp.1-64, 298-313; vol.2, 1872, pp.357-391.
- FURFARO, Domenico. La vita e l'opera di Leonardo Fioravanti (Bologna, 1963).
- G, C. 'La peste dell'anno 1575 in Trento', Archivio Trentino, anno 6, 1887, pp.29-54.
- GAETA, Franco. 'Origine e sviluppo della rappresentanza stabile pontificia in Venezia', Annuario dell'Istituto Storico Italiano per l'Età Moderna e Contemporanea, vols.9-10, 1958, pp.5-281.
- GALEN. 'De februm differentiis' in C.G. KUHN, ed., Medicorum Graecorum opera quae exstant, vol.7 (Leipzig, 1824).
- GALEN. 'De temperamentis' in C.G. KUHN, ed., Medicorum Graecorum opera quae exstant, vol.1 (Leipzig, 1821).
- GALEN. Omnia quae extant opera in latinum sermonem conversa (5th Giunta ed., Venice, 1576-77).
- GALLICCIOLLI, Giambattista. Delle memorie venete antiche profane ed ecclesiastiche (7 vols., Venice, 1795).
- GARGIOLLI, Maria and DJALMA VITALI, E. 'La medicina nella repubblica veneta del XV secolo', Collana di 'Pagine di Storia della Medicina', Miscellanea 7, 1963, pp.61-77.

- GAUTIER, Léon. La médecine a Genève jusqu'à la fin du 18ième siècle (Geneva, 1906).
- GELCICH, Giuseppe. Delle istituzioni marittime e sanitarie della repubblica di Ragusa (Trieste, 1882).
- GENTILI, Giuseppe A. 'Leonardo Fioravanti bolognese alla luce di ignorati documenti', Rivista di Storia delle Scienze Mediche e Naturali, anno XLII, 1951, pp.16-41.
- GIACOSA, Piero. 'Documents sur deux épidémies de peste en Italie en 1387 et en 1448', Janus, vol.4, 1899, pp.130-3.
- GIANNOTTI, Donato. Libro de la repubblica de Vinitiani (Rome, 1542).
- GIORDANO, Davide. 'Difesa di Venezia contro la peste', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.403-430.
- GIORDANO, Davide. Leonardo Fioravanti bolognese (Bologna, 1920).
- GIORDANO, Davide. Scritti e discorsi pertinenti alla storia della medicina (Milan, 1930).
- GIORDANO, Davide. 'Un ospite dell'Ateneo di Venezia: Tommaso Rangone', Ateneo Veneto, vol.128, 1941, pp.291-303.
- GIORDANO, Davide. 'Venezia ne'suoi chirurghi. Il collegio iatro-chirurgico' in his Scritti e discorsi pertinenti alla storia della medicina (Milan, 1930), pp.59-93.
- GIRALDI, Philip Mark. The Zen family (1500-1550): patrician office holding in Renaissance Venice, Ph.D thesis, London University, 1975.
- GIULINI, Giorgio. Memorie spettanti alla storia, al governo ed alla descrizione della città e della campagna di Milano ne' secoli bassi (12 vols., Milan, 1760-1771).
- GIUSSANI, Achille. 'L'archivio del magistrato della sanità in Milano', Annuario del R. Archivio di Stato in Milano, vol.5, 1915, pp.139-187.
- GLÉNISSON, Jean. 'La seconde peste; l'épidémie de 1360-2 en France et en Europe', Annuaire Bulletin de la Société de l'Histoire de France, années 1968-9, pp.27-38.
- GLISENTE, Antonio. Il summario delle cause che dispongono i corpi de gli huomini a patire la corrottione pestilente del presente anno MDLXXVI (Venice, 1576).
- GNUDI, M.T. and WEBSTER, J.P. The life and times of Gasparo Tagliacozzi, surgeon of Bologna 1545-1599 (New York, 1950).
- GOODALL, Edward W. A short history of the epidemic infectious diseases (London, 1934).
- GRAZIOLO, Andrea (di Salò). Discorso di peste con un catalogo di tutte le pesti più notabili dei tempi passati (Venice, 1576).
- GRENDLER, Paul F. 'Venice, science and the index of prohibited books' in Owen GINGERICH, The nature of scientific discovery (Washington, 1975).
- GRMEK, M.D. 'Preliminaires d'une étude historique des maladies', Annales, vol.24, 1969, pp.1473-1483.
- GRMEK, M.D. 'Quarantâne in Dubrovnik', CIBA Symposium, vol.7, 1959, pp.30-33.
- GUERRINI, Paolo. Le cronache bresciane inedite (5 vols., Brescia, 1922-1932).

- GUERRINI, Paolo. 'S. Bartolomeo al lazaretto', Memorie Storiche della Diocesi di Brescia, vol.15, 1948, pp.64-67.
- GUIART, J. 'Histoire de la peste en France; les moyens de défense qu'on lui opposa', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.376-392.
- GUILBERT, Sylvette. 'A Chalons-sur-Marne au XVe siècle: un conseil municipal face aux épidémies', Annales, vol.23, 1968, pp.1283-1300.
- HALE, J.R. Renaissance Europe 1480-1520 (London, 1971).
- HALE, J.R.^{ed} Renaissance Venice (London, 1973).
- HATCHER, John. Plague, population and the English economy 1348-1530 (London, 1977).
- HECKER, J.F.C. The epidemics of the Middle Ages (3rd. ed., London, 1859).
- HIPPOCRATES. The medical works of Hippocrates. A new translation by John Chadwick and W.N. Mann (Oxford, 1950).
- HIPPOCRATES. Opera quae extant graece et latinae veterum codicum collatione restituta (Venice, 1588).
- HIPPOCRATES. Works. (4 vols., London, 1957-59).
- HIRST, Leonard Fabian. The conquest of plague: a study of the evolution of epidemiology (Oxford, 1953).
- HOHL, Claude. 'Les épidémies et leurs conséquences sur l'organisation des hôpitaux au XVIIe siècle à Paris', Bulletin de la Société de l'Histoire de Paris, année 89, 1962, pp.33-36.
- HOWARD, John. An account of the principal lazarettos in Europe (Warrington, 1789).
- HOWARD-JONES, Norman. 'Fracastoro and Henle: a re-appraisal of their contribution to the concept of communicable diseases', Medical History, vol.21, 1977, pp.61-68.
- INGRASSIA, Giovanni Filippo. Informatione del pestifero et contagioso morbo il quale affligge et have afflitto questa città di Palermo...nell'anno 1575 e 1576 (Palermo, 1576).
- ISTITUTO PER LA STORIA DELL'UNIVERSITÀ DI PADOVA. Acta graduum academicorum Gymnasii Patavini (in progress from 1969).
- JOPPI, Vincenza. 'Frammenti d'un saggio storico-medico sulla peste ed altre malattie epidemiche che dominarono in Friuli', Rivista Friulana, anno 3, 1861, pp.281, 289-290, 329-330, 377-378.
- JORGE, Ricardo. 'Les anciennes épidémies de peste en Europe comparées aux épidémies modernes', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.361-375.
- KLEBS, A.C. and DROZ, E. Remèdes contre la peste: facsimilés, notes et liste bibliographique des incunables sur la peste (Paris, 1925).
- LA CAVA, A. Francesco. Igiene e sanità negli statuti di Milano del secolo XIV (codice inedito) (Collana di Studi di Storia della Medicina diretta da N. Latronico, vol.3, Milan, 1946).
- LA CAVA, A. Francesco. La peste di S. Carlo (Milan 1945).
- LANDI, Bassiano. De origine et causa pestis Patavinae anno MDLV (Venice, 1555).

- LANE, Frederick C. Venetian ships and shipbuilders of the Renaissance (Baltimore, 1934).
- LANE, Frederick C. Venice; a maritime republic (Baltimore, 1973).
- LATRONICO, Nicola. 'Il ciarlatanismo medico al tribunale di sanità dello stato di Milano', L'Ospedale Maggiore, anno 29, 1941, pp.388-393.
- LATRONICO, Nicola. 'La medicina e l'igiene nei libri e nei documenti del Magistrato di Sanità dello Stato di Milano', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, series 2, anno 4, 1938, pp.273-292.
- LATRONICO, Nicola. 'Leggi, gride e usanze sanitarie nello stato di Milano durante la dominazione straniera', Atti e Memorie dell'Accademia di Storia dell'Arte Sanitaria, series 2, anno 6, 1940, pp.28-45.
- LATRONICO, Nicola. 'Leonardo Fioravanti bolognese era un ciarlatano?', Castalia, vol.31, 1965, pp.162-7.
- LATRONICO, Nicola. 'Una disavventura milanese di Leonardo Fioravanti', L'Ospedale Maggiore, anno 29, 1941, pp.481-2.
- LAVEN, P.J. Daniele Barbaro, Patriarch elect of Aquileia, with special reference to his circle of scholars and to his literary achievement, Ph.D thesis, London University, 1957.
- LEGGI e memorie venete sulla prostituzione fino alla caduta della repubblica (Venice, 1870-72).
- LEMBREZ, J. 'L'évolution de la politique sanitaire dans le port de Marseille', Revue de Médecine Navale, vol.10, 1955, pp.29-38.
- LIND, L.R. ed. Studies in pre-Vesalian anatomy: biography, translations, documents (Philadelphia, 1975).
- LOCAL POPULATION STUDIES. The plague reconsidered: a new look at its origins and effects in sixteenth and seventeenth century England (Matlock, 1977).
- LOGAN, Oliver. Culture and society in Venice 1470-1790 (London, 1972).
- LOGAN, Oliver. Studies in the religious life of Venice in the sixteenth and early seventeenth centuries: the Venetian clergy and religious orders 1520-1630, Ph.D thesis, Cambridge University, 1967.
- LOWRY, Martin J.C. The Church and Venetian political change in the late cinquecento, Ph.D thesis, Warwick University, 1970-1.
- LUMINA, Mutio. La liberazione di Vinegia (Venice, 1577).
- MacARTHUR, W.P. 'The occurrence of the rat in early Europe', Transactions of the Royal Society of Tropical Medicine and Hygiene, vol.51, 1957, pp.91-92.
- McNEILL, William H. Plagues and peoples (Oxford, 1977).
- MAGENTA, Carlo. I Visconti e gli Sforza nel Castello di Pavia (2 vols., Milan, 1883).
- MAGNY, Gabriel. Rats et peste (Paris, 1907).
- MALIPIERO, Domenico. 'Annali veneti dall'anno 1457 al 1500', Archivio Storico Italiano, vol.7, 1843-44, pp.589-720.
- MALLETT, Michael. 'Pisa and Florence in the fifteenth century' in Nicolai RUBINSTEIN, ed., Florentine Studies (London, 1968), pp.403-441.

- MANTESE, Giovanni. Memorie storiche della chiesa vicentina (vol.3, parts 1-2, Vicenza, 1958-64).
- MARANINI, Giuseppe. La costituzione di Venezia (2 vols., Venice, 1927-31; reprinted Florence, 1974).
- MASSA, Niccolò. 'De essentia, causis et cura pestilentiae Venetiis grassantis anno 1556', Epistolae XXXV and XXXVI in his Epistolarum medicinalium tomus primus (Venice, 1558).
- MASSA, Niccolò. Epistolarum medicinalium tomus primus (Venice, 1558).
- MASSA, Niccolò. Liber de febre pestilentiali ac de pestichis (Venice, 1556).
- MASSA, Niccolò. Ragionamento sopra le infermità che vengono dall'aere pestilentielle del presente anno MDLV (Venice, 1556).
- MASSARIA, Alessandro. De peste libro duo (Venice, 1579).
- MAZZINI, Giuseppe. Vita e opera di Maestro Pietro da Tossignano (Rome, 1926).
- MENECHINI, Gino. La farmacia attraverso i secoli e gli speciali di Venezia e Padova (Padua, 1946).
- MERCURIALE, Girolamo. Censura de Hippocratis operibus (Venice, 1583).
- MERCURIALE, Girolamo. De pestilentia, lectiones habitae Patavii MDLXXVII mense Ianuarii in quibus de peste in universum, praesertim vero de Veneta et Patavina...tractatur (Venice, 1577).
- MICHELONI, Placido. 'Le misure di difesa sanitaria adottate dal Governo Pontificio al tempo della peste di S. Carlo', Humana Studia, 1950, fasc.2-3, pp.96-118.
- MINGHETTI, Renato. 'Un breve apostolico di Urbano VIII del 1630 per l'istituzione della Congregazione di Sanità', Atti della IV Biennale della Marca per la Storia della Medicina, 1961, pp.43-57.
- MOLLARET, Henri and BROSSOLLET, Jacqueline. La peste, source méconnue d'inspiration artistique (Antwerp, 1965).
- MOLS, Roger. Introduction à la démographie historique des villes d'Europe du XIVE au XVIIIe siècle (3 vols., Louvain, 1954-6).
- MOROSINI, Andrea. Storia della repubblica veneziana scritta per pubblico decreto e condotta dall'anno MDXXI sino al MDCXV dal Senatore Andrea Morosini (5 vols., Venice, 1782-4).
- MORPURGO, Edgardo. 'Le spezierie a Padova durante la peste del 1575-1576' in SOCIETÀ ITALIANA DI STORIA DELLE SCIENZE MEDICHE E NATURALI, Atti del III Congresso Nazionale (Venice, 1925), pp. 47-51.
- MORPURGO, Edgardo. 'Lo Studio di Padova, le epidemie e i contagi durante il governo della repubblica veneta', Memorie e Documenti per la Storia della Università di Padova, vol.1, 1922, pp.105-240.
- MORYSON, Fynes. An itinerary. (4 vols., Glasgow, 1907).
- MOTTA, Emilio. 'Morti in Milano dal 1452 al 1552', Archivio Storico Lombardo, series 2, vol.8, anno 18, 1891, pp.241-286.
- MOUSNIER, Roland. 'Le trafic des offices à Venise', Revue Historique de Droit Français et Étranger, vol.30, 1952, pp.552-565.

- MUELLER, Reinhold. The Procuratori di S. Marco and the Venetian credit market, Ph.D thesis, Johns Hopkins University, 1969.
- MURATORI, L.A. ed. Rerum Italicarum Scriptores (25 vols., Milan, 1723-51).
- MUSSIS, Johannes de. 'Chronicon Placentinum' in L.A. MURATORI, ed., Rerum Italicarum Scriptores, vol.16 (Milan, 1730).
- NANI-MOCENIGO, Filippo ed. Capitolare dei Signori di Notte (Venice, 1877).
- NARDI, Bruno. 'La Scuola di Rialto e l'umanesimo veneziano' in Vittore BRANCA, ed., Umanesimo europeo e umanesimo veneziano (Venice, 1963), pp.93-139.
- NARDI, Bruno. 'Letteratura e cultura veneziana del quattrocento', La civiltà veneziana del quattrocento (Florence, 1957).
- NASALLI-ROCCA, Emilio. 'Gli ospedali italiani di S. Lazzaro o dei lebbrosi', Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, kanonische Abteilung, vol.27, 1938, pp.262-298.
- NAVAGERO, Andrea. 'Storia veneziana' in L.A. MURATORI, ed., Rerum Italicarum Scriptores, vol.23 (Milan, 1733).
- NEWETT, M. Margaret. 'The sumptuary laws of Venice in the fourteenth and fifteenth centuries' in T.F. TOUT and James TAIT, eds., Historical essays by members of the Owens College, Manchester (London, 1902), pp.245-277.
- NUNZIATURE di Venezia, vol.8, ed. Aldo STELLA (Rome, 1963); vol.9, ed. Aldo STELLA (Rome, 1972); vol.11, ed. Adriana BUFFARDI (Rome, 1972).
- O'MALLEY, Charles D. Andreas Vesalius of Brussels 1514-1564 (Los Angeles, 1964).
- O'MALLEY, Charles D. 'Niccolò Massa', Physis, anno 11, 1969, pp.458-468.
- ORIGO, Iris. The world of San Bernardino (London, 1963).
- ORLANDINI, Giovanni. 'Il veneto magistrato alle acque', Ateneo Veneto, anno 29, 1906, pp.1-99.
- PACI, Renzo. La "Scala" di Spalato e il commercio veneziano nei Balcani fra cinque e seicento (Deputazione di Storia Patria per le Venezie, Miscellanea di Studi e Memorie, vol.14, Venice, 1971).
- PAGEL, Walter. Paracelsus: an introduction to philosophical medicine in the era of the Renaissance (Basle, 1958).
- PAMPALONI, Guido. Firenze al tempo di Dante: documenti sull'urbanistica fiorentina (Rome, 1973).
- PANEBIANCO, Domenico. 'Appunti di storia sanitaria lombarda', Archivio Storico Lombardo, 9th series, vol.8, 1969, pp.330-334.
- PAOLETTI, Italo. Gerolamo Mercuriale e il suo tempo (Lanciano, 1963).
- PAPADOPOLI, Nicolo. Historia Gymnasii Patavini (Venice, 1726).
- PARUTA, Paolo. Della historia venetiana. Parte secunda (Venice, 1605).
- PASINI, Ludovico. De peste patavina anno 1555 (Padua, 1556).
- PELLEGRINI, Francesco. Fracastoro (Trieste, 1948).
- PELLEGRINI, Francesco. 'Il lazzeretto di Verona', Studi Storici Veronesi, vol.2, 1949-50, pp.143-191.

- PESCE, Giovanni. 'Spunti di legislazione igienico sanitaria negli statuti genovesi dei padri del comune', Giornale Storico e Letterario della Liguria, anno 17, 1941, pp.19-25.
- PILOT, Antonio. 'Di alcuni versi inediti sulla peste del 1575', Ateneo Veneto, anno 26, 1903, pp.350-356.
- 'PLAGUE plots of Geneva', British Medical Journal, 1907, part 2, pp.99-100.
- POGGI, Giovanni. 'Rocco di Montpellier: un infermiere-malato a Piacenza nel secolo XIV', Collana di 'Pagine di Storia della Medicina', Miscellanea 20, 1968.
- POLLITZER, R. La peste (Geneva, 1954).
- PONA, Francesco. Il gran contagio di Verona nel milleseicento e trenta (Verona, 1631, reprinted 1972).
- PORTENARI, Angelo. Della felicità di Padova, libri nove (Padua, 1623).
- PORTMANN, Marie Louise. 'Der venezianer Arzt Girolamo Donzellini (1527-1587) und seine Beziehungen zu Basler Gelehrten', Gesnerus, vol.30, 1973, pp.1-6.
- PREDELLI, R. ed. I libri commemoriali della repubblica di Venezia (Deputazione Veneta di Storia Patria, Monumenti Storici, serie prima, Documenti, 8 vols., Venice, 1876-1914).
- PREDICANDO il glorioso S. Bernardino da Siena in Padova.... (broadsheet, Rome, 1691).
- PROVISIONI et capitoli circa il medicar, componer medicamenti, et altro spettante alla medicina. Terminati per l'Illustriss. Sig. Proveditori alla Sanità, con altri Aggiunti Giudici delegati dall'Ecc. Consiglio di Pregadi sotto li 9 Dicembre 1608 (Venice, 1619).
- PULLAN, Brian. A history of early Renaissance Italy from the mid thirteenth to the mid fifteenth century (London, 1973).
- PULLAN, Brian ed. Crisis and change in the Venetian economy in the sixteenth and seventeenth centuries (London, 1968).
- PULLAN, Brian. Rich and poor in Renaissance Venice (Oxford, 1971).
- PULLAN, Brian. 'The famine in Venice and the new poor law 1527-1529', Bollettino dell'Istituto di Storia della Società e dello Stato Veneziano, vols.5-6, 1963-4, pp.141-202.
- RACCOLTA di avvertimenti et raccordi per conoscer la peste, per curarsi e preservarsi e per purgar robbe e case infette, presentata al Magistrato della Sanità...e di ordine di quello mandata alla stampa (Venice, 1630).
- RAIMONDO, Annibale. Discorso nel qual chiaramente si conosce la viva et vera cagione che ha generato le fiere infermità che tanto hanno molestato l'anno 1575, et tanto il 76 acerbamente molestano il popolo de l'invitissima città di Venetia (Padua, 1576).
- RANDALL, John Herman Jr. 'The development of scientific method in the School of Padua', Journal of the History of Ideas, vol.1, 1940, pp.177-206.
- RANDALL, John Herman Jr. The School of Padua and the emergence of modern science (Padua, 1961).

- RAYBAUD, Antoine. 'Les grandes étapes de la politique d'hospitalisation antiépidémique à Marseille', Histoire de la Médecine, vol.4, 1954, no.1, pp.27-62.
- REAU, Louis. Iconographie de l'art chrétien (3 vols., Paris, 1955-59).
- REBESCO, Antonio. L'Ufficio di Sanità di Verona dalle origini fino ai primi decenni del secolo XVIII, Tesi di Laurea, University of Padua, 1939.
- RELAZIONI dei Rettori Veneti in Terraferma, ed. by ISTITUTO DI STORIA ECONOMICA DELL'UNIVERSITÀ DI TRIESTE,
 vol.1. La Patria del Friuli
 vol.2. Podestaria e Capitanato di Belluno e Feltre
 vol.3. Podestaria e Capitanato di Treviso
 vol.4. Podestaria e Capitanato di Padova
 vol.5. Provveditorato di Cividale del Friuli; Provveditorato di Marano
 (Milan, 1973-76, in progress).
- RITCHIE, John. 'Quarantine for plague in Scotland during the sixteenth and seventeenth centuries', Edinburgh Medical Journal, vol.55, 1948, pp.691-701.
- RITCHIE, John. 'The rule of the pestilence', Medical History, vol.2, 1958, pp.151-153.
- RIZZI, Guido. 'Cerusici, cavadenti e barbieri nel mondo veneto medievale', Rivista Italiana di Stomatologia, vol.11, 1956, pp.483-491.
- RODENWALDT, Ernst. 'Die Entseuchungsverfahren des venezianischen Gesundheitsdienstes im 16 Jahrhundert', Archiv für Geschichte der Medizin und der Naturwissenschaften, vol.38, 1954, pp.1-20.
- RODENWALDT, Ernst. 'Die Gesundheitgesetzgebung des Magistrato della Sanità Venedigs 1486-1550', Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse, Jahrgang 1956, 1 Abhandlung, pp.1-22.
- RODENWALDT, Ernst. 'Pest in Venedig 1575-1577. Ein Beitrag zur Frage der Infektkette bei den Pestepidemien West-Europas', Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse, Jahrgang 1952, 2 Abhandlung, pp.1-263.
- RODENWALDT, Ernst. 'Untersuchungen über die Biologie des venezianischen Adels', Homo-Internationale Zeitschrift für die vergleichende Forschung am Menschen, vol.8, 1957, pp.1-27.
- ROSE, P.L. 'The Accademia Venetiana, science and culture in Renaissance Venice', Studi Veneziani, vol.11, 1969, pp.191-242.
- ROUCAUD, Joseph. La peste à Toulouse (Toulouse, 1918).
- SALUTATI, Coluccio. Epistolario (5 vols., Rome, 1891-1911).
- SANCASSANI, Giulio. 'Il lazzaretto di Verona è del Sanmicheli?', Atti dell'Accademia di Agricoltura, Scienze e Lettere di Verona, series 6, vol.10, 1958-9, pp.365-377.
- SANCASSANI, Giulio. 'Le lettere dell'archivio della sanità di Verona', Notizie degli Archivi di Stato, anno 8, 1948, pp.182-185.
- SANSOVINO, Francesco. Venetia città nobilissima et singolare descritta in XIII libri (Venice, 1581).
- SANTORO, Caterina. Gli uffici del comune di Milano e del Dominio Visconteo-Sforzesco 1216-1513 (Milan, 1968).

- SANTORO, Caterina ed. I registri dell'Ufficio di Provvisione e dell'Ufficio dei Sindaci sotto la dominazione Viscontea (Milan, 1929).
- SANUDO, Marin. Cronachetta (Venice, 1880).
- SANUDO, Marin. I Diarii (58 vols., Venice, 1879-1903).
- SANUDO, Marin. 'Vite de' Duchi di Venezia' in L.A. MURATORI, ed., Rerum Italicarum Scriptores, vol.22 (Milan, 1733).
- SAVONAROLA, Michele. I trattati in volgare della peste e dell'acqua ardente, ed. Luigi BELLONI (Milan, 1953).
- SCHIAVUZZI, Bernardo. 'Le epidemie di peste bubbonica in Istria', Atti e Memorie della Società Istriana di Archeologia e Storia Patria, vol.4, 1889, pp.423-447.
- SCHIAVUZZI, Bernardo. 'La malaria in Istria: ricerche sulle cause che l'hanno prodotta e che la mantengono', Atti e Memorie della Società Istriana di Archeologia e Storia Patria, vol.5, 1889, pp.319-472.
- SCHUPBACH, William M. 'A Venetian 'plague miracle' in 1464 and 1576', Medical History, vol.20, no.3, 1976, pp.312-316.
- SENAREGA, Bartholomeus. 'De rebus Genuensibus' in L.A. MURATORI, ed., Rerum Italicarum Scriptores, vol.24 (Milan, 1738).
- SETTALA, Ludovico. De peste et pestiferis affectionibus (Milan, 1622).
- SHREWSBURY, J.F.D. A history of bubonic plague in the British Isles (Cambridge, 1970).
- SIMILI, Alessandro. Gerolamo Mercuriale lettore e medico a Bologna (Part 1 published in Rivista di Storia delle Scienze Mediche e Naturali, vol.23, 1941, pp.161-196; Part 2 published as a monograph, Bologna, 1966).
- SINGER, Charles and Dorothea. The development of the doctrine of contagium vivum, 1500-1750 (London, 1913).
- SINGER, Charles and Dorothea. 'The scientific position of Girolamo Fracastoro', Annals of Medical History, vol.1, 1917, pp.1-34.
- SIRAISSI, Nancy G. Arts and sciences in Padua. The Studium of Padua before 1350 (Toronto, 1973).
- SORAVIA, Giambattista. Le chiese di Venezia (3 vols., Venice, 1822-24).
- SPADA, Nicolò. 'Leggi veneziane sulle industrie chimiche a tutela della salute pubblica dal secolo XIII al XVIII', Archivio Veneto, series 5, vol.7, 1930, pp.126-156.
- STABILE, Francesco. Brevis quaedam defensio contra nonnullos asserentes pudendorum inflammationem non esse pestis signum (Venice, 1576).
- STATUTA almae universitatis dominorum artistarum et medicorum Patavini gymnasii (Venice, 1589).
- STEFANUTTI, Ugo. Documentazioni cronologiche per la storia della medicina, chirurgia e farmacia in Venezia dal 1258 al 1332 (Venice, 1961).
- STEFANUTTI, Ugo. Gli ospedali di Venezia nella storia e nell'arte (Reggio Emilia, 1957).

- STEFANUTTI, Ugo. 'L'opera sifiloiatrica di Nicolò Massa' in his Fatti e personaggi di storia della medicina (Venice, 1959), pp. 109-116.
- STEFANUTTI, Ugo. Venezia nella storia della medicina (Milan, 1956).
- STELLA, Aldo. Dall'Anabattismo al Socinianismo nel cinquecento veneto (Padua, 1967).
- STICKER, Georg. Abhandlungen aus der Seuchengeschichte und Seuchenlehre, vol.1, Die Pest (Giessen, 1908).
- STORIA di Brescia ed. by FONDAZIONE G. TRECCANI DEGLI ALFIERI (5 vols., Brescia, 1963-4).
- STORIA di Milano ed. by FONDAZIONE G. TRECCANI DEGLI ALFIERI (16 vols., Milan, 1953-62).
- SUDHOFF, Karl. 'Pestschriften aus den ersten 150 Jahren nach der Epidemie des "Schwarzen Todes" 1348: IV, Italienisches des 14 Jahrhunderts; V, Aus Italien (Fortsetzung) und Wien', Archiv für Geschichte der Medizin, vol.5, 1912, pp.332-396; vol.6, 1913, pp. 313-379.
- SÜHEYL, A. 'Sur l'histoire de la peste en Turquie', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.479-483.
- SUSIO, Giovanni Battista. Libro del conoscere la pestilenza dove si mostra che in Mantova non è stato male di simil sorte l'anno MDLXXV ne s'è ragionevolmente potuto predire che vi debba esser la seguente primavera (Mantua, 1576).
- SUSIO, Giovanni Battista. Libri tres de venis e directo secandis in quibus Mathaei Curtii...sententia defenditur (Cremona, 1559).
- TANFANI, G. 'La legislazione sanitaria nella repubblica veneta durante la peste del 1630-31', 9th International Congress for the History of Medicine, Bucharest, 1932, pp.483-494.
- TEMKIN, Owsei. Galenism. The rise and decline of a medical philosophy (London, 1973).
- TERGOLINA-GISLANZONI-BRASCO, Umberto. 'Francesco Calzolari, speciale veronese', Bollettino dell'Istituto Storico Italiano dell'Arte Sanitaria, vol.14, 1934, pp.293-310.
- THIRIET, Freddy. Délibérations des assemblées vénitiennes concernant la Roumanie (vols.1-2, Paris, 1966-71).
- THIRIET, Freddy. 'Les chroniques vénitiennes de la Marcienne', Ecole Française de Rome. Mélanges d'Archéologie et d'Histoire, vol.66, 1954, pp.241-292.
- THIRIET, Freddy. Régestes des délibérations du Sénat de Venise concernant la Roumanie (vols.1-3, Paris, 1958-61).
- THOMPSON, John D. and GOLDIN, Grace. The hospital: a social and architectural history (Yale, 1975).
- THORNDIKE, Lynn. A history of magic and experimental science (6 vols., New York, 1923-41).
- TOMASO filologo da Ravenna (il Rangone). Alla Serenissima Sig. Loredana Mocenica Duchessa di Venetia consiglio del magnifico Cavaliere et eccellentissimo fisico M. Tomaso Filologo Ravenna come la Duchessa e i venetiani possano vivere sempre sani (Venice, 1570).

- TOMITANO, Bernardino. Consiglio sopra la peste di Vinetia l'anno MDLVI (Padua, 1556).
- [TOMITANO, Bernardino]. Copia di una lettera dell'eccellente M.B.T. per conservatione della vita humana in questi tempi calamitosi di peste (Venice, 1576).
- TORFS, Louis. Fastes des calamités publiques survenues dans les Pays-Bas (2 vols., Paris, 1859).
- TRINCAVELLA, Vettor. Omnia opera (3 vols., Venice, 1599).
- TRINCAVELLA, Vettor. 'Rudimentum de vena pleuriticis et aliis qui viscerum inflammationibus tenentur secunda' in Omnia opera (3 vols., Venice, 1599), vol.2, pp.449-481.
- VALENTINI, Giuseppe ed. Acta Albaniae veneta saeculorum XIV et XV (in progress, Panormi, 1967-).
- VENTURA, Angelo. Nobiltà e popolo nella società veneta del '400 e '500 (Bari, 1964).
- VERGERIO, Pier Paolo. Epistolario (a cura di Leonardo Smith) (Rome, 1934).
- VESALIUS, Andreas. De humani corporis fabrica (Basle, 1543).
- VESALIUS, Andreas. The bloodletting letter of 1539, an annotated translation by John B. de C.M. Saunders and Charles Donald O'Malley (New York, 1947).
- VILLALBA, Joaquin de. Epidemiologia Española (2 vols., Madrid, 1802).
- VILLANI, Matteo. Cronica (Milan, 1834).
- VINCENT, Bernard. 'Les pestes dans le royaume de Grenade aux XVIe e XVIIe siècles', Annales, vol.24, 1969, pp.1511-1513.
- VISCONTI, Alessandro. 'Il Magistrato di Sanità nello stato di Lombardia', Archivio Storico Lombardo, new series, vol.15, 1911, pp.263-284.
- VITOLIO, Antonio E. Gli statuti degli speciali italiani con particolare riguardo alle leggi della repubblica veneta (Pisa, 1958).
- WATSON, Gilbert. Theriac and mithridatum (London, 1966).
- WEINER, Gordon M. 'The demographic effects of the Venetian plagues of 1575-77 and 1630-31', Genus, vol.26, 1970, pp.41-57.
- WIGHTMAN, W.P.D. Science and the Renaissance (2 vols., Edinburgh, 1962).
- WILKINS, Ernest Hatch. Life of Petrarch (Chicago, 1961).
- WILSON, F.P. The plague in Shakespeare's London (Oxford, 1927).
- WINSLOW, Charles-Edward Amory. The conquest of epidemic disease (Princeton, 1943).
- WU LIEN-TEH. A treatise on pneumonic plague (Geneva, 1926).
- ZANALDI, Luciano. Notizie preliminari per una storia documentata dell'ospedale civile di Venezia (Venice, 1950).
- ZANAZZO, Giovanni Battista. 'Lo statuto dei medici di Vicenza nell'anno 1555', Archivio Veneto, series 5, vol.72, 1963, pp.29-49.
- ZIEGLER, Philip. The Black Death (London, 1969).
- ZINSSER, Hans. Rats, lice and history (London, 1935).

