

COMMENTS ON THE HISTORY OF LEPROSY.

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For a number of years the writer has been collecting material on the history of leprosy. No comprehensive account of this subject has been traced, although there are numerous excellent papers on individual countries and periods. The writer has, however, been struck by the lack of sound evidence to support statements sometimes made on this subject, even by well known writers. These statements are apparently copied without verification from earlier to later editions and from older to newer books.

It was in the late eighteenth century and in the nineteenth century that the history of leprosy aroused considerable interest, and several publications on the subject appeared. The first history, and in many ways the best, appears to have been that of Hensler (1790), and later historians included Shapter, Simpson, Virchow, Kaposi, Munro, Creighton, Newman and others. Some statements made in the earlier books have since been shown to be untrue, but they are still quoted from time to time.

Most writers have expressed the view that in some countries in ancient times and in mediaeval Europe, leprosy was common, but early in the nineteenth century Shapter, and late in the nineteenth century Creighton, and to some extent Newman, expressed the view that the prevalence of leprosy in Europe in the middle ages might have been greatly exaggerated. A more recent writer in the same vein has been McArthur who used the following words regarding the published statements regarding the history of leprosy, 'Oh, history, what crimes have been committed in thy name,'

Actually the present writer thinks that this critical attitude is sometimes carried too far, and that the evidence indicates that leprosy in the past was both common and severe in Europe as well as Asia, but there is no doubt that there has been written much bad history of leprosy. In a new (1942) edition of a standard American book on tropical medicine, the chapter on leprosy includes a historical section in which some of the old mistakes have been repeated.

In the present article no attempt is made to discuss fully the history of leprosy, for it is a vast subject. It is proposed here to discuss a few of the commonest misconceptions about the ancient

history of leprosy in the world as a whole, to make some general comments on the subject, and to adopt the principle that in ancient literature the use of a word which might have been used at that time for leprosy is of no value as evidence unless supported by clinical details definitely suggesting if not clearly indicating leprosy.

Leprosy in ancient India.

It has been stated by many writers that leprosy is mentioned in the Vedic writings of India. The Rig Veda and the Athava Veda have been cited. Rogers and Muir state that leprosy is mentioned as *kustha* in the Vedas of about 1400 B.C. although in the recent edition they say that it is not sure that *kustha* meant leprosy. 'Kustha' (or more correctly *Kushtha*) in ancient Hindu medicine meant skin diseases in general, one of which was leprosy. In the Vedic writings the word *kushtha* appears in a very few places, and it is not certain that leprosy is meant. There is, however, no doubt that leprosy was well known and described in ancient India. Many writers have cited the *Susruth Samhita* as mentioning leprosy and Dharmendra has recently quoted and translated these passages from the *Susruth Samhita* which have a bearing on this subject. The present recension of the *Susruth Samhita* was probably written about 600 B.C. but it embodies traditional knowledge from still more ancient times. *Susruth Samhita* describes treatment of leprosy with chaulmoogra oil.

This is actually the most authentic ancient reference which I have been able to trace, and it is also in many ways the most accurate and complete of the old descriptions. Under different heads it describes most of the signs and symptoms of leprosy even in its milder forms with which we are familiar to-day. This fact suggests the possibility that in ancient times, as in the present times, leprosy in its milder forms may have been more common in India than in some other countries.

It has sometimes been stated by writers in India that the Laws of Manu contain definite instructions about the prophylaxis of leprosy. The Laws of Manu (the *Manava Dharma Sastra*) have been attributed by various European scholars to various periods between 500 and 1300 B.C. Sir William Jones placed the writing between 1200 and 500 B.C. Max Muller was of opinion that in its present form it is of relatively recent date but that its origin is much more ancient. In India it is popularly regarded as being of extreme antiquity.

Possible references to leprosy are made in four places. The Sanskrit word *shitri* almost certainly meant leucoderma and *kushtha*

meant skin diseases in general, prominent among which was possibly or probably leprosy. In Book III, sloka 161, a man suffering from *shitri* is included among the list of those who should not be present at religious ceremonies. In the same book, sloka 177, it is stated that the presence of a man who suffers from *shitri* causes the giver of the feast to lose the 'merit' acquired by entertaining one hundred suitable persons (Brahmans, etc.). In Book VIII, sloka 205, it is stated that if a man giving a girl in marriage has openly declared her blemishes, that she is insane, afflicted with *kushtha*, or not a virgin, that man is not liable to punishment. In Book III, sloka 7, states that a 'twice-born' in choosing a wife should carefully avoid families whose members are subject, among other things, to *shitri* or *kushtha*. These are the only references to leprosy detected in the translation of G. Buhler. A Sanskrit scholar has verified for me the accuracy of the above statement.

These passages of the Laws of Manu are therefore not regarded as conclusive proof of the prevalence of leprosy, but when studied in relation to the Hindu medical writings of a similar period, they afford strong evidence that leprosy was common. There is, however, no evidence of the truth of the assertion recently made in a medical journal in India that in the Laws of Manu the prophylaxis of leprosy is well described.

Leprosy in ancient China and Japan.

In the literature of ancient China there is little clear evidence of the existence of leprosy. A study of the history of Chinese medicine by Wong and Wu leads to the following conclusions:—

The Chinese medical classic the *Nei Ching*, attributed by Wong and Wu to the period of 220 B.C. but attributed by tradition to Huang Ti (2700 to 2600 B.C.), contains four possible references to leprosy under the two names *Ta feng* and *Li feng*. None of the four references clearly indicates leprosy although numbness is mentioned in one of them. There is also an ancient tradition that one of Confucius' disciples about 600 B.C. died of leprosy, but here again there can be no certainty. In the third century A.D. there is description of a disease with numbness which is suggestive of leprosy, but it is not until the seventh century A.D. that fairly definite clinical descriptions of leprosy appeared, and it is stated that the disease was common, one record mentioning 600 cases treated and one in ten cured. During this and the succeeding centuries ostracism of lepers was practised, and in the fifteenth century is made the first mention of treatment of leprosy by chaulmoogra oil at least 2,000 years after it was used in India. The treatments mentioned in ancient Chinese medical writings for

leprosy include purgatives, diaphoretics and diuretics, arsenic, and snake and scorpion venom.

In Japan according to the Japanese writers Tashiro, Kitasato, and Mitsuda, leprosy is described in the literature of the eighth and ninth centuries, A.D. Japanese medicine seems to have been much influenced, if not dominated, by Chinese medicine. It appears that there is little foundation for the statement made in the text-book of tropical medicine mentioned above, that in Japan it (leprosy) seems to have been recorded first in 1250 B.C.'. This is probably a copyist's error. Newman gives the date 1250 A.D. for Japan.

Leprosy in Biblical writing.

The whole question of leprosy in Biblical writings has been discussed by many authors and the matter can be discussed only briefly here. Writers of the middle ages and later mostly assumed that the *zaraath* of the Old Testament and *lepra* of the New Testament were leprosy as it was known in the middle ages and as it is known to-day. Some recent writers have however challenged this view and there has been much discussion on this point. Lie discusses the matter well. Among the many interesting points one is that 'Zaraath' even if it included leprosy could only have covered the 'maculo-anaesthetic' variety of leprosy and that nowhere in the Bible is there any mention of the 'nodular' form of the disease which looms so large in the ancient literature of leprosy.

Lie concludes that a study of the Bible does not prove that leprosy existed among the ancient Hebrews but since the Jews spent long in Egypt 'which certainly must have been infected with leprosy' he finds it difficult to believe that leprosy was not found among the Jews.

To this brief discussion of the subject about which there has been much controversy, I will add only a few remarks. As we see later there is no conclusive proof of the presence of leprosy in ancient Egypt although it was possibly and even probably prevalent. According to various authors Manetho is quoted by Josephus (*De Antiquitate Judaeorum*) as recording 90,000 cases of leprosy among the Jews, an incredibly high number for true leprosy.

Finally, nowhere in the Bible is there any clinical description corresponding to leprosy as we know it to-day, no mention of numbness and loss of skin sensation, or of the manifestations of leprosy of the 'nodular' type such as are found in the ancient literature of India and of some other countries. The 1942 edition

of the standard textbook on tropical diseases states ' In Leviticus 13 and 14, truly remarkable passages regarding the diagnosis and prevention of leprosy are to be found,' The passages are remarkable but they do not describe leprosy. They describe skin diseases, and from the administrative point of view divide the patients into three classes: those to be isolated indefinitely; those to be isolated for seven days at a time; and those not needing isolation. If our leprosy appears at all, it is in the last group! In Leviticus 13 the chief criterion for a diagnosis of leprosy is whiteness of patches of the skin and more particularly of the hair on the patches. Such patients are to be isolated indefinitely. Now leprosy patches are not white, and, most important, the hair is not white. This whitening of the hair in white patches of the skin is very suggestive and almost diagnostic of leucoderma. Moreover, the patches of leprosy are only partly depigmented; but verse 38 says that if a person has patches which are dull white, he is clean, that is, not suffering from leprosy, and need not be isolated.

It appears therefore that the ' leprosy ' of Leviticus 13 was not our leprosy, and was much more probably leucoderma.

Leprosy in ancient Egypt.

In the literature of the last seventy years there are numerous references to leprosy as being mentioned and described in ancient Egyptian writings. Munro writing in 1876 mentions an Egyptian record of the time of Ramesis II about 1350 B.C. describing the occurrence of leprosy among the Negro slaves from the Sudan and Dafur. This record is also mentioned by Rogers and Muir although they state that its authenticity is disputed. Newman writing in 1895 goes even further back and states without any reference that ' it existed in Egypt in the reign of Husapti at least 3000 years B.C.'. The recent text-book above mentioned gives the date as 4600 B.C. It has repeatedly been said that leprosy (like many other diseases!) is described under the term *Uchedu* in the Ebers papyrus written about 1550 B.C. Sauton writing in 1901 recorded the existence in the Cairo Museum of stone statues belonging to the early dynasties of the Pharaohs, which show typical leprosy mutilations, Engel Bey reported in 1890 that the Berlin papyrus contained a treatise on leprosy of a very early period, that is of about the time of the fifth Pharaoh. This is a selection of statements that have been made by different writers at different times. Others could be quoted.

A critical examination of these records, however, makes it exceedingly doubtful whether a single one is authentic. Engel Bey,

who worked for many years in Egypt in close touch with Egyptologists, wrote in 1903 correcting his earlier statements about the Berlin papyrus mentioning leprosy, and said that no particulars of the symptoms of the disease are given. He reported a fruitless search to discover the statues showing leprosy mutilations reported by Sauton to be in the Cairo Museum. He did not produce any definite record of leprosy in ancient Egyptian writings or monuments, although he stated, on what grounds it is not clear, that leprosy existed in Egypt long before the Christian era..

Ebbel has made a study of the subject including particularly the Ebers papyrus. He finds that the disease described under the names of *Uchedu* does not correspond with leprosy, and he thinks that the translation of this word as leprosy is wrong. He states however that in another part of the same papyrus, leprosy is described under the name 'Chons' swelling.' The passage he cites indicates that this is mainly an affection of limbs. The present writer finds that the identification of leprosy with either *Uchedu* or 'Chons' swelling' is unsatisfactory, the distinguishing features of leprosy not even being mentioned.

Unless more recent work has produced new evidence, it appears that we have no definite proof that leprosy was common or even known in ancient Egypt. We have to come to far later times for the first definite reference to leprosy in Egypt.

Leprosy in royal persons in Europe in the Middle Ages.

It is frequently stated that Robert the Bruce suffered from and died of leprosy, but it is by no means certain that he did. Both Simpson and McArthur studied the historical documents but arrived at opposite conclusions. During their lives or shortly afterwards, reports were made that Henry III and Henry IV of England suffered from leprosy, but, as McArthur has pointed out, statements of this kind made by personal enemies are of no historical value. Simpson, however, rightly said that these reports at any rate clearly indicate that in the middle ages leprosy was not considered incompatible with the highest rank and wealth, and we have authentic records of leprosy in such persons.

Possibly the best authenticated case is that of King Baldwin the Fourth of Jerusalem who was related to the kings of England. Jeanselme gives interesting abstracts from historians of the period who describe in detail how Baldwin when a child developed anaesthesia of the limbs and how by the age of 23 he had become blind, his hands and feet had become crippled and mutilated and putrescent, He resigned his kingly powers and shortly afterwards died.

Leprosy in Mediaeval Europe.

Mediaeval medical writings leave no room for doubt that the leprosy of the middle ages was our leprosy of to-day.

Again and again during the last hundred years the statement has been made that the number of leper houses in Christian Europe in the middle ages was 19,000 and this statement once more appears in the latest book on tropical medicine mentioned above. This statement possibly originated from Hensler's writings in 1790 and it appears to be based on a quotation from Matthew Paris. (Matthew Paris was a chronicler who lived from 1200 to 1259 and was, according to Green, the last and the greatest of the monastic historians of England.) In 1903 Pernet stated that as early as 1819 it was pointed out by an unknown writer on leprosy in Rees' *Encyclopaedia* that the statement was based on a mistranslation of a passage in Matthew Paris' 'History of the English up to 1244.' The original Latin sentence runs as follows: 'Habent nisuper Templari in Christianitate novem millia maneriorum, Hospitalarii vero novem decim'. This sentence apparently means that the Knights Templars in Christendom held 9,000 manors and Knights Hospitallers 19,000 (the second 'millia' being understood). The word for manor seems to have been translated as leper house, with no justification. It is true that the Knights Hospitallers (or the Knights of St. Lazarus) administered many of the leper houses in Europe, and that the order existed for this purpose, but this does not justify the statement that there were 19,000 leper houses. Ehlers, however, pointed out that the number of leper houses was probably not much smaller than the number of manors, since many if not most manors would include a leper house; that in the thirteenth century 3,000 of the leper houses in Europe were under the 'commanderie magistrale' of Boigny, the headquarters of the order of Knights Hospitallers, that at the time of St. Louis there were officially recorded 1,502 leper houses in France and there were probably others also; and that even in 1693 when leprosy had practically disappeared, the order for the closure of the leper houses in France affected 1,133 establishments the income of which was thereafter devoted to other charitable purposes.

Virchow, as quoted by Rogers and Muir, recorded that there were 636 leper houses in Italy, Verdun and Maestricht. Newman gave a list of 200 leper houses in England and Wales alone, and stated that it was incomplete, as it undoubtedly was. Pooth traced records of nineteen leper houses within one small area of Eastern Germany which to-day has a population of only 150,000 and was then much less thickly populated.

The standard English book on leprosy is Rogers and Muir

who in their historical section are in general soundly sceptical, but in their last edition they appear to have adopted perhaps rather an excess of scepticism regarding the number of leper houses and the prevalence of leprosy. They state for example that the number 2,000 often quoted for leper houses in France 'has been discredited by Jeanselme' but a study of Jeanselme's big work on leprosy does not bear this out. Jeanselme himself gives a list of over 900 leper houses in France and this list makes no claim to completeness and applies only to certain parts of France.

Rogers and Muir also quote the estimate of Creighton of the extent of leprosy in England in the middle ages at its worst period: 'There might have been a leper in a village here and there, one or two in a market town, a dozen or more in a city, a score or so in a whole diocese. Thus in the records of the city of Gloucester, under the date 20 October 1273, three persons are mentioned by name—a man and two women—as being leprous and as dwelling within the town to the great hurt and prejudice of the inhabitants.

The same author Creighton in his 'History of Epidemics in Britain' adopted the attitude that while the existence of leper houses in England in the middle ages cannot be denied, it was attributable not so much to the prevalence of leprosy, as to the misguided piety of the period. He seems to have thought that the high figures often given for the number of leper houses is attributable mainly to the misguided enthusiasm of romantic historians of modern times, whom he accuses of labelling as leper house every charitable institution of doubtful nature of which they can find any record in mediaeval writings.

Creighton's statement appears to be very one-sided. It mentions only the three known lepers living in the town of Gloucester but does not mention the two leper houses outside the town which according to Bigland's *History of Gloucester* (quoted by Newman) were founded in the twelfth century under a charter. We know that the population of Gloucester at that time was only about 4,000. We know that the city of Norwich in the fourteenth century with the population of a few thousands (the generally accepted figure is about 7,500) had no less than six leper houses. We know that the diocese of Exeter at the beginning of the fourteenth century had thirty-nine leper houses, for there is still extant (Button) the will of Thomas Button, Bishop of Exeter who died in 1307 and left 200 legacies including 40 legacies to lepers lodged in 39 leper houses in the diocese; this is confirmed by the statement of the executors of this will (Boggis).

It is interesting to note that Newman's list of the 200 leper houses in England and Wales includes only one-third of these 39

leper houses in the diocese of Exeter, but that it does include five or six other leper houses which were established later in this diocese. It therefore appears that the number of leper houses in the diocese altogether totalled even more than 39, and that Newman's list of 200 leper houses for England and Wales is, for this area, very incomplete and probably for other areas also. It is therefore considered that the number of leper houses in England has not been exaggerated.

Some writers have expressed the view that not only has the number of leper houses been exaggerated but also their size and the extent to which they were actually used for cases of leprosy and that therefore ideas about the prevalence of leprosy in the middle ages in Europe are exaggerated.

As we have seen, the number of 19,000 often given for the number of leper houses in Europe in the thirteenth century is wrong and based on a mistranslation, but it also appears that the number was probably at least several thousands. There is no doubt that most of the leper houses was small but we know that some of them had accommodation for over fifty patients and, although it cannot be quoted fully here, good historical evidence exists for the belief that the leper houses were used to a considerable extent for genuine cases of leprosy. Even when they were not so used, it was often not because there were no lepers, but because the funds were being misappropriated by kings, barons, local lords and the clergy!

It has often been suggested that inaccurate diagnosis must have led to the committal to leper houses of persons who were not suffering from leprosy and this undoubtedly must have occurred. Nevertheless, a study of the mediaeval medical writings on the subject such as those of Guy de Chauliac indicates that the need for care in this matter was realised. This writer describes the unequivocal signs of leprosy which alone justify the diagnosis of leprosy and committal to a leper house, and it is interesting to note that he wrote as though a diagnosis of leprosy was usually if not always followed by such a committal. His unequivocal signs of leprosy however are such as are seen only in what we should call very advanced cases. It is obvious that if this was the criterion for a diagnosis, there must have been very many cases of leprosy outside the leper houses.

Another matter stressed by a few writers is the frequency with which other diseases such as secondary and tertiary syphilis must have been wrongly diagnosed as leprosy. At a later date this was undoubtedly true, but at the time that leprosy was at its height in Europe and most of the leper houses were being built, syphilis was

either rare or absent from western Europe. Most historians are in agreement that leprosy was at its height about the thirteenth century but that syphilis did not appear in western Europe in appreciable amount until much later.

Another factor that is often overlooked is the small size of the population of European countries particularly England at the time that leprosy was at its height. In England, for example, in the latter part of the fourteenth century the total population was probably not more than three millions. Actually the figure generally accepted by historians for the year 1377 is just over 2½ millions. This figure is from calculations based on the figures of the number of persons paying the poll tax of that year. There were in England at that time only 41 towns with more than 1,000 people, only 22 with more than 3,000, only 10 with more than 5,000, and only 3 with more than 10,000, namely London, York and Bristol with 40 thousands, 13 thousands and 12 thousands respectively. This, however, was in the period following the Black Death, which killed, it is said, one-third of the whole population of England and probably a higher proportion of the population of the towns. Nevertheless, it is certain that many towns were little more than large villages centred round a castle or an abbey. In spite of their small size, nearly all the towns had one, and some two or more leper houses, Norwich having no less than six.

There is much more which might be said on the subject. A general consideration of the available literature has led the writer to the view that the prevalence of leprosy in England and in fact in mediaeval Europe was very considerable. Nevertheless, there is no adequate historical evidence to justify the impression given by some historians such as Green that leprosy affected a large section of the population and became a scourge and not much less serious in its way than the Black Death.

In no large area of the world even under conditions most favourable to it does the incidence of leprosy to-day rise much above 5% and a much more usual incidence is about 1%. It seems that the incidence of leprosy in the middle ages in Europe was probably no higher than it is to-day in certain parts of Africa, Asia and South America and was possibly much lower, although of course any accurate estimation is out of the question.

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