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A BRIEF HISTORY OF
HANSEN'S DISEASE*

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Ten years ago Dr. Olaf Skinsnes of the University of Hawaii School of Medicine, was asked to write a chronological presentation of the history of Hansen's disease.

He stated that at first he thought that this would be a fairly simple task, but that, as he researched the literature, he discovered a situation different from that which he anticipated. He found that it was not feasible to write a comprehensive work on the subject within a realistic time period, primarily because of the massive amount of literature that would have to be reviewed. In his "Notes from the History of Leprosy"¹ he states that at the time there were some 18,000 references on the subject. During the past 10 years a large number of additional references have appeared. He

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then quoted a remark attributed to Armauer Hansen in 1901 to the effect that "there is already too much literature on leprosy."

Historical events evoke varying degrees of interest, and indeed fascinate some. To others, history may evoke little or no interest. The history of diseases can also prove quite interesting. In the case of Hansen's disease, it is evident that considerable interest does exist, most of which involves a genuine desire to learn about the disease. Certainly, many of us can learn from the past. The history of Hansen's disease can help us better to understand the disease. It can even help us better to understand specific aspects, such as its epidemiology. In studying history we can benefit from the successes of others and from their mistakes.

The past tells us that those afflicted with Hansen's disease, or thought to be, have been inhumanely treated in many parts of the world over many centuries. Even today, many people regard the disease in a different light than all other ailments. Examples of this include inaccurate and unfair descriptions of Hansen's disease in various movies, novels, and other publications, statements, and unfortunate references to leprosy and lepers which imply that the disease and those affected by it should be avoided or shunned at all costs. Other regrettable and offensive language is often applied in a different context. One example is the use of the term "moral leper." Another example is a statement made recently by a person suffering from the Acquired Immune Deficiency Syndrome (AIDS) to the effect that he was being treated as though he had leprosy.

History, both past and recent, tells us of such happenings as the burning of all personal effects of patients, and sometimes their houses; the removal of uninfected children from school; expulsion of patients from their families and society, divorce, the loss of friends, and dismissal from work. History continues to tell us about people who suffered terrible wrongs even though the disease was under excellent control and non-communicable. History tells us of such treatment received by persons whose disease was totally arrested decades earlier, and that, once a diagnosis of Hansen's disease, and especially leprosy, is made, most people carry the diagnosis with them until the day they die.

During the Middle Ages there existed such events as the "Leper Masses"—and subsequent declaration that the afflicted one was officially dead. There was the forced wearing of bells or clappers, distinctive garments, and banishment into the countryside. Worst of all, it is most probable that many persons with "leprosy" have been executed in various

parts of the world, in the past and during relatively recent years.

Other examples of inhumane treatment and, unfortunately, examples of mistreatment occurring this very day will become part of tomorrow's history. Hopefully, soon all such misguided behavior will indeed be history, not current events.

Hansen's disease is sometimes referred to as the oldest disease known to affect humans. There is no basis for such a statement. It is impossible to determine which disease came first or when or where it emerged. Legionnaire's disease is an example of an illness that historians 1,000 years hence should be able to discuss with some degree of certainty as to when and where it first emerged, but even then there could be controversy.

It is known that Hansen's disease has existed for many centuries, but it is not known where or when it first developed. It is, of course, possible that it may have developed in more than one area of the world at roughly the same time. Ancient writings from India, China, and the Middle East suggest that the disease did indeed exist in these regions during those times. This is especially true of India and China. In India, what some experts regard as a description of Hansen's disease as we know it today was mentioned as *kushtha* in the *Vedas*, written ca. 1400 B.C. However, others doubt that this work actually describes the disease.

The great Indian leprologist Dharmendra² and many others are certain that a clear account of the clinical signs and treatment of Hansen's disease is contained in the *Sushruta Samhita*, written ca. 600 B.C. In China a disciple of Confucius was said to have died from it about 500 B.C., but the references to this incident contained in the *Analects* are not convincing. The *Nei Ching*, presumably written by Huang Ti, describes signs which could well have represented Hansen's disease. He mentions loss of eyebrows, nodules, ulcerations, and numbness.¹ The date of this work is unknown, but is most often mentioned as probably being written ca. 500 B.C. An authentic description of Hansen's Disease is found in the *Complete Secret Remedies* by Hua To, a Chinese surgeon who was born about A.D. 190. He mentions skin with no sensation, white spots, red spots, ulcerations of the feet, loss of eyebrows, blindness, deformed lips, and hoarseness.¹

Turning to Greece and the Middle East, some historians speculate that the soldiers of the Persian conquerors Darius and Xerxes introduced the disease into Greece during the fourth century B.C. and that the troops of

Alexander the Great may have brought the disease from India to Egypt about a century later. Some scholars believe that works of Aristotle in ca. 345 B.C. and those of Hippocrates, who preceded him, described the disease, but the consensus of Hansen's disease experts is that probably neither man had knowledge of the disease.

Translations of the Bible from Hebrew to Greek, ca. 300 B.C., have resulted in much confusion and are responsible for much of the stigma attached to leprosy that still exists today. Biblical accounts of leprosy in Leviticus employed the Hebrew word *tsaraath*, which was translated into Greek as *lepra*, which word then evolved into leprosy. It is widely conceded, however, that Biblical descriptions of leprosy do not resemble the disease as we know it today.³

The above accounts, as well as many others not mentioned here, do not tell us where Hansen's disease was first described with certainty. Probably this will never be known. A frequently quoted reference relative to ancient times is the description of a clay jar by Yoeli,⁴ which dates back to 1411-1314 B.C., thought to be the period of the exodus. The molding on the jar suggests the leonine faces of Hansen's disease. If indeed it was, it is probable that the disease was introduced into Canaan by the Israelites. However, a variety of grotesque moldings were commonly made at that time, and the jar certainly could represent some other condition or someone's imagination. If indeed Hansen's disease did exist, it would have been regarded as unclean, and such a jar, which would normally have been used for drinking water or for grain, would probably not have, for esthetic reasons, been molded into such a likeness. Thus, there is no clear evidence that Hansen's disease existed in the Middle East in those early days, although there is a good possibility that it did for at least several centuries B.C.

Hansen's disease may have been introduced into Italy in 62 B.C. by Pompey's soldiers, and later the Roman conquests may have spread it widely in Europe, as very possibly did the crusaders. The first accurate descriptions of the disease in Europe were written by Aretaeus the Cappadocian, ca. 150 A.D. He referred to it as elephantiasis. Aretaeus⁵ describes large nodules and ulcers of the cheeks, chin, finger, and knees, as well as loss or absorption of fingers and toes; and he states that the disease was not fatal. This suggests that Hansen's disease was introduced into the Mediterranean countries of Europe at an earlier date, perhaps centuries earlier. Galen, at about the same time, also referred to a similar

disease, writing primarily about the condition as it existed in what is now Germany.

The disease was apparently quite prevalent in Europe between 1000 and 1400 A.D. Lazar houses numbered in the hundreds, probably in the thousands, but these houses did not exist necessarily to enforce isolation. General Sir William MacArthur⁶ indicates that rather strict rules of conformity existed that had to be followed for the patient to remain. In essence, one followed the rules of the house or was asked to leave.

No doubt many people placed in these homes did not have Hansen's disease, but skeletal examinations by Dr. Moller-Christensen in Denmark suggest that at least there, during the Middle Ages, a high percentage of people in lazar houses actually did have the disease, the major finding being the loss of the anterior nasal spine.⁷ Otherwise, many persons who had the disease probably never knew it, nor did anyone else, considering the diagnostic problems in those early days.

Of fascination to many persons are the large numbers of paintings and other artwork depicting both Biblical and contemporary leprosy which emerged, especially from Europe, during the Middle Ages. Although many of the works did not depict the obvious manifestations of the disease, enough of them did to convince anyone but the most skeptical that the disease tended to be widespread in Europe during the Middle Ages.⁸

Why Hansen's disease faded in Europe is not known, but probably was in part the result of the great plagues which killed millions of persons, especially the already ill. However, this period was followed by an improvement in the standard of living, and this one factor may be most responsible for its decline.

Hansen's disease in endemic form apparently disappeared from England about the year 1800, but it is still found to a low degree in Spain, Portugal, the Baltic region, European Russia, Turkey, Italy, and Greece. In the mid-1800s Norway reported some 3,000 cases, but later the disease virtually disappeared.⁹

The disease is said to have been brought to the Western Hemisphere by the sailors of Columbus and later by slaves from West Africa. It was further spread by other explorers and later by immigrants from Europe and other areas. The situation was similar for both North and South America; explorers and immigrants also spread the disease to the islands of the Pacific.

Thousands of historical events have been related to Hansen's disease,

some more important than others, but it is not possible to rank them in the order of importance or to achieve anything resembling a consensus. However, four milestones which most persons knowledgeable about the disease deem of great importance are the discovery of *M. leprae* by Dr. G. Armauer Hansen of Norway in 1874;¹⁰ initial use of sulfone therapy by Dr. Guy Faget of Carville in 1941;¹¹ discovery that the mouse footpad supported the multiplication of *M. leprae* by Dr. Charles Shepard of the Center for Disease Control in 1959;¹² and the demonstration that the nine-banded armadillo is highly susceptible to developing disseminated Hansen's disease after inoculation with the *M. leprae* by Dr. Waldemar Kirchheimer of Carville and Dr. Eleanor Storrs of the Gulf South Research Institute in 1968.¹³

Other important accomplishments and events are most worthy, but all cannot be listed herein. These include the works of Mitsuda, Dharmendra, and Fernandez with lepromin; Binford's work with golden hamsters¹⁴ and his long and distinguished career, which continues to this day; Rees' work with thymectomized mice;¹⁵ the work of Stanley Browne with clofazimine (B663),¹⁶ and Sheskin's with thalidomide.¹⁷ More recently, a variety of studies have been performed with rifampin, which have proved invaluable to modern treatment. Also, Robert Cochrane's monumental efforts in almost every phase of Hansen's disease deserve a book of their own; and, indeed, the textbook edited by him and Davey in 1964 remains a classic covering almost every aspect of Hansen's disease.¹⁸

There was Father Damien and the beginnings of the Hawaii problem which, in itself, makes fascinating reading; and in the Continental United States a number of historical events include the Massachusetts isolation facility on Penikese Island between 1905 and 1921 and a settlement for those afflicted with Hansen's disease in San Francisco from about 1905 until 1922. The history of the "Louisiana Leper Home" and of the beginnings and founding in 1921 of the National Hansen's Disease Center and the recently created Public Health Service supported Hansen's disease patient care programs in various parts of the country might also prove to be of interest. Except for the latter development, much of this information is contained in the book, *Alone No Longer* by Stanley Stein.¹⁹ The history of the Carville patient-produced *The Star* magazine and of its founder, Stanley Stein, and of its present editor, Lou Boudreaux, is a lesson in dedication, accomplishment, and courage.

Historians have already listed the work of a number of others in

Hansen's disease as of great value.²⁰ More recent contributions are the discovery of naturally occurring armadillo leprosy by Walsh and his associates²¹ and work with chimpanzees and mangabey monkeys now being conducted at the Delta Primate Center in Louisiana in concert with the Armed Forces Institute of Pathology.²² Many future events will be added to the history of Hansen's disease, the final episode hopefully being the eradication of the disease as one of the world's great health problems.

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