An Offprint from

First Images of America

THE IMPACT OF

THE NEW WORLD ON THE OLD

Edited by Fredi Chiappelli

Co-editors: Michael J. B. Allen & Robert L. Benson

UNIVERSITY OF CALIFORNIA PRESS

BERKELEY • LOS ANGELES • LONDON

1976

The Problem

of Syphilis

by Francisco Guerra

Since 1517 the discovery of America has been associated with the spread of syphilis to Europe, though the thesis that the venereal disease had its provenance in the New World remains the most controversial issue in medical history. Despite much argument, this problem has been unique inasmuch as the Renaissance's claim that syphilis was a new disease has lasted into recent times.

According to one view the Spaniards acquired syphilis from the American Indians at Hispaniola and brought the disease back to Spain in 1493. Then Italians and Frenchmen were contaminated by the Spaniards during the wars in Italy in 1495. As a result syphilis soon spread all over Europe and other continents. The other view is that syphilis was already present in the ancient world, but it was only about 1500 A.D. that it was properly diagnosed in Europe. Ackerknecht agrees with most authors that "from the evidence at hand it seems that the question cannot be resolved. Neither the literary documents nor the available bone material indicates a conclusive answer."[1]

The issue need no longer be discussed in terms of literary evidence or palaeopathological findings, however. New understanding about the evolution of treponematoses has made obsolete the traditional setting for the discussion of the role of America in the history of syphilis.

THE NATURE OF SYPHILIS

Syphilis was the name given by Fracastoro in 1530 to a venereal disease, which the Spaniards had named *bubas* at about the time of the Discovery.[2] The fact that syphilis is but one of the four human treponematoses may explain a long list of confusions about the disease. Hackett says that venereal syphilis is caused by *Treponema pallidum*; that endemic—that is, non-venereal—syphilis is also caused by *T. pallidum*; that yaws (also called framboesia or pian) is caused by *T. pertenue*; and that pinta or carate is caused by *T. carateum*.[3] Hudson, however, believes that there is just one treponematosis, the same treponema being the cause of four clinical pictures of one disease only, and that by adaptation each area of the world ended by having the type of treponematosis suited to its environmental conditions. *Pinta*, which occurs only in America, represents the earliest stage in the evolution and can be dated back to about 10,000 B.C. At present *yaws* appears in moist and hot climates, such as Central Africa and the West and East Indies, and produces succulent skin lesions. *Endemic syphilis*—treponarid—is found in the hot arid areas of Northern and Southern Africa, Arabia, Siberia, and Central Australia, and produces dry skin lesions. Finally *venereal syphilis* developed and now exists in areas with an urban society, where the other treponematoses are absent.[4]

Turner has indicated that the treponemas of these four diseases are morphologically indistinguishable: they all have the same serological tests, though they produce different pathological processes, and they respond equally well to the same treatment. The four human treponematoses, furthermore, progress in a similar fashion from an early stage of primary and secondary lesions to a latent stage ending with tertiary lesions.[5]

THE DIAGNOSIS OF SYPHILIS IN THE LITERATURE

Venereal syphilis was found to be a treponematosis only in 1905; the treponemal nature of pinta was not established until 1938. It follows that none of the authors in the endless publications gathered by Proksch[6] was aware of the true nature of syphilis and related treponematoses; in fact, some of these diseases are confused even today. It must also be added that the role of America in the history of syphilis has never been studied in relevant primary sources by those with first-hand experience in the four clinical patterns of human treponematoses. Pinta was extant only in America at the time of Columbus' discovery in 1492; it affects mainly the skin, but not the bones, and may be confused with vitiligo; due to its striking appearance, however, it never passes unnoticed. Endemic or non-venereal syphilis, on the contrary, does not show primary lesions as do the other treponematoses; it occurs from childhood without venereal transmission and has more subdued symptoms. Differ-

ential diagnosis in early literature must therefore have focussed on venereal syphilis and yaws. Primary lesions are frequent in both. With syphilis they appear in the genitalia as a papule which evolves into a chancre, typically hard and painless, with adenitis or a *bubo* lasting one to two months. The primary lesion in yaws appears mostly in exposed parts—legs, arms, or face; the papules grow into a papilloma which untreated lasts two to nine months. The secondary lesions in syphilis are skin eruptions (syphilides) without papillomata, sometimes alopecia and lesions in every organ, including the bones. In yaws the papillomata are extensive and all over the body, and there may be palmar and plantar papillomas, hyperkeratosis and fissures, and osteo-periostitis. It is precisely this syndrome of skin gummata, hyperkeratosis, fissures, juxta-articular nodes, and bone lesions, so frequent in tertiary yaws while rare in venereal syphilis, which can greatly assist in the interpretation of early texts.

THE PALAEOPATHOLOGY OF SYPHILIS

Although Virchow's *caries sicca* is accepted as pathogenic of treponematoses, different criteria still exist in respect to certain bone deformities in archaeological remains, because there is no definite serological test to confirm them. Møller-Christensen,[7] as previously Williams,[8] maintains that in Europe no syphilitic bones dated before 1500 A.D. have been found; while in America, Tello and Williams[9] and more recently Weiss[10] have found several specimens of pre-Columbian syphilitic bones among the well preserved Peruvian burial grounds. On the other hand, Vorberg[11] considered certain human bones found in Europe with a pre-Columbian dating syphilitic, and Rokhlin[12] has reported syphilitic bone lesions dated 3000-2000 B.C. in the Trans-Baikal area of Siberia.

These conflicting views on the existence or non-existence of syphilitic pre-Columbian bones in Europe have much less relevance if we take into account the origin of American man and prehistoric geography. The population of America was the result of Old World migrations across the Bering Strait, commonly assigned to the period from *ca.* 15,000 B.C. to *ca.* 6500 B.C. We must also remember that Europe was joined to Africa in prehistoric times, and suffered repeated invasions by Trans-Ural cultures; and there were Arabic migrations into Spain from the eighth to the fifteenth centuries as well.

THE AMERICAN LITERATURE OF SYPHILIS

The philological search by Montejo y Robledo shows that every American aboriginal language, including Nahuatl, Maya, Carib, Arawak, Quechua, Aymara, Guarani, and Araucanian, some of them recorded quite early or shortly after the Conquest, contained aboriginal words to designate *bubas*, that is, venereal syphilis. In Mexico, for

instance, the Nahuatl terms used to designate different types of skin lesions characteristic of *bubas* antedate those in Spanish.

Accounts of the Discovery and Conquest frequently mention a skin disease, *bubas*, among the Indians, and these accounts should be accepted as reliable evidence. On Columbus' orders, Fr. Ramón Pané wrote the earliest account in 1496 at Hispaniola, but it was published (in Italian) only in 1571. There are chronicles by Fernández de Oviedo (1526-35), Motolinia (1541), Las Casas (1542), López de Gómara (1552-53), Hernández, and many more. The *General History of the Things of New Spain*, written in Mexico by Sahagún about 1565, deserves special notice because with his usual skill he reported the Aztec treatment for *bubas* and gave a precise account of the social status of *bubosos*. Sahagún even described the hierarchy of Nancatzin, the god with *bubas*, and many related matters.[14] Sticker[15] has also reviewed this point.

PRE-COLUMBIAN LITERATURE ON SYPHILIS

It would be difficult to expand Sudhoff's survey of European manuscripts and printed books describing syphilis before the opening of the New World,[16] or to add to Hildebrand's syphilitic syndromes in medieval literature.[17] Most of the recipes for the treatment of chronic skin infections contained mercury—introduced long before by Arab practitioners—and were effective presumably because the lesions were syphilitic. In Sudhoff's view, venereal syphilis existed in European antiquity and prehistoric times. There are, however, three items unknown to Sudhoff which deserve mention because they confirm his view. Early Spanish authors on *bubas* quoted Pliny's *Natural History*, where *mentagra* is mentioned. Book XXVI, Chapter 1 of this work (first translated into Spanish by Huerta) explains how an epidemic of *mentagra*, resembling syphilis, was imported into Rome from Asia during the rule of Tiberius Claudius. The interesting point about this edition is that the section on *mentagra* is entirely devoted to a discussion on *bubas*.[18]

The two other documents come from the hands of Renaissance scholars. The *Sylva in scabiem*, written about 1475 by Angelo Poliziano (1450-94) and recently published and annotated by Del Guerra, described his own fatal illness, *lues* or *morbo gallico*.[19] The other is an epistle to *Ario lusitano grecas literas Salmanticae profitenti, valetudinario*, by Peter Martyr of Anghiera (1455-1526), dated 9 April 1489, which gives a good description of the disease suffered by Arias, a professor at the University of Salamanca. Here Peter Martyr states that the disease was called *bubas* by the Spaniards, *morbo gallico* by the Italians and *elephantiasis* by some physicians.[20]

POST-COLUMBIAN LITERATURE ON SYPHILIS

The texts on the history of syphilis after the discovery of America are legion and have been discussed at length by Bloch, a great supporter of

its American origin.[21] The earliest statement propounding an American origin is in Oviedo's *Natural History of the Indies:* ". . . Your Majesty may rest assured that this horrible disease came from the Indies. Although it is quite common among the natives, it is not so dangerous there as it is here in Europe. . . . *Bubas* first appeared in Spain after Admiral Christopher Columbus discovered the Indies and returned home."[22] Later Oviedo enlarged this story in his *General History of the Indies*, which influenced many subsequent accounts.[23]

It would be tedious to list authors between 1495 and 1500 who mention *bubas* or similar diseases with other names, since Sudhoff has already done this. But in order to clarify America's role we must note two Spanish texts in the vernacular. First, the poem on *bubas* by López de Villalobos leaves no doubt that the disease was first diagnosed while the Spanish monarchs Ferdinand and Isabella were in Madrid in 1494, and that it was new and extremely contagious. It started with a hard and painless ulcer on the penis, was followed by adenitis, skin disorders, pain in the joints and bones—mostly at dawn—and could be cured by mercury unction.[24] Villalobos indeed described venereal syphilis, but noted that it was similar to Avicenna's *sahfati;* he did not mention an American origin. Second, evidence that can resolve the issue of America's involvement in the history of syphilis can be found in a truly magnificent Renaissance book, mentioned by many, read by a few, which has been studied by Curieses del Agua.[25] This is the *Treatise against the Serpentine Malady* by Ruy Díaz de Isla.[26] He was a Spanish surgeon practising at the All Saints Hospital in Lisbon, who declared he had treated over 20,000 patients with *bubas*, including some from Columbus' crew, and had suffered the disease himself. Every line in his work deserves attention because it allows us to establish a calendar of the disease and its epidemiology. At the same time, his clinical observations are so detailed and accurate that they disclose the true nature of the epidemic once and for all. Díaz de Isla confirms that *bubas* came from Hispaniola with Columbus' men; that the disease was very contagious, common, and benign among the Indians, but severe among the Spaniards. He treated the first cases to arrive, witnessed the spread of the disease and suggested that (by 1539) about one million had been infected in Europe. Indeed, it is his clinical insight which helps most here, for he wrote that *bubas* proceeded in three stages, the first with *botores*—that is, papillomas—usually cured without treatment in a few months or within a year.[27] The second stage included painful joints, thickening of the skin on the palms and plantar areas where fissures may appear. About 15 years later the pains in the bones, erosion of the palate, and spontaneous fractures announce the end of the illness.[28] The third stage produces continuous headaches, blindness, alterations in the pulse, and fatigue.[29] *Inter alia*, Díaz de Isla noted that venereal contagion could be avoided by personal hygiene, but that there was also non-

venereal transmission; he noted further that in certain cases *bubas* had disappeared after other illnesses with high fever; he argued for the control of prostitutes, and against the dangers of nursing by *bubosos;* and he maintained that mercury was the only effective treatment. Everything he wrote stands today.

CONCLUSION

The clinical accuracy in Díaz de Isla clarifies most of the vexed story about America, but in turn raises new problems. He describes not one disease—syphilis—but three. When he mentions urethral discharge and orchitis,[30] he is referring to gonorrhea, distinguished from syphilis in 1793 by Bell. Díaz de Isla accurately describes every stage of syphilis, including neurosyphilis; but what is more important, in explaining the epidemiological character of *bubas*, Díaz de Isla also describes yaws in detail: the non-venereal transmission, the florid primary lesion on exposed parts of the body, the *botores* like hemorrhoids or papillomas, the longer evolution of the primary stage, the typical thickening of the skin, bleeding fissures, spontaneous fractures of the bones, gangosa, and other symptoms.[31]

To summarize: (1) Pinta, yaws, venereal syphilis, and possibly endemic syphilis existed in America prior to Columbus' discovery. (2) Venereal syphilis and yaws were brought back to Spain and Portugal by the discoverers. (3) The clinical syndrome of *bubas* indicates that there were among the discoverers two treponematoses involved, syphilis and yaws. (4) It is believed nowadays that human treponematoses arose in prehistoric times from animal infection in Africa which evolved into *pinta* and was carried by Asian migrations into America. (5) Therefore endemic and venereal syphilis existed in prehistoric Europe and arose from mutants of yaws in tropical Africa.

NOTES

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5. L. H. Turner, *Notes on the Treponematoses with an Illustrated Account of Yaws,* Bulletin from the Institute for Medical Research, Federation of Malaya, Ser. 2, no. 9 (1959).
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12. Dmitrii Gerasimovich Rokhlin, *Bolezni drevnikh liudei: kosti liudei razlichnykh epokh-normal'nye i palologicheski izmenennye (Diseases of ancient men: Bones of the men of various epochs normal and pathological changed)* [sic] (Moscow and Leningrad 1965).
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14. Ramón Pané, *Scrittura . . . delle antichità de gl'Indiani . . .,* in Fernando Colombo, *Historie . . .* (Venice 1571); Gonzalo Fernández de Oviedo, *La historia general de las Indias* (Seville 1535) and *Sumario de la natural y general historia de las Indias* (Toledo 1526); Toribio de Benavente Motolinia, *Historia de los indios de la Nueva España,* ed. Edmundo O'Gorman (Mexico 1969); Bartolomé de Las Casas, *Historia de las Indias,* ed. A. Millares Carlo, intro. Lewis Hanke (3 vols. Mexico 1951); Francisco López de Gómara, *Historia general de las Indias* (Saragossa 1552-53); Francisco Hernández, *Rerum medicarum Novae Hispaniae thesaurus* (Rome 1628); Fray Bernardino de Sahagún, *Historia general de las cosas de Nueva España,* ed. Miguel Acosta Saignes (3 vols. Mexico 1946).
15. Georg Sticker, "Krankheiten in Mittelamerika zur Zeit des Columbus," *Janus: Archives internationales pour l'histoire de la médecine et la géographie médicale* 28 (1924) 232-304.
16. Karl Sudhoff, *Aus der Frühgeschichte der Syphilis: Handschriften- und Inkunabelstudien, epidemiologische Untersuchung und kritische Gänge* (Leipzig 1912).
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22. Oviedo, *Sumario* (n. 14 above).
23. Oviedo, *La historia general* (n. 14 above) fol. 93.
24. Francisco López de Villalobos, *El Sumario de la medicina, con un tratado sobre las pestíferas buvas* (Salamanca 1498).
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27. *Ibid.,* fol. 6.
28. *Ibid.,* fol. 15.
29. *Ibid.,* fol. 18.
30. *Ibid.,* fols. 11 and 18v.
31. *Ibid., passim.*