

SYPHILIS, GONORRHOEA, LEPROSY AND YAWS IN THE INDONESIAN ARCHIPELAGO, 1500-1950

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Abstract

This paper examines the history of sexually transmitted diseases in Southeast Asia and explores the origins of venereal disease, specifically syphilis and gonorrhoea, in the region. The arrival of new diseases that accompanied Europeans from about 1500, is a subject that scholars have largely ignored in favour of the 19th and 20th centuries. While concentrating on the Indonesian archipelago, the paper also considers to other parts of Southeast Asia to investigate the impact of syphilis and gonorrhoea on the rate of population growth in the region. Unlike gonorrhoea, which was present before the arrival of Europeans, syphilis was a new disease whose introduction by the Portuguese had lethal consequences. Possibly, the propagation of Islam and Christianity in island Southeast Asia after 1500 and of Buddhism in mainland Southeast Asia, were important mitigating factors in checking the spread of syphilis.

Introduction

Southeast Asia is not well represented in the international medical historical literature of the last two decades. Moreover, the existing literature is heavily

biased in favour of the nineteenth and twentieth centuries.

We are, therefore, not well-informed about the new diseases that might have accompanied the Europeans who came to the region in ever increasing numbers from around 1500. Thus, Southeast Asia is hardly mentioned in the ‘Columbian exchange’ stories in which other areas of the globe figure so prominently. I am referring to the Americas in the sixteenth and seventeenth centuries and the Pacific in the eighteenth century, where ‘new’ diseases, arriving with the European conquerors or explorers, led to a dramatic drop in population numbers. Although this view is now generally accepted, the new orthodoxy is of a relatively recent date (e.g. Crosby 1972).

In this paper, I explore the question of whether there are indications that something similar happened in the area we now call Indonesia, but I cast my net a bit wider and occasionally refer to other parts of Asia as well. I also look at the debate on the origins of syphilis in Europe, in order to see whether it can shed some light on what happened in Asia, and, the other way around, whether the Asian story has some bearing on current thought about the origins of ‘venereal’ syphilis.

In this story, syphilis, gonorrhoea, leprosy and yaws, some of them rather unlikely bedfellows, all play a role, but my main arguments gravitate around syphilis and yaws.

Some of these diseases are well-known to the general public, infamous even, although now less so than, say, a century ago, but other ones might need an introduction. Syphilis (‘pox’) and gonorrhoea (‘clap’) are worldwide known

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sexually transmitted diseases (STDs), although they are now largely relegated to an existence in the shadow of HIV/AIDS.² Leprosy, sometimes called Hansen's disease, is an illness now only to be found in tropical countries, although not so long ago it was also encountered in the temperate zone. It is not an STD, but it shares some of their symptoms. Yaws, not an STD either, is probably the least known of the illnesses mentioned here. It is also a tropical disease, and has probably always been one. It shares many symptoms with syphilis, and the two diseases have sometimes been confused. However, in historical times in Indonesia, yaws was often just a mild skin disease, something that children caught from each other, after which they were immune for life.

STDs in Indonesian history

We have not been spoiled with recent studies on STDs in Indonesian history. In fact, beside a short article on mythical stories about Indonesian rulers of times past with STDs or other skin diseases (Josselin de Jong 1986), and an article on STDs in Indonesia since 1811 (Sterren et al. 1997), there is, to my knowledge, nothing written on this topic after c. 1940. But even then, monographs specifically dedicated to the history of STDs in Indonesia were absent, and we have to make do with more or less extended passages in general medical histories of the Indonesian Archipelago, or in general studies on syphilis or yaws in Indonesia (Mulder 1923, Hermans 1928, Schoute 1929, Schoute 1935, Tio 1941). The

² In the older sources, the term 'pox' (also French pox or Italian pox) almost always refers to syphilis, the 'big pox', as opposed to smallpox.

present contribution, therefore, had to be based almost entirely on information about STDs found in collections of pre-World War Two books and articles.

In 1941, roughly between 10 to 15% of the population of Java, Indonesia's most populous island then and now, was thought to be suffering from venereal diseases (VD), an estimated figure that was believed to be increasing (Simons 1941).

What is unclear, however, is the proportion of the various individual STDs within the total group that was affected with these illnesses. In 1920, of the 3,722 patients of the Burgerlijk Ziekenhuis (civilian hospital) in Bandung, 427 or 11.5%, had STDs. This was more or less equally divided between syphilis, gonorrhoea, and what was then called *ulcus molle* (soft chancre; chancroid) (Tio 1941: 30). It is perhaps not permissible to generalize these hospital findings over the total population of Java at that time, although I am inclined to believe that given such proportions no single disease was strongly dominant. Thus, these statistics might be assumed to give us a rough idea of the situation in Java at the end of the period we are dealing with in this paper.

However, I would not be willing to extend this generalization over the whole of the Indonesian Archipelago, given the enormous differences between the various regions in terms of culture, religion, economic development (including urbanization and industrialization), and accessibility to outsiders.

Soft chancres were not recognized as a disease separate from syphilis (with its indurated chancres) until the 1850s, and

there is not much information to be found about this illness in the historical record regarding Indonesia. Therefore, in this contribution they can play no further role, even if they probably represented a considerable proportion of all STDs, at least in Java, around 1920.

Neither will this study deal with what the Dutch sources called *venerisch granuloom* (*granuloma venereum*), nowadays known as inguinal granuloma or Donovanosis. The disease led to a drop in certain populations in southern New Guinea, later called Irian and now Papua. It was treated successfully by Dutch physicians in the 1920s and 30s, but was apparently unknown outside the region, even in the adjacent Moluccas. After the War in the Pacific, soldiers serving in New Guinea must have introduced it in Java (Jaarverslag 1922: 27-9, Kopstein 1926: 59, Meulen 1950). It is of course an interesting question how such a disease could have continued to exist in isolation for so long, although there had been frequent contacts between New Guinea and the Indonesian Archipelago for centuries, a point to which I return shortly. To my knowledge, nothing is known about the disease prior to 1900.

Therefore, the only STDs to be dealt with in this paper are gonorrhoea and syphilis. The reason for the inclusion of two non-STDs – leprosy and yaws – will become clear presently.

Syphilis in Asia

That syphilis was a new disease in Asia around 1500 appears to be undisputed. It may have reached India already with the first Portuguese fleet, in 1498, and by 1504/5 it had already spread. It seems

likely that the disease also came to the region via the overland route, through Turkey and Persia. In 1498 it had reached Azerbaijan, where it has spread in 1501. We know that the Turks called it the Christian disease, and the Persians called it the Turkish disease, so it is clear whence it came and where it went.

The people of coastal India called it *phirangi roga* (or *firanga roga*), the disease of the Franks, a term often referring to Europeans in general, but at this early stage mainly to the Portuguese, the first Europeans to come to Asia in large numbers. The same term was used by the people of the nearby Maldives, and the Portuguese were also held responsible for the arrival of syphilis in Sri Lanka.

The arrival of syphilis on the Malay Peninsula is mentioned but not dated, but it is also associated with the Portuguese, who conquered Malacca in 1511. However, syphilis was by then spreading more quickly than the Portuguese presence: the disease arrived in Canton (hence the term Canton rash or Canton ulcers) between 1504 and 1506, about 15 years before the Portuguese. Syphilis therefore, could very well have reached Malacca before 1511 too. In 1505, or, according to another source, 1512, syphilis landed in Japan, where the disease was called Chinese ulcers, but also Portuguese disease (Gray and Bell 1887-90, I: 182, Jeanselme 1934, Huard 1956, Sigerist 1961: 132, Temple 1970: 63, McNeill 1979: 218, Uragoda 1987: 55, Quézel 1992: 51-2, Nikiforuk 1993: 91, Kohn 2001: 186).

European observers who came to the region about a century later were struck by the fact that having syphilis “is no mark of shame there, nor any disgrace to have had

it several times: they even make boast of it.” It was cured with *radix china* or *chinae* (the China root – *Smilax china*), which, according to Jan Huyghen van Linschoten, who came to India in the 1580s, had not been introduced in India from China until 1535. He added that ‘the pox’ was so common in China, that God had sent them *radix china*. In India it was also an everyday disease according to Van Linschoten. Garcia Da Orta stated around 1560 that syphilis was common among the Indian lower classes. François Pyrard de Laval, in India after 1601, stated that in Goa the pox only prevailed among the Christians, who may not all have belonged to the lower classes (although a large proportion probably did). However, it was certainly not only the lower classes (or the Christians) who had the disease, because Ludovico di Varthema reported already in 1505 that the King of Calicut had the disease of the Franks (in his throat) (The quote is from Gray and Bell 1887-90, II (1): 13, Kern 1910, I: 159-60, II: 41, Jeanselme 1934: 217, Temple 1970: 63).

Returning to the attempts at curing people from the pox, it would appear that the China root had sudorific (sweat inducing) properties. It seems to have been used in Asia as a panacea for a great number of illnesses, including jaundice, leprosy and many other skin diseases. On the fleet of the VOC (Dutch East India Company), it was reportedly used as a cure for beri-beri.

Sudorifics, often doubling as laxatives, were also used in Europe against syphilis from a very early stage, the best known of which was gaiac, introduced from the West Indies, in addition to sarsaparilla, from the same region. It was generally accepted in those days that cures for a disease were to be found in the same region as where the disease came from,

which, as we saw earlier, was attributed to a merciful god. Therefore, syphilis, which according to contemporary medical opinion came from the West Indies, should be cured with drugs from the same region. Soon, gaiac was also employed in Asia as a treatment for the disease of the Franks, in India as early as the 1560s, while the China root, in turn, came to be used in Europe. This shows clearly that medicine was an international discipline at a very early stage.

Finally mention should be made of mercury, which was used as a cure both in Europe and in Asia, a ‘solution’ that may have originated independently in these two regions. It was used internally and in salves and fumigations, and was regarded as quite successful, although medics were aware of the fierce side effects (Gray and Bell 1887-90, I: 182, Kern 1910, I: 159-60, II: 41, Schoute 1929: 52, Jeanselme 1934: 218, Huard 1956: 11, Quézel 1992).

Syphilis in Indonesia

It does not appear to be possible to date the arrival of syphilis in the Indonesian Archipelago (or, for that matter, in the Philippine Archipelago) with any precision. The earliest fairly certain date known to me is 1521/2, when Antonio Pigafetta, who took part in the first circumnavigation by Ferdinand Magellan, arrived in the region of what are now eastern Indonesia and the southern Philippines. He stated that in “all the islands that we found in that archipelago” the disease of St Job prevailed, which the inhabitants called the Portuguese disease, in other words, syphilis.

It is not clear what Pigafetta meant by ‘that archipelago’. The remark follows

immediately after a description of the island of Timor, one of the lesser Sundas [now Nusa Tenggara Timur], a place of interest to the Portuguese at an early stage, but it is also possible that he refers to the entire region, including the Moluccas, where the Portuguese had been trading for spices.

There are two other stories, both of a rather mythical character, and both purporting to date from around 1500, which might refer to the arrival of syphilis in the Indonesian Archipelago, but that is far from certain. One story, to be found in the *Sejarah Melayu*, is about a new, foreign, ruler of Palembang (Sumatra), who married a local woman. After the wedding-night, the woman showed signs of an STD, which is what also happened to the 39 other local women to whom the ruler married. The other story, from the *Babad Tanah Jawi*, is about a Javanese ruler, king Wijaya, the last monarch of Majapahit, who suffered from a disease called *raja singa*, or syphilis. The monarch was cured when he slept with an alien 'yellow' woman,³ from Champa, now Vietnam (Crawford 1820, I: 33, De Josselin de Jong 1986: 219-20, Olthof 1987: 24, Pigafetta 1994: 141).

These stories, which cannot be dated more precisely, do not necessarily reflect events that actually took place as described to the persons named, but they might represent somehow the arrival of a new disease that must have made quite an impression on the local population. Evidently, syphilis was associated with ruling families in these stories.

³ The word 'yellow' here probably means 'Chinese.'

Datable information about syphilis in Indonesia is available at the end of the sixteenth century, at a time that the disease had been present there for three quarters of a century or more. Sir Francis Drake, on call in a port of eastern Java in 1580, stated that "(T)he French pocks is here very common to all, and they help themselves, sitting naked from ten to two in the sunne, whereby the venomous humour is drawn out." Interestingly enough, he called the Javanese 'a loving people', and one wonders whether this is akin to a similar remark made by Columbus, who seems to have come home with and died from syphilis himself, about the Amerindians.

When the first Dutch fleet arrived in Banten in 1597, it was recorded in the travelogue that the river water of Banten was very unhealthy, because everyone, including people with the pox, was bathing there the whole day long. (The quote is from Hakluyt 1904: 132, Rouffaer and IJerman 1915-29, II: 28, Nikiforuk 1993: 89).

There is a mythical story about Sultan Iskandar Muda of Aceh (r. 1607-36). Local oral tradition around 1890 had it that he suffered from an STD – but which one? In order to rid himself of it, he had sex with a black slave woman. He was cured, but the woman contracted the disease. However, she got pregnant and the son she bore the Sultan became the founder of a noble Acehese dynasty (Snouck Hurgronje 1893-4, I: 139-40).

The story shows obvious similarities with the one about the Javanese king Wijaya, as in both cases, sex with an alien woman cured the king from his STD.

Later in the seventeenth century there are several more reliable and datable references to syphilis in the Archipelago. A German traveller, Johann Jacob Saar, in the area between 1644 and 1660, states that one should not become too intimate with the inhabitants of the city of Banten, western Java, because many of them had the *Mal de Naples* (disease of Naples), yet another name Europeans gave to syphilis.⁴ In 1682, the High Government of the VOC in Batavia undertook a rather drastic action. They gave orders to round up all the people who were inflicted with leprosy in order to send them to the leper colony. At the same time, other disfigured people were also to be rounded up, among whom various syphilitics.

Leprosy in Indonesia

At this point in the narrative, a digression on leprosy is necessary. It was a disease, very much dreaded by Europeans, although in Europe itself, where it was present at least from the sixth century, it had been receding since the middle of the fourteenth century, possibly because people were better fed and clothed than they used to be. It was and is a disease abhorred by everyone around the world, but it may have installed fear particularly in protestant and catholic Europeans as it had always been associated, probably erroneously, with the biblical disease of Lazarus.

Recent research has suggested that biblical 'leprosy' covered more than one ailment, including STDs, while alleged descriptions

⁴ Saar 1930: 29. The conquest of Naples by French King Charles VIII in 1495 is seen by many as the beginning of the spread of syphilis over Europe, because he disbanded his pan-European mercenaries right after this event.

of syphilis in pre-1492 Europe might have been leprosy, as there are similarities in some of their dermatological manifestations (Huard & Wong 1967: 27, McNeill 1979: 179, Uragoda 1987: 233, Wills 1996: 193, Bynum and Porter 1997, I: 366, 564, II: 1263).

Leprosy – Hansen's disease – whether or not it is partly identical with biblical 'leprosy', is an old Eurasian disease, reported at an early date from Europe, India, and China, and it is likely that it had also been present in the Indonesian Archipelago for a long time. In fact, the disease that the king of Palembang gave his consorts around 1500, according to the *Sejarah Melayu*, was called *kedal*, or leprosy, but as it was also described as an STD, I have suggested earlier that it may be a report on early syphilis, for which the term of an older disease was used.

Be that as it may, leprosy was clearly present in the Philippines when the Spaniards arrived, and, as early as 1578, the Franciscan friars had established a leprosy hospital. The first Dutch physician who – in passing – mentioned the presence of leprosy in the Indonesian Archipelago appears to have been Jacobus Bontius, who died in 1631 in Batavia.⁵ He called it *lepra arabus* – Arabian leprosy or the leprosy of the Arabs. According to him, *kurap* (herpes and/or scabies) could turn into leprosy, or, even worse, elephantiasis, two diseases that have been frequently confused (Bontius 1931: 174-5). Apparently, at that moment, it was not a disease that impressed Bontius much, otherwise he would have dedicated more space to it.

⁵ Batavia, now Jakarta, was the place where the Asian headquarters of the VOC were located.

It seems likely that leprosy in Indonesia did not increase until a few decades later. I have not found it mentioned in the usual VOC sources until 1666, when it was explicitly stated that the incidence of leprosy was increasing in Batavia. It was recorded that Dutch, as well as Chinese persons and people from other ethnic groups were infected by the disease, but in 1682 it was stated that it prevailed mainly among the 'indigenous' population, which, as is shown presently, does not necessarily refer to 'Indonesians'. Therefore, the VOC decided to build a leper asylum at Angke, just outside the town walls of Batavia. In 1677, the regents of the asylum complained that their income was insufficient owing to the daily increasing number of lepers. Growing numbers were still mentioned in 1679, when it was decided to transfer the leper asylum to the island of Purmerend, in the Bay of Batavia, perhaps because Angke was still too close for comfort.

Increasing numbers of lepers in Batavia are for the last time mentioned in 1688, but in Ambon, in the Moluccas, around 1700 their numbers were still growing. Somewhere during the eighteenth century the numbers would drop gradually, probably throughout the Archipelago.

According to the official correspondence of the VOC, the increase in the number of leprosy patients was linked at the time to the manumission of slaves – often from India, but also from places within the Archipelago – without means of support, who then became beggars. Did the drop in the number of lepers during the eighteenth century – of which the second half was not a prosperous period for the slave-owners – then reflect decreasing numbers of slaves?(Dagregister 1666, 58, D 1677, 182, D 1679, 179, D 1682: 58-60,

Generale Missiven (GM for short) III: 576, 599, IV: 421, V: 71, 185, Schoute 1929: 164-6, 180, 219, 288, Newson 1999: 1839).

According to a report, dated 1682, it was not only lepers who were put into an asylum. In that year a search was called for all those infected with leprosy (in Batavia), but also other "infected, disfigured and hideous people who are found begging" (Dagregister 1682: 27) had to be rounded up, inspected, and sent to the leper asylum. The motive given for this action was that pregnant women should be spared from seeing lepers because it was believed lepers had a bad effect on the foetus.

The report lists 20 people, of which many were afflicted with the 'Venus disease', which was also called the Spanish pox, people to whom the term '*vuijlpockig*' (with dirty pox) was applied, in other words, syphilitics. Apparently, it was syphilis in its tertiary stage, when nose and palate had been affected, sometimes combined with blindness, which is described in various cases. Sometimes we have names of individuals, probably slaves, such as Sara of Taiwan and Laotang of Banda.

After inspection by the physicians Andries Cleyer and Willem ten Rhyne, some of the people rounded up were sent to the asylum, while others were not, but the criteria for this selection were not revealed. In the end, some 165 people became inmates of the leper asylum. One Dutchman, a surgeon, Pieter van Campen, was diagnosed with leprosy. He was permitted to continue his work in the leper colony on Purmerend until the next ship to the Netherlands took him and his family home, albeit in isolation.

Based on this and similar experiences, Willem ten Rhyne would write a treatise on Asian leprosy in 1687. In it, he mentioned that leprosy was sometimes confused with yaws, and how Spanish pox (syphilis), Amboinese pox (yaws) and even smallpox could sometimes become 'bastardized' into leprosy, or could accompany it. He thought the disease was transmitted particularly, but not exclusively, by sexual intercourse, although he also thought plain contact could be sufficient.

Failure to distinguish leprosy from yaws has also been suggested for the Spanish Philippines (Dagregister 1682: 27-8, 58-60, 121-5, 188-9, 475, Rhyne 1937: 58-61, Newson 1999: 1839).

In sum, although leprosy was increasing in importance between c. 1660 and 1700, (in all likelihood partly due of the import of slaves), and greatly feared during those years, it does not appear to have been a numerically important illness. If the disease showed some similarities with syphilis and yaws, and may occasionally have been confused, a differential diagnosis was probably not a big problem for most physicians at the time. However, it is also quite likely that some syphilitics ended up in a leper colony for social reasons.

As a final note on the link between leprosy and syphilis in the minds of Europeans before and after 1500, it should be mentioned that leprosy was called St Job's disease during the Middle Ages, a term which, as we have seen, was transmitted to syphilis after 1500 (Baker and Armelagos 1988: 718).

Gonorrhoea in Indonesia

Now that syphilis was firmly established in the Archipelago, and with the possible confusion with leprosy explained, it is time to track down that other important STD in the Indonesian Archipelago, gonorrhoea.

Of the names of these two diseases, gonorrhoea ('running semen') was the oldest, dating back to Galen (c. 200 A.D.). The term syphilis was coined by Girolamo Fracastoro, in his famous treatise *Syphilis sive Morbus Gallicus*, dated 1530 (although the name was rarely used before the nineteenth century). These dates alone suggest that the Old World had been familiar much longer with gonorrhoea than with syphilis.

There is much more historical literature on syphilis than on gonorrhoea, and the antiquity of gonorrhoea is seldom discussed (Morton 1972: 22). But insofar it is discussed it seems to be assumed that gonorrhoea was of an ancient pedigree throughout Eurasia (Baker and Armelagos 1988: 717).

If the general literature on the history of gonorrhoea is disappointing, there is virtually nothing on gonorrhoea in Indonesia. The historiographical silence on the disease is partly caused by the fact that gonorrhoea was for a long time regarded as one of the symptoms of syphilis, which means that differences between the two diseases were usually not distinguishable. This state of affairs came to an end in 1879, when Albert Neisser discovered the gonococcus, the causative agent of gonorrhoea.

There are three pieces of evidence for the presence and importance of gonorrhoea in

Indonesia, some of which has parallels in other Asian countries. The first one is based on post-1879 statistics, the second one on references to STDs prior to 1500, and the third one on the occasional reference to the term between 1500 and 1879.

The first piece of evidence is that in almost all Asian countries for which we have data on this point, gonorrhoea was always much more prevalent than syphilis. Such data are, for instance, available for India c. 1950, Thailand 1973, Vietnam 1902-4, the Philippines c. 1900, Sabah (Eastern Malaysia) around 1930 and for the island of Sumba in Eastern Indonesia in c. 1960.

In the Philippines, the ratio between syphilis and gonorrhoea was usually around 1 to 10. In the areas mentioned for Malaysia and Indonesia, between 80 and 90% of the total population of the groups where research was carried out were found to have gonorrhoea, while the incidence of syphilis was fairly unimportant. The people concerned were rather isolated tribal groups, whose contacts with outsiders were even then rather restricted. Thus, gonorrhoea was still visibly the ancient, indigenous disease, while syphilis had sometimes hardly penetrated, even as late as 1960 (Sigerist 1961: 132, Reid 1988: 161, Bevoise 1995: 71, Bamber et al. 1997: 49, Guénel 1997: 141).

The second piece of evidence is just one sentence in an old Chinese source on Indonesia, dealing with the period 618-906, when Chinese traders occasionally came to Java: "In this country there are poisonous girls; when one has intercourse with them, he gets painful ulcers and dies, but his body does not decay." This is the one and only reference to gonorrhoea for

the Indonesian Archipelago that has come to light so far.⁶

The third piece of evidence is also fairly meagre. Although gonorrhoea was generally thought to be just one of the many syndromes of what was then usually called the French or Spanish pox, physicians certainly knew how to recognize the gonorrhoeal 'phase' – the dripping penis. Thus, the well-known Dutch herbalist Rumphius wrote around 1680 about herbs, growing on the island of Ambon and elsewhere in the Indonesian Archipelago, that could be used as a cure for gonorrhoea. Around the same time (1684), doctor Willem ten Rhyne wrote about moxa burning or moxibustion, a Chinese and Japanese medical method applied against gonorrhoea, among many other ailments (Rhyne 1684: 281, Rumphius 1741-55, II: 45, IV: 107-8. On moxibustion, see Boomgaard 1996: 49-50).

Summing up, it can be said that, although direct evidence for the presence of gonorrhoea in the Indonesian Archipelago and other areas in Asia prior to 1500 or even to 1879 is rather meagre, there does not seem to be any doubt that it was a wide spread affliction in Asia before the arrival of syphilis.

Syphilis and yaws

Before embarking upon the story of yaws in Indonesia, and the riddles it poses, it should be made clear from the outset that

⁶ From Groeneveldt (1876: 13). That this description refers to gonorrhoea was confirmed to me by retired naval physician G.T. Haneveld, oral communication 12 October 1999.

yaws and syphilis are closely related diseases. During the sixteenth and seventeenth centuries, and sometimes even much later, European physicians, who were unfamiliar with both prior to, say, 1500, were often inclined to confuse the two afflictions when they came across them in tropical countries. The terms for the two diseases were also quite similar in many languages, and sometimes one term was used for both.

Modern science confirms that both diseases are caused by a spirochete, of the genus *Treponema*, and while not so long ago a distinction was made between various species of *Treponema*, it is now largely accepted that both diseases are caused by the same species, or at least that the causative organism of yaws (*Treponema pallidum* subspecies *pertenue*) is morphologically and serologically identical to that of syphilis (*T. pallidum* ssp *pallidum*). Nevertheless, syphilis and yaws are different diseases, with different symptoms, even if some of the symptoms do resemble each other (Hermans 1928: 5-16, 21, Baker and Armelagos 1988: 705, Monnais-Rousselot 1999: 55, Mafart 2002: 1168).

However, the story is even more complicated than that. Syphilis has been dealt with in this paper as an STD, and as such it is widely known by the general public. However, there are also examples of non-venereal syphilis, which is caused by the same spirochete as venereal syphilis and yaws. Non-venereal syphilis was historically known as a phenomenon from poor, backward areas in Europe, with poor hygiene. One of the main differences between the symptoms of venereal and non-venereal syphilis appears to be that the venereal variant can be hereditary (congenital syphilis), while the other one

cannot. Yaws and non-venereal syphilis are both transmitted through skin contact, and therefore scantily clad, unhygienic populations are good candidates for the transmission of these afflictions. There seems to exist a geographical division of labour between yaws and non-venereal syphilis, in the sense that yaws does not appear to thrive outside the intertropical zone, while non-venereal syphilis does well in colder climes.

Therefore, if all these diseases are caused by the same spirochete, or at least closely related ones, the main differences to be observed between them are the mode of transmission, the climate zone where they can survive, and some of the symptoms, syphilis being, generally speaking, more gruesome than yaws, although yaws in its later stages can be quite nasty too. Nevertheless, yaws is usually regarded as a much milder disease, particularly as an infliction of very young children. Mothers for instance, were reported to put their healthy toddlers in bed with children afflicted with yaws, in the expectation that they would then be spared in later life having acquired life-long immunity. Even then, however, it was still fairly widespread among adults in the nineteenth and twentieth centuries, making their lives quite miserable before the discovery of salvarsan.

Given the fact that syphilis and yaws are caused by the same, or at least an up to now undistinguishable spirochete, it stands to reason that if someone catches one of these diseases and lives to tell the tale, he or she will have acquired at least partial immunity against the other one.

The origins of syphilis

Given these confusing facts, it is no small wonder that there are various theories about the origins of syphilis (venereal and non-venereal) and yaws, as they are so difficult to differentiate, both in older descriptions and in skeletal remains. Contemporary opinion during the sixteenth century mostly appears to have favoured the theory that (venereal) syphilis, a new and terrible disease, which had apparently spread from Naples all over Europe after 1495, was closely connected to the 'discovery' of America a few years earlier. This is the so-called Columbian hypothesis.

The second, or pre-Columbian, hypothesis suggests that venereal syphilis was a European disease that was not distinguished from leprosy. According to this theory, the alleged epidemic resulted from the recognition of syphilis as a separate disease in the 1490s.

The third, or Unitarian, theory argues that the agent of syphilis was present in and evolved with human populations in both the Old and the New World. It manifested itself as yaws in humid tropical zones, as endemic (non-venereal) syphilis in drier rural areas, and as venereal syphilis in urban centres, where the causative agent could no longer spread itself by skin contact, as clothing and some minimal standards of hygiene became usual there (Baker and Armelagos 1988: 703-4, cf also Quézel 1992: 33-49).

In a review of the literature, particularly that on skeletal remains, Baker and Armelagos concluded in 1988 that the presence in pre-Columbian Europe of syphilis, either of the endemic or of the venereal variety, was not supported by

convincing evidence, while pre-Columbian skeletal remains from the Americas clearly show signs of a treponemal affliction, in all probability endemic (non-venereal) syphilis. Only one skull of a young child appears to support the possibility of congenital and therefore venereal syphilis in pre-1492 America, which would be a bit meagre as evidence for widespread venereal syphilis there.

If we accept these findings, we must conclude that Columbus and his sailors contracted an endemic non-venereal treponemal disease in the West Indies, which turned venereal when it was transmitted through sexual contact in Europa, where the non-venereal transmission was much more difficult among a fully clothed population. While the endemic American variant of *Treponema* was probably often a mild childhood disease, when it was transmitted sexually between non-immune adults, all of a sudden it turned very nasty, something well captured in horrific records from the period and in horrid drawings of awfully disfigured people. At that stage, venereal syphilis was not seldom lethal. By the end of the sixteenth century, the more virulent form of syphilis began to recede, as is usual when a disease has been around for some time (McNeill 1979: 218-220, Quézel 1992: 50-72, Bynum and Porter 1997, I: 564, Watts 1997: 125).

The origins of yaws

But what about yaws? The literature on the history of yaws is barely a shadow when compared with the volumes that have been written about syphilis. Insofar as scholars had an opinion on the topic, they usually argue that it has an African origin. According to this view, it arrived in the

Americas with the black slaves imported by the Portuguese and the Spaniards, an undertaking partly inspired by the fact that Africans had more immunity against the European disease that killed the Amerindians in droves. This opinion is partly based on medical data from the sixteenth century, partly on the fact that yaws was still rampant (hyperendemic) in Africa around 1900 and later (Hermans 1928: 6, 8, 16, Cartwright 1972: 63, Kiple and Ornelas 1996: 67, Bynum and Porter 1997, I: 523).

However, there are also those who have argued that yaws was originally a fairly harmless American disease which turned into venereal syphilis in European bodies after they had acquired the treponemal affliction through sexual contact with Amerindians post-1492, a disease which then spread alarm and despondency in Europe, where it was transmitted sexually (Watts 1997: 127). The above-mentioned Unitarians of course saw it everywhere in the humid tropics. There appears also to be some evidence for the presence of yaws or syphilis on the Pacific Islands prior to European contact (Baker and Armelagos 1988: 711, Wills 1996: 195, Watts 1997: 127). Moreover, if it is so hard to distinguish yaws from (endemic) syphilis in skeletal remains, how can we be sure that yaws was not present in tropical America?

Yaws in Indonesia

I now turn to yaws in tropical Asia, and particularly to the Indonesian Archipelago, in order to find out whether the story of yaws there can shed some light on its origins.

According to one source, yaws (*parangi*; again referring to the 'Franks') was introduced to Sri Lanka by the negro slaves from Mozambique, introduced by the Portuguese. A study dating from the 1920s states in very general terms that it is possible that African slaves (of the Portuguese) transmitted yaws to tropical Asia. In the Philippines the term *bubas* is used in the 1580s and 90s for a disease recently introduced, in a context that suggests that it was yaws rather than syphilis, while the term appears to be close to *bobas*, the name for yaws in many eastern Indonesian languages (see below) (Hermans 1928: 18, Urugoda 1987: 55, Newson 1999: 1840). The term *bubas* could have an American or African origin, or both (Hermans 1928: 4, 16).

The earliest references to yaws in the Indonesian Archipelago date from the 1620s. In a report, dated 1624, it is mentioned that the assistant, Dick Malburch (the name sounds European), in western Seram, Moluccas, had suffered from the Amboinese pox for a number of months. This was the term for yaws used in the Dutch sources prior to the middle of the nineteenth century. The term pox suggests the likeness to the Spanish or French pox (syphilis). In a source, dated 1628, it is recorded that one-month old children in Ambon, Moluccas, already could contract the Amboinese pox.

The following quotation is from the physician Bontius, who died in 1631:

There is an endemic or popular disorder in Amboyna, and the Molucca islands particularly, which in its symptoms resembles much the venereal disease. But they differ in this respect, that the

former is produced without any venereal embrace.

(Bontius 1931: 181)

Bontius stated that the same medication was used for yaws as for syphilis – guaiac, radix china, and, if that did not cure the patient, mercury and antimony. Clearly, therefore, the disease that later on would be called yaws, and by the Dutch, by its Latin name, framboesia (tropica), was mainly to be found in and around Ambon, for example in Seram, and perhaps generally in the northern Moluccas (Ternate, Tidore, Bacan, Makian), for which the term Moluccas was then reserved (Tiele and Heeres 1890, II: 24, Colenbrander 1911: 205, Bontius 1931: 181-3).

In a publication dating from the 1680s, but referring to a sojourn on Ambon in the 1630s and 40s, Johann Wurffbain stated that in that area there were diseases that were unknown elsewhere, such as the Amboinese pox. These pox were very large, poisonous and painful, looked more like scabies, and took several years before disappearing. His fellow countryman Johann Jacob Saar, in the same area during the 1640s and 50s, recorded that the Amboinese pox was an infamous endemic disease⁷ in the area, which many people got each year, and others once every two or three years.

A key passage is to be found in a source, dated 1653, where it is stated that the slaves from New Guinea, being employed by the people of Banda (Moluccas), had acquired yaws when they were young, as had the Bandanese. Thus, when they became adults, they were usually free from

it. This in contrast to the slaves from Malabar (southern India), who, unfamiliar with the disease, were afflicted with this ‘pestilential plague’, because of which many died, while others remained invalids (Wurffbain 1686: 47, Leupe 1875: 47, Saar 1930: 47).

This appears to imply in the first place that yaws had reached New Guinea (from the Moluccas or from the Pacific, where, according to sources cited above, it had existed in pre-Columbian times), and, secondly, that it was unknown in southern India at that time. It also implies that the disease was often lethal to those who had no experience with it, and had therefore no immunity.

Another important bit of information dates from 1665, when 4 or 5 soldiers afflicted with Amboinese pox were sent from Ternate to Batavia. They had begged to remain on the island of Ambon, where their ship probably made a stopover. As they testified to the Ambon commander, they were convinced they could only be cured in the eastern parts of the Archipelago, or, in other words, the Moluccas. Here we find another reference to the belief mentioned above, that the cure for a disease was only to be found in the region where the disease itself was encountered. Apparently, by that time yaws had not yet reached Java.

In 1672, a slave with Amboinese pox, who possibly just arrived from Ambon presents the first recorded case, at least to my knowledge, to be encountered in Java. The slave, owned by a Batavia citizen, had run away but was subsequently caught and apprehended by the Resident (the highest local Dutch VOC functionary) of Jepara (central Java’s north coast). However, because the slave was afflicted by the

⁷ The term used is – in translation – ‘disease of the country’.

disease, his master did not want him back. The Resident reported to Batavia authorities that the slave had Amboinese pox, a disease to which many children were subject. He does not specify, however, whether he is talking about Javanese children, and the fact that he writes these sentences to authorities in Batavia seems to suggest that he assumed that the VOC functionaries in Batavia might not be familiar with the disease and its properties.

Finally, reverend François Valentijn, writing shortly after 1700, stated explicitly that only the people from Ambon got the Amboinese pox, and that it affected only very rarely other indigenous people or Dutchmen. It looks therefore as if even by 1700 yaws had not yet reached Java.

However, naval captain Stavorinus, visiting Java around 1775, stated that the endemic disease ('disease of the country') to which the Javanese were particularly subject was an affliction that the Dutch called the Javanese pox, which was a kind of lues – another term for syphilis – but less malignant. This sounds remarkably like a reference to yaws. Note that here the term Javanese pox is used instead of Amboinese pox (if we accept that yaws was meant).

The prevalence of yaws is confirmed by the British administrator John Crawfurd, who served under Thomas Stamford Raffles during the so-called British Interregnum (1811-15). He is the first European source to use the Javanese word for the disease, *pathèk*, and also the first one to my knowledge to use the term 'yaws' for this disease in the Indonesian Archipelago. According to him the introduction of the disease was attributed to the Chinese. Apart from the question of

whether a Chinese origin is plausible, it is at least interesting to note that at the beginning of the nineteenth century, yaws in Java was apparently still thought of as an alien affliction (Daghregister 1665: 207, Daghregister 1672: 249, 260, Valentijn 1724-6, II: 248, Stavorinus 1797-8, II: 270, Crawfurd 1820, I: 34).

So it would appear that yaws had reached Java somewhere between 1700 and 1775, but certainly prior to the British Interregnum.

However, even as late as 1848, children who were afflicted with yaws in the Surakarta Residency, southern central Java, were sent by the indigenous bureaucracy to certain villages in order to isolate them from the general population. This suggests that at least in this inland part of Java, the population had not yet come to terms with the disease.

In 1853, though, a high prevalence of yaws was reported in Jepara, northern central Java, particularly among children. To my knowledge, this is the first record for Java of yaws as a disease that affected mainly children, something that was reported already for the Moluccas in the seventeenth century (Bosch 1852: 337, Wassink 1854: 397, Ludeking 1868: 151-3, Kreemer 1915: 106).

Yaws comes to Java?

It is tempting to suggest that the moment of arrival of yaws in Java has been captured in the Dutch sources dating from the 1750s, when they described a particularly nasty episode of famine and epidemics in western Java between 1756 and 1760.

Famines, caused by droughts or floods, often in combination with war, and epidemics, which were often exacerbated by bad weather conditions and food scarcity, were regular phenomena in the Indonesian Archipelago at least until the beginning of the twentieth century. Therefore, reports, dated 1754 and 55, on rice shortages and riots on the Batavia rice market owing to harvest failures caused by excessive rain and protracted war were nothing out of the ordinary. Prior to these years, Java had enjoyed a 25-year period during which famine or high mortality were absent, although occasional droughts, partial harvest failures, and high rice prices were not.

However, the modest problems of 1754/5 would only get worse in the years to come. In 1756 there were harvest failures in two areas in or near western Java, Cirebon and Pekalongan, this time caused by drought, problems which led to 'land flight' – hungry people leaving their villages, searching for food elsewhere. In 1757, an unheard of drought and high mortality were recorded in Priangan and Banten, both western Java, while the harvest failures in Cirebon continued. In 1758, high mortality was reported from Priangan, Buitenzorg and Krawang, again in western Java, while in 1759 similar reports came from Cirebon, Banyumas and Bagelen, where people left their areas in droves. The literature suggests that by the following year the worst was over, the situation having returned more or less back to normal by 1761. During the period 1757 to 1760 between 100,000 and 150,000 people perished, which was 10-15% of the area concerned, and 2-3% of the population of the entire island.⁸

⁸ See Boomgaard 2005 for more details on 18th-century famines and epidemics in Java.

So where did this enormous mortality rate come from? Partly, no doubt, it was caused by famine, which was in turn the result of harvest failures owing to drought. In addition to this the high death rate was, according to various sources, also caused by a pestziekte, or, in other words, a 'plague', an epidemic. There is, alas, only one source that names the disease, and the term used there is bobik. This name is not found in any dictionary, but it reminds us of another term, boba, meaning yaws in various languages of eastern Indonesia; it could perhaps be a combination between pathèk, the Javanese term for yaws, and boba (Radermacher and van Hogendorp 1779: 27, Haan 1910-12, IV: 526).

I suggest that during these years, yaws made its entrance in Java, precisely during a period of harvest failures, when the population of western and western central Java had less resistance to diseases anyway. If we then take into account that yaws was a new disease for the island, it seems possible that an otherwise often relatively harmless childhood disease, with which the people of the Moluccas had learned to live a long time ago, suddenly turned out to be a major killer on 'virgin' soil. We saw that the slaves from Malabar, where the disease appears to have been unknown in the seventeenth century, were also killed by yaws, a disease new to them. Some 15 years later, the disease appears to have settled down in Java, according to Stavorinus' testimony dated 1775, (though this is certainly the case by the 1810s).

The suggestion that the disease to hit western Java so forcefully in the late 1750s was yaws, is, of course, highly speculative. Several questions come to mind. Is 15 years not a bit short for a disease to become more or less endemic? It probably is, but it is far from clear how

much we can trust Stavorinus' observation, or whether his remark can only be applied to some sea towns (which as a sea captain, he was probably more familiar with than the inland areas). If we take into consideration that yaws in Java may not have turned into a childhood disease prior to c. 1850, or one hundred years after its purported introduction, we are looking at a fairly plausible time span. We are also bound to ask why yaws, which had been present in the Moluccas at least since the 1620s but probably much longer, never infected large numbers of Javanese before the 1750s, while it appears to have infected the Papuans much earlier, unless one assumes yaws had come from the Pacific Islands. In order to try and answer that question, it is important to know the origins of yaws in Indonesia. The most likely explanation in my view, is that it came with the Portuguese and their African slaves who were early (c. 1500) visitors in the spice producing Moluccas. The alternative hypothesis is that it had come from New Guinea, where it may have arrived from the Pacific Islands in pre-Columbian times. We should then perhaps assume that yaws, like the sweet potato, had come from South America prior to 1492. It has been suggested that the sweet potato had just reached New Guinea via the Pacific Islands pre-1492, while the Portuguese or the Spaniards, who had found the crop in America, introduced it somewhat later in Indonesia (Boomgaard 2003). However, when the Portuguese and the Spaniards arrived, the sweet potato had, in all probability, not yet reached Indonesia from New Guinea, so a case could be made for a similar situation with yaws.

If we assume that yaws came to the Moluccas with the Portuguese soon after 1500, and may have reached the

Philippines perhaps by the 1580s, why did it not reach Java around the same time? A possibility might be that syphilis got there first. We do know that syphilis had reached Java by 1520, no doubt also with the Portuguese, and by 1580 it had become fairly common. As the two diseases are so similar, partial immunity against one of them appears to be acquired when a person is afflicted with the other. We know that there was not much syphilis in the Moluccas, while yaws was more or less ubiquitous (Ludeking 1868: 151), so perhaps the Javanese in the sea towns who had acquired syphilis were immune against yaws. We are left to speculate that the group of people without experience with syphilis had been growing in western Java, while the number of people from the Moluccas coming to western Java – particularly Batavia and its Environs – increased, which, in combination with a generally weakened condition owing to harvest failures, might have created a critical mass for yaws around 1750.

Conclusion

When around 1500 syphilis arrived in Asia with the Portuguese, it was obviously a new disease. The historical sources are quite clear about that. As a new disease, syphilis was much more lethal when first introduced into the population, than it would be later on, when host and spirochete had adapted to each other. This must have led to a somewhat higher mortality rate in Asia. However, to my knowledge there are no demographic historians who argue for a much higher death rate caused by syphilis in Europe, where it was a new disease as well, according to current opinion. Granted that although case fatality was high, it is unlikely that a large proportion of the

population would be affected. Although soldiers and sailors spread it among the lower classes, and members of the nobility among the upper classes, very large sections of the population remained probably out of reach, particularly when Reformation and Contra-Reformation tightened moral regulations in Europe, perhaps as a response to the threat of syphilis.

Data on case mortality in Asia is, to my knowledge, not available. It is occasionally stated that the disease spread rather quickly, but we have no way of knowing how quickly and to what proportion of the population. It is not impossible, in fact it is rather likely, that the spread of Islam and Christianity in Island Southeast Asia after 1500, and perhaps also the further spread of Buddhism in Mainland Southeast Asia, should be regarded as the equivalent of a Puritanical backlash in Asia comparable to the one in Europe (cf. Reid 1988: 161). The propagation of these religions might have mitigated the impact of syphilis in societies that were rather lenient regarding premarital sexual relations.

Be that as it may, it is out of the question that the impact of syphilis in Asia would have come near the terrible death rates in the Americas caused by the new disease the Europeans had imported after 1492. All the diseases the Europeans brought to America, such as smallpox and influenza, were doubtlessly already present in Asia when the Europeans arrived there. After all, most regions of Eurasia had been part of a common disease pool for a long time by 1500 (Roy Ladurie 1973, McNeil 1979). It should be mentioned here in passing that in the light of this Eurasian disease pool theory, the fact that syphilis was apparently new in Asia around 1500,

is a confirmation of the notion that syphilis was new to Europe too, thus supporting the Columbian hypothesis.

Asia was not a world without STDs prior to 1500. Historical demographers however, need to find more, earlier and better data on the spread of both gonorrhoea and syphilis as both diseases considerably affect the rate of population growth. Although gonorrhoea can be rather harmless, it can lead to infertility, and given the examples of high proportions of people afflicted with the disease quoted in this paper, this must have had some bearing on the birth rate. Syphilis, apart from the fact that it can be inherited (congenital syphilis), often leads to premature births, stillbirths, and high infant mortality. Technically speaking, the last factor is part of the death rate and therefore has no bearing on the birth rate, but clearly it leads to lower rates of population growth.

The other disease new to Asia was yaws, an illness that does appear to be limited to hot and humid climates. The historiography on this much less spectacular disease, to which no moral opprobrium was attached, is much more modest than the literature on syphilis. The disease was present in the Moluccas at the beginning of the seventeenth century and probably much earlier. A case is made here for the introduction of the disease by African slaves in the employ of the Portuguese, which is in keeping with an often assumed African origin of yaws.

During the seventeenth century yaws was already a childhood disease in the Moluccas. It does not appear to have reached Malabar and Java at that stage, but Papuan slaves in the Moluccas had been confronted with it in the area where they had been captured (New Guinea). Around

1800 yaws was present in Java; by 1850 it was a childhood disease in some areas of the island. It is suggested in this paper that the introduction of yaws in Java took place during the famine years 1756-60, when as much as 10-15% of the regional population succumbed to a combination of famine and an epidemic that appears to have been yaws. It is an often reproduced phenomenon that a newly introduced disease is a big killer which then settles down and becomes a relatively harmless endemic disease, caught by many in their childhood.

The Portuguese, their African slaves, and possibly the Spaniards therefore, introduced two new diseases in Asia: syphilis and yaws. The first originated in America, the second in Africa. They were both lethal to many of those who contracted the diseases immediately after they were introduced, settling down probably within a century (at least locally). Therefore, these introductions must have had some impact on the death rate, but there is no evidence that it was anything comparable to the onslaught that took place in the Americas when new diseases were introduced from Europe. Syphilis must have had an impact on the birth rate as well, but again, it is unlikely to have been more than marginal.

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