On 5 July 1494, the army of King Charles VIII, invaded Italy and got as far as the city of France, which he entered ceremoniously dressed as a Byzantine Emperor. But this was the limit of his success, before long Charles had to retreat northwards and was defeated by a Venetian force at the Battle of Fornovo, near Parma. The defeat was not just Military, the doctor accompanying the Venetian troops as they pushed forward to expel the vanquished French army from Italy, came across a new and disturbing sight among the captured soldiers of the French king.

The doctor wrote that he encountered several men-at-arms or foot soldiers who, owing to the ferment of the humours, had “pustules” on their faces and all over their bodies. These looked rather like grains of millet, and usually appeared on the outer surface of the foreskin...Some days later, the sufferers were driven to distraction by the pains they experienced in their arms, legs and feet, and by an eruption of large “pustules” [which] lasted...for a year or more, if left untreated.

Another Venetian doctor reported seeing sufferers who had lost their eyes, hands, nose or feet, with sores penetrating to the bones. He had no doubt about the means by which this hitherto unknown, painful and deadly affliction was transmitted: ‘Through sexual contact’, he wrote, ‘an ailment which is new, or at least unknown to previous doctors, the French sickness, has worked its way...to this spot as I write.’

Most of King Charles’s troops were mercenaries, not only from France but also from Flanders, Switzerland, Germany, Italy and Spain. As the defeated French troops were disbanded, they returned home, carrying the new disease with them. The first poem written about the disease was already written in 1496 by the German humanist Sebastian Brant, best known for his treatise The Ship of Fools, published in 1494 and illustrated by Albrecht Dürer, whose portrait of Brant is shown here. Brandt’s new publication was entitled De pestilentiali scorrà sive mala de Franszov; it was widely distributed through the new medium of the printing press, and illustrated with a woodcut showing the Virgin Mary sitting on a cloud with the infant Jesus on her knee, about to crown Maximilian von Habsburg Emperor, as he gathers his troops a crusade against blasphemers. These blasphemers are already being punished by God and the Virgin with the deadly affliction of the French pox, shown clearly in the picture on the frontispiece.

The disease’s spread was relentless. By 1497 it had reached Scotland, where King James IV issued a proclamation against ‘this contagious disease called Grandgor’, which had broken out in Edinburgh, ordering the infected to ‘present themselves at ten o’clock in the morning on the beach at Leith, where they will find made ready in the port boats which will be assigned to them by Officers of that place, and will be provided with victuals, and which will transport them to Inch [an island in the Firth of Forth], where they must remain until God restores their Health.’ Just to make sure they did assemble on the beach, the King added that ‘anybody who is found to be infected, and who does not go to Inch, has as been set out here, by sunset on Monday, ....will be branded on the cheek with a red-hot Iron.’ These drastic measures were in fact not put into effect, but they illustrate the alarm felt by authorities across Europe as the disease began to affect people for whom they were responsible.

It’s even possible to chart its progress by the names it was given: ‘the great pox of Naples’, ‘peste de Bordeaux’, ‘gorre de Rouen’, and above all ‘the French disease’ or ‘the French pox’. Within a couple of years the ‘French sickness’ had spread across Germany and by the early years of the new century the ‘German sickness’ had broken out in Poland and then the ‘Polish sickness’ in Russia. The Turks called it ‘the disease of the Christians’ while the Persians called it ‘the disease of the Turks’. Before long it carried by Vasco da Gama and his ships to India and Japan too, where its origins were indicated by the name ‘the Portuguese sickness’, while ‘the British sickness’ eventually spread to Tahiti and the Pacific in the course of the eighteenth century. From 1553 it was widely known as syphilis, from a long Latin poem published that year by Girolamo Frascatoro, a medical student of Copernicus. Entitled Syphilis sive morbus gallicus, it was an imaginary account of the shepherd Syphilus, who was punished for blasphemy by being made the first to suffer the pox - the name by which the disease was commonly known; in the poem, the people named the disease after him, and such was the popularity of Fracastor’s poem that the designation was quickly adopted almost universally by the medical profession.

Treatises on the disease, accompanied by illustrations of the symptoms, as here, in a coloured woodcut supposedly by Dürer, were already appearing before the end of the fifteenth century. One sufferer, Joseph Grünbeck, from Augsburg, private secretary to the Emperor Maximilian, provided the first detailed description of the disease, in 1496, adapting the woodcut used by Brandt to illustrate the symptoms. Grünbeck caught the pox, he reported, at an Imperial banquet which, he noted, was attended by Venus as well as by Bacchus. He soon began to experience a swelling of his sexual organs followed by abscesses, and then pustules all over his body, all accompanied by excruciating pain. His friends and acquaintances began to avoid him, and he was left to suffer alone. Searching for a cause, he recognized the sexual mode of transmission but of course wondered why he had not caught the disease in previous sexual encounters. His answer lay in an unfortunate conjunction of the planets, to which in fact he devoted the bulk of his treatise - an explanation familiar as I noted in the first
immunity to these diseases. The slave trade brought huge numbers of human beings from Africa, the horse, smallpox and the common cold, which destroyed the civilizations of the Aztecs and the Incas, who had no central middle ages. After Columbus however came the Spanish and Portuguese conquistadors bringing Prior to this there had only been extremely temporary and short-lived contacts, notably by the Vikings in the South America that cause the treponemal disease yaws. As the researchers concluded: 'The evidence keeps accumulating that a progenitor of syphilis came from the New World with Columbus’ crew and rapidly evolved sexually transmitted in the Americas or whether it only became so when it was imported into Europe, but as to the date when it arrived in Europe there is now very little room for doubt.

The bacterium Treponema Palladium that causes Syphilis was part of what’s become known as the Columbian Exchange, a wide-ranging exchange of humans, animals and plants and other organisms between Europe and the Americas inaugurated by Columbus in 1492. Prior to this there had only been extremely temporary and short-lived contacts, notably by the Vikings in the central middle ages. After Columbus however came the Spanish and Portuguese conquistadors bringing smallpox and the common cold, which destroyed the civilizations of the Aztecs and the Incas, who had no immunity to these diseases. The slave trade brought huge numbers of human beings from Africa, the horse,
changing dramatically the lifestyle of the Plains Indians, and much more besides; in the other direction came not only syphilis but also many other more welcome visitors ranging from potatoes and pumpkins to courgettes and artichokes. Perhaps the most destructive of all exports from the Americas to Europe were tobacco, sugar and chocolate, both more dangerous even than syphilis.

But it was syphilis that initially caused the most widespread suffering and death. However, by the mid-sixteenth century, observers were beginning to note that it was declining sharply in virulence. As Frascatoro noted in 1546, ‘although this pestilential disease is at present still fully active, it is no longer the same as it was at first.’ Pustules, he reported, were ‘now only to be found on a very small number of patients, and the pains are negligible or very slight...The sickness is in decline.’ Either people had developed some resistance to the most extreme symptoms, or the disease itself had mutated into a less virulent form. Whatever the reason, by the 1540s it settled into the form, or forms it has more or less persisted in taking up to the present day. The primary form of the disease emerges about 90 days after infection in the form of sores on the skin, followed by the secondary stage with rashes, sore throat and hair loss. The tertiary stage usually occurs between three and fifteen years after the initial infection, and can take the form of soft, sometimes quite large tumour-like but benign growths anywhere on the body, or in the cardiovascular system, when it leads to aneurysm and not infrequently death, or it can affect the central nervous system causing dementia or paralysis. Not everyone who develops each stage goes on to the next one, and some have an asymptomatic but still mildly infectious variant. It can also be congenital, passed on before or during birth, sometimes showing a characteristic deformation of the nose, or other physical or neurological problems; Gérard de Lairesse, here shown in a portrait by Rembrandt, is generally thought to have suffered from congenital syphilis, though neither he nor Rembrandt was aware of it; there is in fact no other evidence for the theory apart from this painting, though it is known that he went blind later in life.

Treatment for the disease remained more or less the same as it was on the disease’s first appearance. Guaiacum, the powdered wood shown being prepared and administered in this painting by the 17th-century Dutch artist Stradamus or Jan van der Straet, did not help effect a cure, but at least it was relatively harmless in comparison to the standard treatment by mercury, usually in a steam-room which helped generate mercury vapours which the patient breathed in during the twenty to thirty days of therapy. The side-effects of mercy therapy included loss of teeth, shaking, paralysis and much more, though these were usually ascribed to the disease rather than the supposed cure. Later on, indeed, the ingestion of mercury in a potion such as Van Swieten’s liquor became more common, administered in a variety of ways as this 17th-century Dutch pamphlet shows. Bloodletting and purgatives continued to be used in accordance with the still-dominant humoral theory of medicine. Medical treatises began to identify the various stages of the disease but in general no real advances were made in treatment or prevention, except by general warnings against licentiousness and advice to wash oneself after intercourse. As hospitals began to be founded in the late seventeenth and early eighteenth centuries, wards for the treatment of syphilitic patients were established, but as with most diseases of the time, hospitals did little or nothing to effect a cure, and indeed probably made things worse since their general lack of cleanliness and hygiene made them ideal centres for the spread of infection.

As a sexually transmitted disease, the great pox also became the subject of widespread moral disapproval and condemnation, the punishment visited by God not upon the human race in general, as it had seemed to begin with, but on errant and immoral individuals. This new discourse fitted in well with the new moral severity of the Reformation and Counter-Reformation in the sixteenth century and Pietism and Puritanism in the seventeenth. The writer and moralist Erasmus argued for instance that if a man got married and concealed from his bride the fact that he was a ‘slave to that very strict mistress, Syphilis’ – the first recorded use of the word as a synonym for the pox, incidentally – then she would be justified in abandoning him. One of the characters in his tract says that such men should be castrated, and when another character asks ‘what would you do to women?’ he replies: ‘I would give them chastity belts.’ As an Italian writer from the early seventeenth century concluded, ‘the searing droplets of this cruel sickness fall on those who are hot with love and dirtied with lust; it is a punishment for their misdeeds and their shameful desires.’

The fashion for libertinism in the early eighteenth century aristocracy was a reaction against such moral Puritanism, but it only led to a renewed spread of the disease, noted by many commentators. In Voltaire’s Candide a beggar turns out to be Pangloss, ‘all covered in pustules, his eyes lifeless, the end of his nose eaten away, his mouth skewed, his teeth black, speaking throatily, tormented by a violent cough, and spitting out a tooth with every effort’: as Pangloss confesses, he caught the disease from ‘our august baron’s pretty maid; in her arms I tasted the delights of paradise, and they have led to the torments of hell, which, as you see, have devoured me; she was infected with this thing, and perhaps she has died of it.’ Typically for Voltaire, the infection is then traced back to a Jesuit. In similar critical vein is Hogarth’s series A Harlot’s Progress. Moll, the heroine, or anti-heroine, eventually dies of syphilis while the doctors dispute over the proper treatment of the disease, and her landlady steals her clothes, while in the brothel scene from the parallel series of moral prints, A Rake’s Progress, Hogarth depicts Tom Rakewell in the Rose Tavern, a famous house of ill-repute in Covent Garden, consortiling with prostitutes who have disguised their syphilitic sores with fashionable-looking beauty spots.

Even as late as the 18th century, contemporaries did not distinguish between syphilis and other sexually transmitted diseases in the eighteenth century, so it is often difficult to decide what exactly someone like Dr Johnson’s biographer James Boswell was suffering from when he reported in his diary that he had an attack of a ‘disgusting disease’ after visiting a ‘low house in one of the alleys in Edinburgh’, or Casanova when he reported...
that he had to undergo a six-week course of treatment for ‘the sickness we describe as French’. By this time attitudes had become somewhat casual, perhaps reflecting a decline in the disease’s virulence. Casanova for example reported that when a surgeon ‘whispered in my ear that my valet had the pox, I burst out laughing, for I was expecting some horror’. Nevertheless its effects could still be deadly. It’s generally thought for example that the composer Franz Schubert caught the disease during a visit to a brothel in 1822; he was certainly in poor health thereafter, and died, most probably from the effects, six years later. Another composer, Robert Schumann, died of the disease in 1856, its effects probably compounded by mercury poisoning; he had descended into madness a few years before and ended his days in a mental hospital.

It was not until much later in the century, however, that it began to be possible to speak openly of the disease, over which a veil of Victorian prudery had descended in the 1830s and 1840s; the Norwegian dramatist Henrik Ibsen’s play Ghosts still caused a public scandal when it was first performed in 1894, because it featured the long-term effects of a sexually transmitted disease on one of the principal characters. The Daily Telegraph was one of many that condemned what it called ‘Ibsen’s positively abominable play entitled Ghosts... An open drain: a loathsome sore unbandaged: a dirty act done publicly... Gross, almost putrid indecorum.’ At the end of the play the character descends into the madness typical of tertiary syphilis, and such an allusion to sexual immorality was considered unacceptable on the stage.

Yet the association of syphilis with sexual immorality never went away. It focused with particular intensity on the role played in the disease’s transmission by prostitution, and to the rationalists of the French Revolutionary and Napoleonic era the solution was not so much for men to avoid temptation and especially to avoid brothels, an idea which was clearly, they thought, unworkable, but for prostitutes themselves to be registered and controlled. This was a time when the emerging public sphere, the new world of open and untrammeled public debate, legislative assemblies, elections and political parties inaugurated a new definition of the male and female character, the former resolute, responsible, rational and active, the latter vacillating, weak, emotional and passive. One of the effects was to prompt the French government in 1800 to introduce a law making it compulsory for the police ‘to supervise brothels and those who reside there or who are found there, and to furnish the means of preventing and containing contagious diseases’. Prostitutes had to be registered from 1802 and brothels were regulated two years later.

Medical authority for these measures was provided in 1836 by the hygienist Alexandre Parent-Duchâtelet’s hugely influential tract on prostitution in Paris considered as a problem of public hygiene and morality. He charted the distribution of prostitutes across Paris, and declared that women of loose morals deserved to be registered, locked up, subjected to regular medical examinations, and sent if ill to a locked hospital ward until they recovered, because ‘they make themselves unworthy of...freedom by abandoning themselves to their unbridled passions and all the excesses of a dissolute life. Freedom in this case’, he concluded, ‘amounts to licentiousness, and licentiousness destroys society,’ Keeping them under control would prevent men from corrupting honest and innocent women. Moreover, uncontrolled brothels were widely seen as centres of criminality, where honest men were cheated and crimes of many varieties plotted and carried out; here for example is a German engraving of ‘the customer cheated of his money’. The system of regulation spread across Europe with the influence of Napoleon’s conquests and administrative reforms, becoming standard for example throughout most of Germany in the 1820s. It was justified in Britain in the 1860s by the medical authority Dr William Acton, who believed that women who became prostitutes were morally and physically disordered, untypical of the female sex as a whole. Such ideas were taken up in particular by military authorities, who managed to institute a system of regulation in garrison towns through the Contagious Diseases Acts.

These policies ran into increasing criticism in the late nineteenth century from the emerging feminist movement, led in this case by Josephine Butler, which questioned why the male customers of brothels were not regulated or controlled but allowed to spread disease with impunity. ‘Fallen women’, as they were called, were victims who had been forced into immorality, as shown in this 1887 illustration of the figure Fantine from Victor Hugo’s novel Les Misérables. They could be ‘rescued’ and restored to health and a normal moral life in homes and refuges. Abstinence was the ultimate cure for men. A more realistic criticism of the system of regulation was that it was widely and constantly flouted. Unregulated prostitutes always far outnumbered those under police control, and across Europe the ‘morals police’ charged with enforcing the regulations became a byword for corruption.

What effect did regulation have on the incidence of sexually transmitted disease? Warnings in pictures and in print continued to be issued about the dangers of disease lurking behind the apparently attractive sexual companion – warnings issued to men about women, not the other way round. In 1864, indeed, nearly 30 per cent of all troops in the UK were reported to have been infected with sexually transmitted diseases. The
Contagious Diseases Acts had little effect in reducing these figures. The system of the registration and confinement of prostitutes continued on the Continent, as seen here in a French illustration from 1888—such milieux provided plenty of material for Toulouse-Lautrec and his friends—but was not continued after the 1880s in the UK. Death rates from syphilis in the UK rose very sharply from 1850 up to the end of the 1860s, then levelled off, to decline from the mid-1880s onwards in the new moral atmosphere of the time, as organizations for the improvement of public morals became more influential.

Medicine did not have much effect in the 19th century either. Some progress was made in identifying different types of sexually transmitted diseases, with Philippe Ricord in France carrying out rigorous scientific investigation to establish conclusively the existence of syphilis as a distinct, separate infection. Even Ricord, however, continued to favour mercury treatment, and the various vaccines that were developed did more harm than good. In an increasingly commercial age it was not surprising that patent remedies made their appearance on the market, but these did more harm than good as well. It was not until close to the end of the century that it began to become respectable for medical researchers to concern themselves with the disease at all. Improvements in microscopy technology, the development of aniline dyes and stains, and the emergence of the new science of bacteriology allowed researchers to identify the causative agent, the prize for its discovery going to two German scientists Fritz Schaudin and Erich Hoffmann in 1905. The medicine of the era had become very good at discovering the causes and mode of transmission of a whole range of diseases, but curing them was another matter.

Unusually, however, relatively effective treatment followed on the identification of the causative agent very quickly in this case. The scientist Paul Ehrlich, in Frankfurt, had for some time been engaged in experiments to develop a way of attacking microbes with arsenic compounds without causing collateral damage to other cells: what he christened the *magic bullet*. In 1909, in his 606th experiment with different compounds he succeeded in developing a chemical treatment for syphilis, which he called *Salvarsan*, marketed by Hoechst AG the following year, and in an improved version a few years afterwards. This was the first chemotherapy to be applied to any disease. It was difficult to use and carried with it dangerous side-effects, but it was effective if employed properly and began to be used in dispensaries set up in many countries during and after the First World War. In addition, the galvanization of rubber in the mid-nineteenth century had led to the manufacture and now the mass-marketing of condoms, and their use was advocated in large-scale propaganda campaigns in the interwar years. The US army produced a short film in the First World War entitled *Fit to Fight*, whose effectiveness was somewhat reduced when it was banned by the New York State Board of Censors as obscene; and in 1940, amid renewed official anxiety as America prepared to enter the Second World War, Warner Brothers released another film, *Dr Ehrlich's Magic Bullet*, in which Edward G. Robinson played not his usual gangster role but the German scientist, whom the screenplay had deliver a series of denunciations of the silence usually surrounding the subject.

By this time, sexually transmitted diseases had increased in frequency, largely as a result of the First World War. In the mid-1920s it was killing 60,000 people a year in England and Wales, compared to 41,000 a year who died from tuberculosis. Since the disease had a generally low mortality rate, this means that the number of people infected must have been many times greater. Some figures were undoubtedly inflated. In 1925 the French Ministry of Health for example claimed that four million Frenchmen were infected, and another report in 1929 said the disease had killed more Frenchmen in the ten years since the war than the enemy had in the four years of the war itself. Still, the spread of dispensaries and the greater public awareness of the disease in the interwar years brought about a higher rate of reporting and treatment than before. An Inter-Allied Congress on Social Hygiene met in 1919, followed by major international conferences in Washington and Paris. The interwar years saw a major concern in many countries, not only Germany and Italy but also and perhaps especially France, with the birth-rate and the general health of the population, fuelled by the widely felt need to prepare for what most countries saw as the inevitable coming war. An enormous propaganda effort was unfolded not just by governments but also by a whole variety of voluntary associations for the prevention of sexually transmitted diseases. In the USA, Roosevelt's New Deal pushed a major public health programme unfolded.

It's even been described by historians as a nationwide obsession. The New Deal's drive to improve public health and the economy knew no respect for prudish moral convention. It even included an article in the *Reader's Digest*, a popular and highly respectable magazine with more than half a million subscribers. Posters everywhere presented shocking statistics to galvanize people into action and offering them hope of a cure at the same time. State, regional and local authorities developed their own campaigns, though their understanding of the disease's history, as here on the right, in a poster devised by the town of Hempstead, showing it as descending from the time of the dinosaurs, wasn't always very well informed. With the coming of the Second World War, government efforts to protect the health of the troops were redoubled. The enemy wasn't just the soldier firing at you; there were other ways you could be rendered ineffective for combat too, and these were just as much serving the enemy's interests as a bullet or a bomb. The American Social Hygiene Association was especially active here, with posters drawn by the *New York Times* cartoonist C. D. Batchelor warning troops of the dangers of over-familiarity with dangerous women, bringing sickness and shame on themselves and ruining their capacity to fight. On the left we have syphilis as an enemy agent destroying the war effort at home, in the munitions factories; in the centre two women labeled ‘syphilis’ and ‘gonorrhoea’ are portrayed as ‘transients’ lurking around outside US military facilities; on the right one middle-aged gentleman is saying to another as they sit in a street café, ‘My boy was wounded in the African landing’, while the other is forced to confess: ‘Mine was wounded in this country by a street walker’.
The American obsession with finding an effective cure led to two clinical experiments that later became infamous examples of the cavalier disregard for basic principles of medical ethics. In 1932 the US Public Health Service began trials with a carefully selected population of 399 poor black sharecroppers in Tuskegee, Alabama, who had already contracted syphilis before the study began. They were offered free medical treatment and meals, but told that they were being treated for ‘bad blood’, and they were treated with mercury, salvarsan and bismuth in a variety of tests, all of which had unwelcome side-effects, and subjected to painful and dangerous and completely irrelevant spinal taps. Some were given placebo treatments to try and measure the efficacy of these other remedies. Crucially, when 250 of the men registered for war service, they were found by army doctors to have syphilis, but the experimenters tried to stop them getting treatment, and the rest of the subjects were denied access to penicillin right up to the time when the study was brought to an end in 1972 after concerned doctors had alerted the press about the experiment. By this time, 28 of the original 399 men had died of syphilis, 100 had died of related complications, 40 of their wives had been infected with the disease, and 19 of their children had been born with the disease. These clearly racist and non-consensual experiments probably contributed to the notorious reluctance of African-Americans to seek medical help, but they also led to a wholesale revision of basic ethical standards in US medicine, and a public apology by US President Bill Clinton to the survivors and the victims’ families in 1997.

In 2010 an even more gross violation of medical ethics was discovered when it was revealed that the US Public Health Service had deliberately infected around 1500 soldiers, prostitutes, prisoners and mental hospital inmates in Guatemala with syphilis and other diseases between 1946 and 1948, with the co-operation of the Guatemalan government, in an attempt to gauge the efficacy of treatment with antibiotics. In some of the experiments the US health officials paid prostitutes to have sex with prisoners. Treatment with penicillin was completed in only a quarter of the subjects. The programme was stopped before treatment could become fully effective because of the expense of penicillin at the time. The US government has now apologized to Guatemala for the programme, but it illustrated once more how medical ethics were widely disregarded at the time, a subject I’ll return to in later lectures.

What the experiments suggest is that the situation was eventually changed by the development of antibiotics in the immediate postwar years. From the early 1950s penicillin was used as a treatment and proved highly effective, particularly in preventing transmission from infected pregnant women to their children. The results were spectacular. By the 1960s it was widely believed that the disease was on the way to complete disappearance. Yet from the 1960s onwards, with the advent of the contraceptive pill, the incidence of the disease began to increase again. It’s now generally accepted that it’s endemic in world populations, with particularly high incidence in Africa. There is a strong connection with war, political conflict and the mass movement of populations, as there has always been. In 1999 there were said to be 12 million cases worldwide, especially in the developing world. The advent of AIDS, which I’ll talk about in the last lecture in this series, pushed other sexually transmitted diseases off the front page, and while it quickly became possible to talk openly about AIDS the same is not true of the great pox, which remains a subject that it’s shameful to talk about.

The same is not true, indeed has never been true, of a very different but no less deadly infection, namely tuberculosis, which rapidly became as it were domesticated and even the subject of lengthy, detailed and sympathetic representations in literature, and it’s to this, the so-called white plague, that I’ll turn in my next lecture.

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