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Letter to the Editor

CHARLES LOUIS DROGNAT LANDRÉ AND GERHARD HENRIK ARMAUER HANSEN; CONTRIBUTION FROM A DUTCH COLONY TO THE DISCOVERY OF THE LEPROSY BACTERIUM

Introduction

According to recent medical historiography, investigations in the 19th century regarding the cause of leprosy were conducted by Norwegian and British researchers.¹ The most important person is the Norwegian scientist Gerhard Henrik Armauer Hansen who, in 1873 identified the causal microorganism of leprosy (Hansen's disease), *Mycobacterium leprae*.² There is still something new to be learnt by unravelling the historical process, through which this bacterium was discovered. The Norwegians M. Harboe and L.M. Irgens have both made historical notes.^{3,4} Harboe points out that: '*Drognat Landré wrote a treatise in 1869 on the basis of his epidemiological studies in Dutch Guiana.*⁵ He found that careful investigations of Europeans who got leprosy in Surinam strongly indicated that their illness was caused by infectious contact with leprosy patients. We know that this work made a strong impression on Armauer Hansen, but obviously not on the contemporary medical world'. Irgens writes: '. . . it seems that this treatise had a decisive influence on the young Norwegian physician G.H. Armauer Hansen and on his view on the etiology of the disease.' Little has been published about Drognat Landré and his research work, although in 1996 the French scientist V. Corruble referred to him as the founder of the theory of leprosy contagionism.⁶ In this paper we shall describe Drognat Landré and how he arrived in the 1860's at his controversial concept of leprosy contagionism.

THE EUROPEAN DEBATE IN THE 19TH CENTURY ON THE AETIOLOGY OF LEPROSY

Understanding the origins of disease was the major problem facing medicine in the 19th century, giving rise to much research and debate. Medical historians have shown that there was no straight development towards the germ-theory of disease. The range of germ theories was quite wide, and for most physicians the practical question of how diseases were spread into and within populations was important.^{7,8} This epidemiological question was debated extensively from the 1840s onwards between groups of so-called contagionists and anti-contagionists. The former group maintained that the prevention and control of epidemic diseases should be based on quarantines and isolation. The anti-contagionists were defined by their opposition to a singular focus on contagion to prevent and control epidemic diseases. The same debate can be identified in the international circulation of medical writings about leprosy control. In the 1850s and 1860s the main hypotheses came from three anti-contagionistic schools of thought: hereditarian, sanitarian, and dietarian.⁹ Norwegian and British researchers dominated the international scientific debate.¹ Leprosy persisted in Norway so enabling leprosy research. In Britain there was concern about the spread of leprosy in its tropical colonies, threatening the health of native populations, settlers and colonial administrators, and there was fear of leprosy being reintroduced into Britain. Less known is that these concerns were shared by Dutch medical and governmental authorities, the disease being prevalent and considered a serious problem in their colonies in the West Indies (most particularly

in Surinam, also called Dutch Guiana) and in the East Indies. Like their European counterparts Dutch physicians discussed the prevention and control of leprosy and also took part in the international scientific debate.

LEPROSY IN SURINAM

In colonial times there was a continuous stigmatisation of leprosy in Surinam. A markedly high prevalence kept leprosy high on the public health agenda and evoked policy responses. Based on figures from the leprosy commission in Surinam, the average annual incidence of leprosy between 1830 and 1860 was 10 new cases per 10 000 inhabitants.¹⁰ The majority of patients were descendents of African slaves. The total population of the country (free population and slaves) in that period was around 50 000.¹¹ The colonial administration regarded leprosy as a problematic disease which threatened the people and an already weakening plantation economy. To control the disease and reduce spreading, severe laws were promulgated, aimed at tracing and isolating patients.¹² According to Ooykaas, 315 people with leprosy and 21 suspected of suffering from this disease were cared for in 1853 in 'Batavia', the only leprosarium in the country in those days.¹³ G. Milroy, a British anti-contagionist, wrote about the treatment of 'lepers' in Surinam: '*They are treated as dangerous outcasts, being expelled and rigorously excluded (for the rest of their lives) from society, deprived not only of personal liberty but also of sundry civil rights*'.¹⁴ The segregation of leprosy patients in the Dutch West Indies, including Surinam, was maintained throughout the 19th century, notwithstanding the fact that in Europe until the 1880s the anti-contagionists had the upper hand in the debate and strongly opposed the use of quarantines and isolation. The Dutch East Indies, with many Dutch settlers and colonial administrators migrating to that prosperous Asian colony, and with local health policies that seem to have been moderately restrictive towards leprosy patients, adhered to the European view of anti-contagionism. From 1865 onwards the leprosy asylums in the East were closed down.¹⁵ The diverging developments of public health policies and theories regarding leprosy in the West and the East reflected the different characters of the societies and cultures in which they evolved.^{16,12}

THE LANDRÉ FAMILY

Charles Landré was a Dutch medical doctor of Huguenot ancestry, who in 1840 migrated from Amsterdam to Surinam. There he married Wilhelmina Kamerling, a woman of Dutch descent, born in the colony as the daughter of a sugar plantation owner. The life of the Landré family was strongly intertwined with leprosy. Charles Landré held a position as 'first city doctor' and was also a member of the 'leprosy commission'. Based on the laws of the time, this board examined people suspected of having leprosy and decided whether or not they had to be isolated. Landré's second son, Charles Louis (Figure 1), born in 1844, studied medicine in the Netherlands and published two books on the etiology of leprosy.^{17,5}

From the many references to his father, it is beyond doubt that both books were written in close collaboration between father and son. A fourth son, named Charles Drogmat, unfortunately fell ill with leprosy when he was two years old and died in Surinam in 1862 at the age of 12. In 1863 the family name of all the Landré children was changed on request of the parents to Drogmat Landré, by decree of the colonial government, in memory of the deceased child.¹⁸

C.L. DROGMAT LANDRÉ'S VIEW ON THE AETIOLOGY OF LEPROSY

Drogmat Landré's view on the aetiology of leprosy evolved from the work of the Dutch physicians G.G. Schilling, J.P. ter Beek, A. van Hasselaar and C. Landré (C.L. Drogmat Landré's father).¹² They successively studied leprosy in the 18th and 19th centuries in Surinam and supported hybrid aetiological concepts, combining infection with hereditary, dietary and environmental factors. Robertson has pointed out, that the seed and soil metaphor can be identified in the medical categories employed to



Figure 1. Charles Louis Drogmat Landré.

understand leprosy.¹ The notion of ‘soil’ is expressive of a range of environments in which the seeds of the disease were thought to flourish. The hereditary predisposition, the lifestyle and moral behaviour, dietary habits and cultural customs, are all encompassed by the concept of a ‘soil’. The seeds of the disease were regarded by the Dutch physicians in terms of a contagion. Starting from the hybrid explanatory models of leprosy, Drogmat Landré began his own exploratory expedition by closely observing the ‘dynamics of leprosy’ between people living in the colony. He reported that Europeans entering the colony without leprosy contracted it through contact with slaves who had brought it from Africa, while American Indians, who had hardly any contact with the other two groups, remained free of it.^a He also discarded the opinion of the Dutch physician K.D. Schönfeld, who suggested the existence of a European (hereditary) leprosy and a colonial (contagious) leprosy.¹⁹ Thus, according to Drogmat Landré leprosy was in all cases an infectious disease propagated solely by contagion. But his unconditional support of quarantine and isolation was strongly opposed by physicians in the Netherlands. His foremost opponent was H.J. Vinkhuijzen, a Dutch physician associated with various European armies and with the Dutch royal court. Being an advocate of sanitation and strong believer in the hereditary hypothesis of leprosy, he published in 1868 a monograph, in which he powerfully rejected the contagionistic view defended by Drogmat Landré.²⁰ But the latter, probably unwilling to accept defeat, subsequently published in Paris in 1869 a monograph with the provoking title: ‘*De la contagion, seule cause de la propagation de la lèpre*’.⁵ In this work he gave articulate expression of his contagionistic views on the cause, prevention and control of leprosy, based on a careful description of case histories of 12 children of European settlers in Surinam contracting the disease from people from African descent, and on further epidemiological analysis of

^aThese observations were formulated in his PhD thesis (1867, Utrecht, The Netherlands) entitled (translated from Dutch): ‘*On the infectiousness of lepra Arabum confirmed by the history of this disease in Surinam*’.

leprosy cases in Surinam. But the isolated location of the West Indian colony, far-off from Europe and the personal drama of leprosy affecting his brother helped Drogmat Landré develop a rather uncompromising contagionistic view with little room for discussion about the aetiology of leprosy.

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The 19th century leprosy control policies in Surinam together with the prevailing scientific view regarding its aetiology, can be referred to as 'The Dutch West Indian leprosy contagionism'. Schilling, with his multicausal view including infection, was one of its founders. But it was Drogmat Landré who, almost a century later, at the peak of anti-contagionism, molded the concept of contingent contagionism into a monocausal aetiological principle and became a most outspoken advocate of leprosy contagionism within the European debate. The work of Drogmat Landré was read by Hansen, before his discovery of the aetiological micro organism. In his characteristic, sometimes provocative way, in 1872 Hansen comprehensively discussed, in a lengthy paper in a Norwegian journal, the opinions of contemporaries, including Drogmat Landré, on the aetiology of leprosy.²¹ Hansen disagreed with Drogmat Landré's rejection of heredity as a possible aetiological factor. He also made it clear that he knew that the work of Drogmat Landré was based on observations and views of his father (C. Landré). But Hansen was also impressed by Drogmat Landré's arguments regarding the infectious nature of leprosy. He translated Drogmat Landré's 12 keynote leprosy cases (the latter's strongest argument of the infectious nature of the disease) from French into Norwegian, to report them in the afore-mentioned paper.²¹ Hansen then concludes that: *'In case it should be of general interest, I am happy to state that it was Drogmat Landré's book that made me aware that our research had not paid sufficient attention to the question of infection'*.

Hansen died in Bergen, Norway in 1912. In an obituary, H. P. Lie, his closest collaborator and successor as leprosy medical officer in Norway, described his scientific work.²² After mentioning Hansen's impressive achievements, Lie states that: *'...all of these investigations fitted completely those results, which Drogmat-Landr  had arrived at through investigations in Surinam. Landr  published in 1869 in Paris a book which carried the title: 'Contagion is the only cause of leprosy'. In 1874 Armauer Hansen's main work was published: 'Investigations regarding the causes of leprosy'. In this he claims that leprosy is an independent disease, and that it is propagated through contagion'*.

After 1869, Drogmat Landré abandoned leprosy research. But in 1889 his father published a small book in Dutch in which he proudly concluded that in 1867 he and his son stood alone in proclaiming that leprosy was propagated only by contagion.²³ The scholarly Drogmat Landré continued his education and studied ophthalmology at the medical school in Montpellier (France) that was attended by many students from the Americas.²⁴ In 1871 he defended a thesis on cataract extraction.²⁵ In the early 1870's Drogmat Landré migrated to Brazil, where he practiced ophthalmology. He finally returned to France and died there in 1917.

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