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**The histories of HIVs: the emergence of the multiple viruses that caused the AIDS epidemics.** William H. Schneider (ed.), Ohio University Press, 2021. xiii + 263 pp.

The publication of this book during the COVID-19 pandemic is a timely coincidence, given how attuned so many people have become to thinking about variants and viruses and pondering where SARS-CoV2 came from. William Schneider, the editor and co-author of significant amounts of this volume, has put together an immensely readable and insightful account of the progress of human immunodeficiency viruses; viruses which like SARS-CoV2 made an interspecies jump. The authors of the chapters in this book are drawn from history, anthropology, and medicine, providing a unique blend of insights into the emergence not only of HIV-1 and HIV-2, but also the different groups of each virus, the different strains (four of HIV-1 and nine of HIV-2), emerging at different times from simian immunodeficiency viruses (SIV) which crossed over into humans with different levels of infectivity and spread. The unravelling of the evidence for the origin of each of these, and the subsequent trajectory the viruses took within their human hosts, makes for a fascinating volume which debunks several myths and provides very plausible explanations for the particular history of HIVs in Africa.

In the first chapter Schneider lays out the background to the emergence of the different HIVs, tracing the recognition of the condition, AIDS in 1981, to the building of knowledge about transmission and diagnosis as well as speculation about the

origins of the infection. Schneider makes the point that the idea that the emergence of HIV was a one-time occurrence, a product of chance, was soon debunked by phylogenetic analysis which showed two different simian sources of the new human viruses. The great apes in central Africa and sooty mangabey monkeys in West Africa – showing that these HIVs had developed at a similar time in more than two different places. Later four different strains of HIV-1 and nine from HIV-2 were identified all originating from separate SIV sources. Why these emerged and spread in different places at a similar time is the puzzle the following chapters address. The existence of so many different forms of the viruses called into question the long-accepted wisdom that the interspecies jump was the result of a ‘cut hunter’ being infected from a slaughtered ape. The historians, both the editor and chapter authors - cast a critical eye over such simplistic assumptions about the causes of the emergence and spread of HIV. Assumptions which have been drawn from colonial records and used to explain the particular constellation of events and peoples in central Africa in the nineteenth and twentieth centuries that resulted in the later epidemic. Schneider draws attention to the value of oral history testimonies, the popular press and material culture – as well as the colonial record – as being sources of information from which the histories of the HIVs can be reconstructed. The second chapter, written by Preston Marx, a professor of tropical medicine, described as a ‘career virologist’ in the biographical notes for his work on SIV, describes the adaptation of the SIV from great apes and monkeys to humans. This chapter gives an overview of the various theories which have been advanced through various published sources for the crossover of SIV into HIV – from, for example, the ‘cut hunter’ to contaminated polio vaccines (popularised in Edward Hooper’s book ‘The River’ published in 1999), a CIA conspiracy or random chance.

Each theory is described and discounted because none can explain why there were so many crossovers of SIV into humans in the twentieth century, nor explain what particular circumstances existed to allow the emergence of HIV since the 1920s. This chapter sets the scene for the authors which follow to unpack this puzzle. Drucker, a professor of family and social medicine is the author of the third chapter, who looks in more depth at the 13 strains of HIV and unpicks the available evidence to investigate why only four of these strains (namely HIV-1 groups M and O, HIV-2 groups A and B) contributed to the spread resulting in the HIV epidemics in the relatively recent past. Indeed HIV-1 group M has been the 'overwhelming source of the global AIDS pandemic' (p.58). Drucker looks in detail at modes of transmission and examines the history behind the uses of inoculations and treatment injections in the fight against infections, such as smallpox, in the twentieth century in Africa. The tracing of this history is a topic other authors return to as they too look at the background to the spread of HIVs, as one factor among many which came together promoting the spread of HIV infection. Alongside this history of spread is the history of diagnosis in Africa and the evidence that in different places (in the Belgian Congo for example) the unusual symptoms of the syndrome which came to be known as AIDS were being recognised and documented before the condition was discovered in the USA. In chapters four and five, anthropologists and historians, take up the meticulous investigation into the origins and spread of infections in Cameroon and the Belgian Congo. They explain how a high disease burden from other infections may have masked the extent of HIV-related illness, along with the lack of modern medical care to diagnosis and intervene, and limited the information available to recognise an emerging epidemic. Importantly, they also explain how changing

circumstances in the region in the 1950s prepared the way for an epidemic to take off.

In chapter four Giles-Vernick and Rupp, both anthropologists, use the historical record and the findings from ethnographic fieldwork in Cameroon to explore beyond the oft repeated origin story of hunting being the source of the interspecies jump of the virus to show, in their words 'that HIV emerged as a result of ecological, economic and sociopolitical transformations of the late nineteenth and twentieth centuries that build on centuries of social networks, economic flows and ecological engagements' (p.87) over two centuries. This rich account shows the place of colonial rule in this story through interventions in primate/human interactions as well as introducing novel medical procedures. The authors draw not only on the colonial records but also on the oral history of older people in the region to describe the considerable disruption caused by a colonial hunger for resources causing changes in patterns of labour movement and agricultural practice which, among other things, influenced the engagement between people and non-human primates and augmented the routes for the virus to move out of the forest. When new medical practices, involving injections and transfusions, were added to the mix of changes in the region, the virus then had greater opportunities to pass from person to person. We move to Kinshasa in chapter five, where Gondola and Lauro, historians, provide a fascinating account of the conditions in the Belgian Congo in the period 1900 to 1960 which allowed the spread of HIV. As Schneider the editor had noted in his introductory chapter, in the hands of historians the colonial records are scrutinised and the biases and context explained in a chapter where the authors very skilfully unpick long held assumptions about the role, for example, of prostitution in the emergence of HIV. Assumptions based on travellers and colonialist accounts of

sexual licence among local peoples, which have little basis in truth and tell us more about Belgian anxieties at the time. The authors do not discount the existence of transactional sex in the interwar years in Kinshasa but show the very complex nature of the lives of women who provided 'the comforts of home' to men in urban areas often establishing long-term marriage like partnerships. The movement of men during the second world war, including the US soldiers stationed in Kinshasa in 1942 who were found to have carried various sexually transmitted infections (which may have predated their Belgian Congo posting) to their next posting in Accra, as well as the more general disruption caused by the conflict in Africa, highlight the social and political forces which contributed to the spread of different infections and the possibility of the HIV-1 group M pathogen slowly moving within and out of the region. On top of this, came campaigns against infectious disease, facilitating a more efficient (than sexual contact) mode of transmission into the blood stream of those inoculated or treated by injections, and also in a more limited way through transfusions. The authors also point to the fact that our understanding of the spread HIV-1 group M which has been thoroughly researched in particular places has influenced the overall picture of spread. Perhaps fewer samples of HIV being collected in Brazzaville for sequencing than in Kinshasa skewed the record of infection, for example (something we have become familiar with COVID-19 pandemic with different testing rates for SARS-CoV2 affecting the record of spread in different countries).

In chapter six, Lachenal, a historian, takes up the puzzle of why HIV-1 groups O, N and P, have been identified in Cameroon, and Cameroonian patients abroad, but have not taken off to form sizeable epidemics. The discovery of Group O in a small number of patients, which could not initially be identified in the early 1990s using the

test kits in place for the diagnosis of Group M HIV-1, led to a flurry of activity to adapt the testing amidst fears of a new and emerging form of HIV. Instead, phylogenetic records show that Group O was established locally in rural Cameroon in the early twentieth century with an origin in an SIV found in gorillas. Substantial epidemics of Group O have been found in Cameroon but would appear to have been out-competed by Group M, but had along with the smaller Groups N and P, been promoted – as was Group M – by large scale medical interventions to prevent and treat other infectious diseases.

In the seventh chapter, Varanda, a social and cultural anthropologist, looks at the emergence and spread of HIV-2 in Ivory Coast and Guinea Bissau – an epidemic which has affected far fewer people than HIV-1. Varanda uses the historical and anthropological record, as well as recent phylogenetic data to trace the history of HIV-2, noting that the amount of information available on this virus limits what can be said about the details of spread. That said, by looking at the local spread in Ivory Coast and Guinea Bissau of an SIV which originated from sooty mangabey monkeys does underline the point made in other chapters of the book that the interspecies jump of SIV to humans may have occurred in many different places at different times; and that it was a combination of social, economic and political factors as well as the viral fitness of particular strains which determined which ‘took off’ to form local and global epidemics. Varanda debunks assumptions about HIV resulting from ‘morally wrong behaviour’ in burgeoning cities in the region by providing a careful description of limited urbanisation in Guinea Bissau and the absence of factors (such as extensive sex work) which would have fuelled the spread. Instead Varanda describes continued rural to rural movement, including across colonial borders for

trade and work. Independence in neighbouring countries brought an acceleration in population movement, not least because of the ten years of liberation war against the Portuguese colonists. Epidemiological surveys undertaken in the late 1980s show a concentration of HIV-2 in small towns, as people had moved throughout the conflict for safety, as well as to carry on trade and commerce, including the provision of sexual services by some migrant women. Colonial stories of widespread prostitution and sexual licence are not supported by the evidence of a more limited spread of sexually transmitted infections in the region, and Varanda discounts a major role of prostitution in the spread of HIV-2 as previous authors had done for HIV-1. Instead, he points to the role of biomedical procedures – including mass vaccination campaigns using non-disposable syringes with limited facilities for sterilisation – in promoting the spread of HIV-2 in Guinea-Bissau. Thus, the coming together of extensive economic activity, conflict, population movement and increased medical intervention in the Ivory Coast and Guinea Bissau at particular times provided the environment for HIV-2 groups A and B, to spread.

In the final chapter Schneider offers an overview of the evidence presented in the book underlining that while the emergence of HIV from SIV may be rare, it was not unique and may indeed have occurred in other places where a less 'fit' virus may have failed to thrive and spread, given the relative difficulty of the transmission of HIV (certainly compared to air-borne coronaviruses for example). He suggests that pointing to colonial rule as the factor which fuelled the emergence of the HIV-1 and HIV-2 epidemic is too simplistic, given that population movements which might later carry a virus were already well established before the imposition of colonial rule, and carried on despite changes brought by the occupying powers. Instead, he highlights

the value of exploring and appraising different sources of evidence carefully, sensitive to the biases which may have influenced the information be that the particular lens of a colonial official or the presence of extensive biomedical research in particular areas. Schneider closes by suggesting future areas for research and pointing to the value of bringing different disciplines together to unravel the course of an infection, such as HIV. Indeed, I whole-heartedly agree based on the evidence of he and his co-authors present. I would hope that anthropologists, historians, virologists and epidemiologists can collaborate in future on such a quest. This excellent volume shows what can be achieved by such very successful collaborations.

**Reference**

Hooper, Edward (1999) *The River. A journey back to the source of HIV & AIDS*. London: Penguin Books

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