THE COLUMBIAN EXCHANGE OF DISEASES

by Ashley Cooper

It is widely accepted that the colonisation of the Americas by Europeans resulted in severe epidemics amongst the native populations. The first such epidemic was smallpox but this was followed by amongst others, measles, influenza and typhus. This occurrence is usually quickly explained by some phrase such as "the natives had no immunity to the diseases that the Europeans brought with them." I for one have often wondered why the natives had no such immunity but also why the reverse did not apply. Would it not also be the case that the Europeans lacked immunity to the diseases prevalent amongst the native American populations?

After reading "Health and Disease in Britain" by Charlotte Roberts and Margaret Cox (Sutton Publishing, 2003), certain points became clearer. These authors point out that disease patterns vary significantly between populations which are variously hunters, gatherers, agriculturist, pastoralists or industrialists. To quote a few examples, hunters and gatherers are "generally not predisposed to the population density dependent diseases such as droplet *[eg coughs and sneezes – my addition]* and water-borne infections". They may however "contract parasitic infections" and "diseases …contracted from the animals they kill".

Roberts and Cox do not deal explicitly with the queries that I posed in my opening paragraph, but they provide at least a partial answer as follows. Assuming that the native American populations were in many cases hunters and gatherers,

they might well have had little immunity to diseases more common amongst those from denser populations from which many of the Europeans came. One thinks of various cities such as London, Florence, Rome Milan and Venice and their interconnections with, for example Constantinople and Egypt . At the same time, the European population had passed through the stages of being hunters and gatherers, and more recently agriculturists, hence they had presumably acquired and retained resistance to the associated diseases. This is not to say that Europeans could not fall prey to new diseases as the Black Death had shown in the fourteenth century and the plague was to show in the seventeenth.

Although the above explanation seems plausible, is the assumption that the native American population consisted of relatively sparse collections of hunters and gatherers a reasonable one? Here were for example relatively dense populations of natives in the Mississippi valley and even more so for Mexico city and its environs which were amongst the most densely populated regions in the world at the time of Columbus.

The explanation is carried a few stages further by Jared Diamond in "Guns, Germs and Steel", (Vintage Books 1998). Firstly he points out that centres of dense population in the Americas only came about relatively shortly before the time of Columbus (perhaps only 100-200 years before Columbus in the case of Mexico city). Furthermore, the populations in Northern America, in central Mexico and in the Andes were never interconnected to the extent that populations in Europe were. Thus the timespan and total scale of population for diseases to develop (and immunity subsequently to develop) was therefore much less than had been the case in Europe.

Secondly Diamond considers where the microbes originally came from which evolved into killer human diseases. In Europe, many of these diseases can be traced back to an origin in domestic animals such as cows, pigs and sheep, many of which lived in close proximity to humans, indeed sometimes under the same roof. This situation was never the same in the Americas. Here domesticated animals were far fewer in number and consisted of turkeys, ducks, llamas, guinea pigs and dogs – none of which has been associated with being a source of a major human disease. In fact –with the possible exception of syphilis where the evidence of origin is unclear, but whose prevalence in Europe seems to have increased after 1500CE, there is no evidence of an American disease travelling to Europe. And while an unwelcome disease, syphilis hardly counts on the same scale of fatal impact on populations as do smallpox etc.

Maybe yet further levels of explanation for the spread of disease from Europeans to native Americans will emerge in time. Could cultural practices or as yet unrecognised biological factors have played a role? The writer for one is pleased that the answer to his question is more complex than the over-simple reply which is usually given.