

a few places that the Alleghanies are a barrier interrupting communication. On the other hand, huge mountains and wide deserts part California from the Mississippi States, and although economic and political forces will probably continue to bind the Pacific States to their older sisters, there is to some extent already a Californian type of manners and character different from that which prevails through other parts of the West.

Before I close, I will make two general observations as to the different relations that exist between man and Nature as time runs on and history works herself into new forms. The first of these is that man in his early stages is at the mercy of Nature. Nature does with him practically whatever she likes. He is obliged to adapt himself entirely to her. But, in process of time, he learns to raise himself above her. It is true he does so by humouring her, so to speak, by submitting to her forces. In the famous phrase of Bacon, *Natura non nisi parendo vincitur*, Nature is not conquered except by obeying her; but the skill which man acquires is such as to make him in his higher stages of development always more and more independent of Nature, and able to bend her to his will in a way that aboriginal man could not do. He becomes independent of climate, because he has houses and clothes; he becomes independent of winds, because he propels his vessels by steam; to a large extent he becomes independent of daylight, because he can produce artificial light. Think what a difference it makes to the industries carried on in our manufactories that we can carry them on by night as well as by day, because we have gas and electricity; whereas six centuries ago the workman in the south of Europe was able to get many more working hours than a workman in Northern Europe. You may say that the Northern workman was re-

compensated for his winter darkness by longer summer days; but there must be a certain regularity about labour, and in the case of great industrial establishments it is essential that work should proceed during a certain number of hours all the year round. Therefore, the discovery of artificial light has been a most important factor in changing the industrial and economical conditions of Northern countries. In the same way, the early races of man were only able to migrate as Nature made it easy for them, by giving smooth or narrow seas and favouring winds; but in a more advanced state, man is able to migrate where and how he pleases, and finds conveyance so cheap that he can carry labour from one continent to another. Think of the great migration of the Irish to America, of the great migration of the Chinese to Western America and the isles of the Pacific. In Hawaii the Chinese now begin to form the bulk of the labouring population; and they are kept with difficulty from occupying Australia. The enormous negro population of North and South America is due to the slave trade. We have in our own times begun to import Indian coolies into the West India islands, whose staple products are now due to their labour. Such transfers of population would be impossible but for the extreme cheapness of transport due to recent scientific discovery. In considering how geography and natural conditions affect the development of man we must therefore bear in mind that the longer he lives on this planet and becomes master of the secrets of science, the more he is able to make the forces of Nature his servants.

Another observation is, that as the relations of remote parts of the world to one another have become a great deal closer and more intimate than formerly; so that the whole system of politics and commerce is now more complex than it was in the ancient or