we find no laterite. Such an organism would form *kunkar* as well as laterite in a moist, warm climate, the difference in the products being due merely to their after-treatment by water. For obvious reasons, too, such an organism could not live under conditions of kaolinization. But apart from the agency of life I see no chemical reason why an aluminous silicate should undergo a more complete decomposition at the comparatively low temperature of the tropics than at the high temperature of subterranean situations; the contrary, indeed, seems more natural. And if the temperature *does* so affect chemical action we still might wonder why laterite does not occur on the foot-hills of the Himalayas, where there is an abundance of moisture and where the average annual temperature is as high as on the Nilgiris. Chemical changes which cease at low temperatures commence again as soon as the suitable physical conditions are restored, and laterite, consequently, would be expected to form in North India during the summer. But the distribution of an organism might very well be limited by the extremes of climate, when possibly the average annual temperature is not below what would be congenial to it if maintained.

If this fancy turns out to be well founded we must add laterization to the long list of tropical diseases, against which even the very rocks are not safe. But it is a big step between the establishment of a reasonable suspicion and the actual detection of the bacillus at work. There may be many forms of life taking advantage of the soft, moist, lateritic medium, but it will not be an easy matter to convict, amongst these, such as may take an active part in breaking up the aluminous silicates.

It is hard to believe that the few degrees by which a tropical exceeds a temperate climate is sufficient to so strikingly increase the chemical activity of the weak organic acids percolating through the soil. But that such a small difference of temperature affects low forms of life is painfully evident to those who have to maintain the daily fight of life in the tropics.

Laterization Conditions in Cuba and New Caledonia

While certain features of Cuba are similar to those of New Caledonia, both being islands and the one lying about the same distance north of the equator that the other does to the south, the temperature and rainfall, factors in laterization, are somewhat different. The mean temperature of Cuba is given as 76.8°, the lowest average occurring in January when it is 70.3° and the highest in July, when it is 82.1°; the average rainfall for the past twenty-five years has been 53.57 inches.[1] This average temperature has apparently been determined without taking into consideration that of the greater altitudes. The mean minimum temperature of New Caledonia is said to be 63° and the mean maximum 83°; between 1908 and 1912 the average rainfall was 72.6 inches, but varies greatly in different years, in 1910 being 96 inches while in 1911 it was 49.7.[2] There is, of course, no means of determining what changes have taken place in the climates of the two islands during the vast period in which laterization has been in progress.

While the process of laterization is still in progress on both islands, the greater part of the deposits was formed long ago. A. C. Spencer says: "The residual ores of Cuba were formed in Tertiary time, in large part, and perhaps entirely, prior to the deposition of the Lafayette (Pliocene) formation of the Atlantic Coastal plain."[3] The basic rocks from which the serpentine of New Caledonia has been derived are considered to be of post-Cretaceous age.

Regarding the mode of formation of the Cuban ores, C. M. Weld has said: "At the same time there is no reason to suppose that laterization processes have ceased; it is in fact probable that new ores are forming to-day wherever opportunity offers. Such opportunity may be considered as at a minimum on the plateaus,

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[1] Official Handbook, "Cuba Before The World," Panama-Pacific International Exposition, 1915, p. 22.

[2] Report Roy. Dut. Ni. Com., p. 210.

[3] Occurrence, Origin and Character of the Surficial Iron-Ores of Camaguey and Oriente Provinces, Cuba, A.I.M.E., Vol. XLII, p. 106.