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TRANSACTIONS

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CONSUMPTION AMONG THE INDIANS.

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THE subject of consumption among our North American aborigines presents some interesting problems to the climatologist.

We have permanently established on our soil three of the most diverse varieties of the human species. Two of these have been introduced within a recent historic period; the third has dwelt in the land during a lapse of time which may be estimated only by the geologist; yet we find to-day among the autochthons a much higher death-rate than among the exotic races. From the census of 1880 we learn that the death-rate—*i. e.*, the number of deaths during the year to one thousand of population—is for the three races as follows: Europeans, 17.74; Africans, 17.28; aboriginal Americans, 23.6.

Now the question arises, To what particular cause or causes is this high rate of mortality among the Indians especially due? On this point the Tenth Census seems to leave us not a moment in doubt. In Vol. XI—that on “Vital Statistics,” by Dr. J. S. Billings, U. S. A.—we find a table (14) and a diagram (p. xxxvii) showing for whites, colored, and Indians, the proportions of deaths from specified diseases in one thousand deaths from known causes. The diagram is based on the table; but I will allude more to the former, since it gives at a glance the solution to our question. In this diagram there are twenty causes of death specified, and under each the three races are indicated by spaces differently shaded.

Under the heading of “Other Diseases of the Respiratory System” the mortality of the red and black races is about the same. Under eleven headings the black exceeds notably the red in mortality. Only under eight heads does the red notably exceed the black in its death-rate. Six of these are: accidents, diarrhœal diseases, measles, affections of pregnancy, scrofula and tabes, and venereal diseases. Of the latter Dr. Billings says (*op. cit.*, p. xxxvi): “The high proportion of deaths among the Indians which is reported as due to venereal diseases is noteworthy, but probably a part of this is due to a greater readiness to name the true cause among these people than exists among the whites.”

From my own experience of the ease with which Indian women travail, and the universal corroborative testimony of explorers and eth-

nographers, I marvel at the “nancy,” which, though the death-rate, seem more rhœal diseases the Indians other classes. Measle mortality of only 61.7 of a hunter’s life, and we find that in deaths more than that for which is under the head of rise conspicuously from A glance at the diagram ease. Scrofula and tabes numbers under this heading regarding the prevalence

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nographers, I marvel at the figures given under "affections of pregnancy," which, though not forming an important factor in the Indian death-rate, seem more fatal to the Indian than to the negro. In diarrhoeal diseases the Indian rate is not greatly in excess of that of the other classes. Measles, although most fatal in the Indians, gives a mortality of only 61.78 in a thousand. Notwithstanding the perils of a hunter's life, and of life under any circumstances on the frontier, we find that in deaths from injuries, although the rate for Indians is more than that for whites, it is less than for the colored race. But it is under the head of consumption that the Indian column is seen to rise conspicuously from 186 in the colored race to 286 in the Indian. A glance at the diagram shows that this is their specially fatal disease. Scrofula and tabes, being so closely allied to consumption, the numbers under this heading do little more than add to the testimony regarding the prevalence of the latter malady.

Comparing the Indian and white races, we find that from ten of the twenty causes the mortality of the latter is notably greater, under two headings it is nearly the same, and again we see under the title "Consumption" the Indian column rising far above the white, which is about 166 in a thousand—*i. e.*, 20 less than the colored.

The probable inaccuracy of these Indian statistics is fully recognized in the Report, and it may be fairly urged in many cases, but with less justice, I imagine, with regard to consumption than with regard to many other causes of death. In its earlier stages consumption is a malady which often only the most skilled diagnostician can detect; yet in its later stages it is easily recognized. Above all, a death from consumption—using the term in the broad sense, in which it is necessarily employed here and in the vital statistics—is rarely assigned to another cause even by the layman.

We will next endeavor to determine if this disease always existed among the Indians to the same extent that it does now, or if it has increased of late years under the influence of the many complex causes which, not clearly analyzing, we are accustomed to epitomize in the expression "contact with civilization."

My own professional experience among our American aborigines includes a period of twenty-one years, and was gained among the Indians of a dozen different States and territories. Wherever I have sojourned I have always made it a point to give my professional services to Indians ungrudgingly and gratuitously, and for this reason I have had as good opportunities for observing their ailments as usually fall to the lot of the civilized physician. In no place where

I have practiced among them have I failed to observe or learn of cases of consumption except in Owen's Valley, California, a locality which is favored with perhaps the most salubrious climate within our borders. It may have existed there, but it did not come to my knowledge during a residence of nearly one year in an Indian population of about eight hundred. Yet even here symptoms of scrofula were not entirely wanting.

My first experience with Indians as a physician was among some of the wildest tribes then existing on our continent, among those least influenced by civilization, prosperous, well nourished, dwelling in the heart of the buffalo-range, and in what has proved to be—since the days of white occupation and the advent of the census-taker—a very healthful climate, the climate of the upper Missouri and Yellowstone Valleys. With certain preconceived notions of the healthfulness of the free out-door life and simple diet of the savage, and a conviction of the salubrity of the dry and elevated plains on which I found him, I was astonished to find that such a disease as consumption existed at all, and still more astonished to find it by no means infrequent.

As the years went by, and it fell to my lot to revisit, at long intervals of time, tribes which I had known in earlier days, I became impressed with the idea that this disease was on the increase among them. I well knew how easily I might be deceived in this matter. It was not in my power to collect complete data. I could only draw conclusions from the cases falling within my personal experience, and this experience was subject to limitations which had nothing to do with the prevalence of the disease. In former days the Indians had great confidence in their own shamans and little in white physicians hence they consulted us less than at present. In the old times they were wealthy and could afford to pay their extortionate medicine-men for their mummeries; in latter years their poverty compelled them to seek treatment which they could obtain for nothing. Furthermore, when they subsisted largely by hunting, they were much of their time abroad on the prairies and less under our observation.

Notwithstanding the possibility of my being led astray, it seemed evident to me that consumption increased among Indians under civilizing influences, and that its increase was not in a direct ratio to that of other diseases, but in a constantly augmenting ratio—again, that it varied greatly in different tribes.

I should have hesitated, however, to occupy your time with a recital of my convictions or impressions, based on personal experi-

ence, were it not which tend to stre

As the census year only, they can or decrease of any they give us some ences. They present for those living or tions, whom I will ter class live in the Indians at large w represent those who ence of civilization most part residents (for instance, sever. Mexico are include the general death-ra they belong. (By from consumption i reservation Indians. those who have bee izing influences.

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ence, were it not that of late years some data have been collected which tend to strengthen them.

As the census reports for 1880 give the vital statistics for one year only, they can not afford any direct evidence as to the increase or decrease of any disease among Indians from year to year; but they give us some data from which we may draw reasonable inferences. They present us with two sets of tables for the Indians—one for those living on reservations, the other for those not on reservations, whom I will call Indians at large. Over two thirds of the latter class live in the States, less than one third in the territories. The Indians at large who reside in the States may broadly be said to represent those who have been brought most fully under the influence of civilization; those dwelling in the territories are for the most part residents of the most healthful sections within our borders (for instance, several thousand of the Pueblos of Arizona and New Mexico are included), and they must serve to reduce considerably the general death-rate and the consumption-rate of the class to which they belong. (By "consumption-rate" I mean the number of deaths from consumption in a thousand deaths from all known causes.) The reservation Indians, on the contrary, with some minor exceptions, are those who have been most recently subdued and brought under civilizing influences.

Let us compare the consumption-rates of these two classes. The rate for the reservation Indians is 184; that for the Indians at large is 373. In other words, the consumption-rate for the less civilized Indians is but 49 per cent. of that of the more civilized. But it may be urged that these figures are not so conclusive as they might, at the first glance, appear to be in determining the mere influence of civilization, since we have not taken into consideration the general consumption-rate of the different localities where the Indians in question are found, and it would be impossible to do so with any accuracy from the published data. I have, however, had access to some of the original reports, in manuscript, from which the statistics of the reservation Indians are drawn, and with these to aid me I have been able to compare the consumption-rates of different local groups of Indians with one another, and with the surrounding general consumption-rate. As far as I have instituted such comparisons, they seem to increase rather than diminish the force of the civilization factor.

The following is the consumption-rate among reservation Indians in thirteen different States and territories: Nevada, 45; California,

70; Arizona, 83; Colorado, 107; Nebraska, 150; Montana, 176; Dakota, 200; Oregon, 240; Idaho, 250; Washington, 302; Michigan, 333; Wisconsin, 361; New York, 625.

It is seen in the foregoing table that in States east of the Mississippi—the oldest States—where the Indians have been longest under civilizing influences, the consumption-rate is the highest.

Now, the general consumption-rate of Dakota is 94, that of the rural districts of New York 152—much less than twice as great; while the Indian consumption-rate of New York is three times that of Dakota. Of the younger States and territories Washington has the highest Indian consumption-rate, yet it is only half the rate of New York, while the general consumption-rate of Washington (136) approximates that of New York closely. Of the States east of the Mississippi, Michigan has the lowest Indian consumption-rate, yet its rate is higher than that of Washington, while its general consumption-rate (137) is about the same. Again, take Wisconsin, in which the Indian consumption-rate is higher than in Washington, and the general consumption-rate (109) is lower.

In the office of the Indian Bureau in Washington, D. C., I have examined some of the reports of the agency physicians from the beginning of the fiscal year ending June 30, 1875, to the end of the fiscal year ending June 30, 1880. It becomes apparent in examining these reports that they are often very imperfect. In some it is evident that no deaths are recorded except those happening to occur in the practice of the physician—a practice often exceedingly limited. Again, there are often long hiatuses of many months in the series of reports, occasioned by the removal of a physician from office and tardiness in furnishing a successor. It is to be regretted, too, that it has not been always the policy of the Interior Department to furnish the Indians with regular medical graduates to treat their diseases and report on their sanitary condition. Still we may conclude that the reports are of some value for purposes of comparison. It is probable that they do not record proportionally more deaths from consumption than from other causes—in short, it is to be supposed that the consumption-rates are comparable.

Proceeding on this supposition, I have computed this rate for two sub-tribes of the great Dakota nation—subtribes of the same blood, not expatriated, living in climates not materially different from those which they have enjoyed for a century, and differing from one another only in degree of civilization. These are the people of Santee Agency, Nebraska, and those of Pine Ridge, Dakota. The former

are much the more severalty, and are adults read and write Christians. In the year 1875 the rate was 631, that of the rate of the former reported from the population of over 100,000 statistics of Santee Agency another community of civilized Indians no longer had the low rate they had the higher

As exhibiting the rate of one locality, the people of Santee Agency. As far as I have worked, I have found good data for general statistics selected from the reports of the physicians on the Cheyenne River, in my opinion. I have checked and have knowledge of the accuracy of their reports. The rate of the Indian Office, for the years 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887.

Here we see that the rate of 1875, but that of 1880 is higher than in the year 1875.

For the rate of Consumption of my old and valued physician and now it follows: For the year 1881, 417; 1882, not recorded.

Here we find that there is an increase in the consumption rate.

In all the examples of tribes whose climatic conditions have since the advent of the white man, who are largely civilized, have been excluded.

are much the more civilized. Many of them have taken lands in severalty, and are citizens of the United States. Nearly all the adults read and write, wear clothing like ours, and are professing Christians. In the fiscal year of 1875 the consumption-rate of Santee was 631, that of Pine Ridge but 96; in the fiscal year of 1880 the rate of the former was 294, while in Pine Ridge no deaths were reported from consumption (but only 6 deaths from all causes in a population of over 7,000 are reported). In comparing, however, the statistics of Santee with those of Rosebud Agency, where there is another community of wild Dakotas, we find the showing for the civilized Indians not so bad. In the fiscal year of 1875 the wilder Indians had the lower consumption-rate (476 to 631), but in 1880 they had the higher rate (388 to 294).

As exhibiting progressive change in the consumption-rate in any one locality, the period of six years referred to above is too short. As far as I have worked out the consumption-rate for more than two years, I have found such great fluctuations that I do not hope for good data for generalization in so brief a period. I have, however, selected the reports from two Dakota agencies, Fort Berthold and Cheyenne River, hoping they might afford us some basis for an opinion. I have chosen these agencies for the simple reason that I have knowledge of the agency physicians, and feel confidence in their reports. The rate of Fort Berthold, computed from the records of the Indian Office, is as follows: For the fiscal years ending June 30, 1875, 41; 1876, 538; 1877, 500; 1878, 250; 1879, 133; 1880, 187.

Here we see that the rate of 1880 is considerably greater than that of 1875, but that during three of the intermediate years the rate is higher than in the last year.

For the rate of Cheyenne River I am indebted to the courtesy of my old and valued friend, Dr. C. E. McChesney, formerly agency physician and now Indian agent at Cheyenne River. The rate is as follows: For the calendar years 1878, 407; 1879, 550; 1880, 425; 1881, 417; 1882, not given; 1883, 561; 1884, 639; 1885, 649.

Here we find that, excepting a slight fall in 1880 and 1881, the increase in the consumption-rate is constant and marked.

In all the examples I have given I have endeavored to select tribes whose climatic environment has not been materially changed since the advent of the white man. The tribes of the Indian Territory, who are largely immigrants in that section, and other removed tribes, have been excluded.

If the evidence adduced is admitted to have value, it goes to show that consumption increases among Indians under the influence of civilization—*i. e.*, under a compulsory endeavor to accustom themselves to the food and the habits of an alien and more advanced race—and that climate is no calculable factor of this increase.

It might be supposed that after many years of contact with this civilization, after several generations of "survival of the fittest" to cope with the new condition of things, and after no small dilution of the Indian blood by intermarriage with the exotic races, a state of tolerance to this disease would be produced; but the consumption-rate of the Indians of New York seems to indicate that a century is not time sufficient to establish such a tolerance.

Although I am not without some theories, based on personal observation, as to the special causes of this excessive tendency of the Indian race to consumption, I have not been able, in the brief hours I have devoted to this paper, to explain these theories fully, and show how they may be tested by the light of external evidence. Perhaps it is not necessary that I should do so before a body who are here to investigate chiefly the influence of climate. The term civilization is too broad, too inexact. What particular element of this civilization is the baneful one? is the question which will naturally be asked. Why does this civilization affect the Indian differently from the negro, who has as lately been introduced to its chastening influence, and is surrounded by conditions even more unsanitary? Recent investigations have demonstrated that the old notion of the red race being a dying race is incorrect. Ethnologically, it is a disappearing race; biologically, it is a living and increasing race. But, even if it were a dying race, why should consumption be its special enemy? Is it because of the meager rations of some poorly supplied agency? If so, why is it so prevalent in well-supplied agencies, and why most prevalent, or at least showing the highest rate, in New York, where the Indians are well-to-do, self-sustaining husbandmen? It is a general supposition on the frontier that it is change in diet which is the most potent remote cause of consumption among Indians. I have heard it said that hard bread killed more than hard bullets. It was a favorite expression of the late General Harney, the famous Indian fighter, that the cheapest way to settle the Indian question would be to take them all into New York and board them at the Fifth Avenue Hotel. His plan was excellent in more ways than one. I once knew a case of a previously healthy Indian camp of about two thousand people where, in one

winter, when the buff flour and bacon furnished attacked with scurvy, flour and bacon have, work. But the consumption of the supply of fresh beef of the Indian Commission New York and Michigan neighbors. "Idiosyncratic and profound, in question.

winter, when the buffalo left their country and they subsisted on flour and bacon furnished by the Government, the majority were attacked with scurvy, and about seventy died of the disease. Fine flour and bacon have, no doubt, had their share in the destructive work. But the consumption-rate, I find, is high at agencies where the supply of fresh beef is liberal—to judge from the annual reports of the Indian Commissioner—and it is high among the Indians of New York and Michigan, who have as varied a diet as their white neighbors. “Idiosyncrasy of race” and a score more of theories, trivial and profound, might be advanced and shaken at the first question.