

MEDICINE

Outwitting Climate

Health Handicaps Resulting from Immigration Between Tropics and Northern Countries have been Overcome

HARKING BACK to the old Bible story of Noah dividing the earth between his sons, the belief has long prevailed that every human being is born to live in a particular corner of the globe and woe to him if he tries to exchange his birthright.

Blond descendants of the northern races came to conquer the tropics and were conquered by them, stories tell.

Dark-skinned sons of the bright lands languished when they rashly attempted to invade a cold, dark north, other chronicles relate.

Nor do eminent ethnological and medical authorities wholly refute this ancient belief that the color of the skin is in some way linked to the climate and that a brunet might thrive in a climate where a blond would die.

Science today is lifting the ban on migration from the tropics to temperate regions or from the dark, cold lands to the bright, hot countries. For though no means has yet been discovered to control the climate outdoors or regulate the amount of sun that will shine any day, any place, man is learning to adjust himself artificially to the weather, and indoors he can make weather to suit his taste.

Cloudy, Cold Climates

How cloudy, cold climates can be made safe for dark-skinned children, who otherwise are likely to be stunted or die in alien surroundings, has been strikingly proved in a recent experiment conducted by the Children's Bureau of the U. S. Department of Labor in New Haven, Conn.

Rickets, a deforming disease of the bones, is extremely prevalent in dark, cloudy climates, due to a deficiency of sunlight. Italian and other dark-skinned children have been found to be the worst sufferers from this maiming disease in our northern cities. Requiring more sun for health, brunets suffer more than blonds from dark winters.

Protection afforded by heated apartments and warm clothing is not alone sufficient to safeguard children of the warm countries from the stern northern climate. A high mortality rate exists

among families emigrated from southern European countries to northern cities and among Negro children whose ancestors were imported from the tropics not many generations ago. Unsanitary conditions and low living standards prevailing in many tenement sections might in a measure account for this fact, but they do not explain the greater hardship of fair-skinned immigrants living in the same surroundings.

Modern researches have proved, however, that even dark-skinned babies can be protected against rickets and many other dangers of the dark, dreary winter months, if all the available sunshine is put to good use and various artificial "substitutes" for sunlight supplement the supply provided by nature.

Ultraviolet ray lamps have been made and used successfully to compensate for a deficiency of natural sunlight in the treatment of rickets, while cod-liver oil and a number of substances irradiated by ultraviolet light have been found to have a similar effect. For centuries cod-liver oil has been recognized as a good medicine for children but only recently has it been known that it contains vitamin D, the same vitamin that is formed in the skin by the action of the sun's rays. Vitamin D is essential to normal growth of the bones.

Although individual cases have been saved from rickets by various methods for a number of years, the practical possibility of preventing rickets among whole communities and races of people in northern communities had not been proved when the New Haven experiment was undertaken.

A section of New Haven, where there were living both southern European and Negro families, was selected for the study because of the susceptibility of dark-skinned babies to rickets. Whenever a baby was born, a nurse from the Children's Bureau clinic visited the home and explained the treatments.

"With the baby lying across her lap, the mother pours out the proper dose of cod-liver oil, holding the spoon in her right hand. With her left hand she holds the baby's mouth open by pressing the cheeks together between her

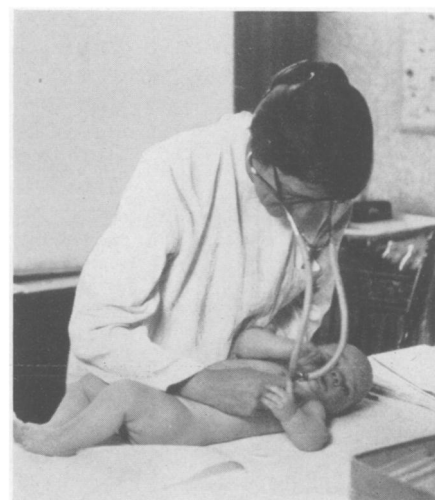
thumb and fingers. The oil may then be poured little by little into the baby's mouth. If his mouth is not held open until the oil entirely disappears, the baby will spit out what is left," reports Dr. Martha M. Eliot, director of the child hygiene division of the Children's Bureau, who supervised the New Haven experiment.

In Every-day Diet

Cod-liver oil is a food, supplying elements for normal growth, and belongs in the every-day diet of babies—not on the medicine shelf for occasional doses, the mothers were told. It may be safely omitted only during the hot summer months, when babies are receiving long sun baths, and daily doses should be started by the first of September and continued throughout the winter.

Making every day of sunshine count for the health of the babies, the directions to mothers prescribed outdoor sunbaths for the babies from March until November. Even the sun of bright winter mornings was put to work, infants in scanty clothing being placed before open windows so that the ultraviolet radiations from the sun would have free access to their bodies.

Monthly examinations of the babies subject to these treatments over a period of three years revealed that only 27 out of the 480 babies born in the community during that time developed moderate or severe cases of rickets; and



TAKING NO CHANCES

Physical examinations are a sure means of keeping tab on the baby's condition, and susceptibility to rickets.

in all 27 cases the mothers had failed to follow the nurse's instructions.

X-ray pictures of the children's bones revealed that many at one time or another were on the verge of contracting rickets but the symptoms were quickly outgrown and apparently had no harmful effects. Left untreated, the disease might have had serious results.

Despite the susceptibility of brunet children to rickets in our northern cities, further investigation by the Children's Bureau revealed that dark native children of Porto Rico practically never suffer from the malady on their own sunny island.

Six hundred Porto Rican children were examined by Dr. Eliot. Out of this number only two showed traces of rickets and one of these had been kept hidden away from the sun in a dark cellar and the other child had spent part of its life in the North.

Bright sunshine of the islands, and the open houses, without glass to keep out the ultraviolet radiation of sunlight, apparently prevent rickets among even extremely dark children. So in moving northward into a region of colder, darker winters, brunet peoples would incur a real danger, except for the modern discovery of treatments whereby dark-skinned babies may be adjusted to a climate with little sunlight.

Modern Weapons

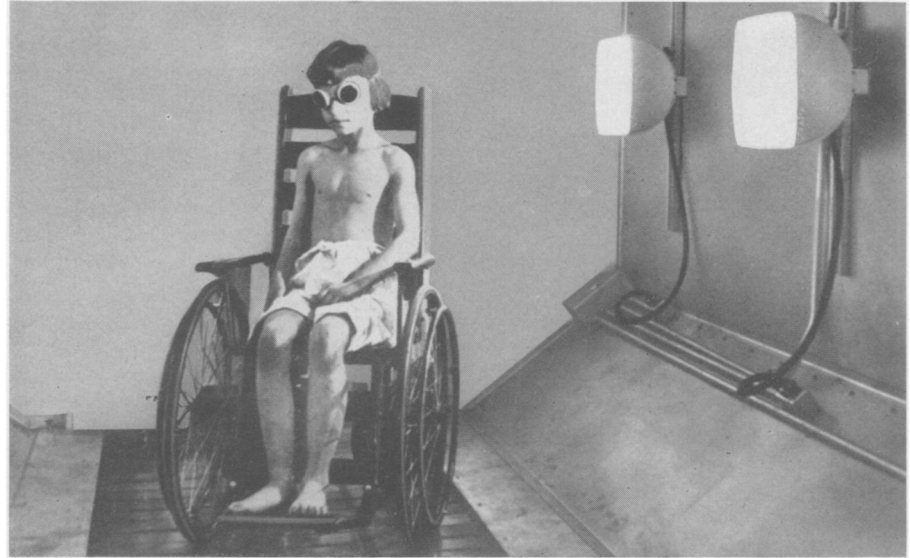
Primitive men, without clothing, shelter or even fire, could not have existed outside the tropics, most ethnologists believe. But slow centuries of evolution and experience have gradually fitted man to withstand harsh but stimulating winters; and cod-liver oil and ultraviolet lamps furnish another weapon.

Today when the blond races go to the tropical countries, however, they often have difficulty in adjusting themselves to the heat and sunlight which is natural and tolerable to natives.

Some authorities still believe that the white man cannot adjust himself to a torrid climate and that continued residence in the tropics has an inevitably deteriorating effect.

Poor sanitary conditions, favoring the spread of disease, exist in many tropical regions and are largely responsible for the bad name which the tropics have, other investigators believe.

While admitting that the torrid climate presents a barrier to white colonization of the tropics, another group holds that this handicap can be largely overcome by the weapons of modern science.



ULTRAVIOLET RAYS

Make up for the lack of sun, a hardship which an alien climate imposes upon a child.

Seasonal or even daily changes of residence were recently suggested as a means of lessening the insidious influence of tropical climate on the white man by Dr. Bowman C. Crowell of Jefferson Medical College. The productiveness of the warm countries is so great that it might be economically feasible to provide for the cooling of houses, Dr. Crowell believes.

"Scientific investigations have not shown, however, that climate is any insuperable barrier to the white man's successful continued life in the tropics."

Even more optimistic concerning the fate of the fair races in the tropics is Col. Weston P. Chamberlain. His opinion is based on his experience with the Medical Department of the United States Army in Panama.

"The greater part of the sickness and death formerly attributed to malign influences exerted by the tropical climate was actually due to infections which are now almost entirely preventable," said Col. Chamberlain.

In proof of his contention, Col. Chamberlain cites the improvement in health conditions in the Canal Zone during the past 25 years.

Before the Americans were given sanitary control over the zone, malaria, yellow fever, dysentery, typhoid, smallpox, uncinariasis and skin affections were endemic. Indeed, the failure of the French to make a canal across the Isthmus where the Americans were later successful has been blamed on unhealthy tropical conditions. It has been estimated that between 1881 and 1889, at

least 16,000 employees died from all causes. This mortality occurred in a force which averaged only a little over 10,000.

In 1904, the United States bought the property of the French company and was given unrestricted sanitary control over the zone, including the Panamanian cities of Colon and Panama.

Much less was then known about tropical medicine that is known today. Yellow fever and malaria were, however, the two worst scourges on the Isthmus and medical research during the preceding decade had revealed that these dangerous diseases are spread by the mosquito.

Yellow Fever Gone

As a result of strenuous measures for mosquito control, which involved the establishment of a water system and the abolition of cisterns, tanks, rain barrels, roof gutters, and similar breeding places, yellow fever soon disappeared. The last case to develop locally occurred in Colon on May 17, 1906.

Control of malaria has been more difficult and expensive, because conditions of Panama are particularly favorable to breeding the malaria mosquito. Because of the expense, the anti-malaria efforts have been confined to the large towns where the white population is concentrated, and native farmers are required to live at least one mile beyond the borders of the sanitized towns.

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