the rectum. If there existed a constriction in this part, it was higher than the finger could reach. When a small-sized bougie was attempted to be introduced, it met with resistance about six or seven inches high. Different sized bougies were carefully tried, but with the like result,—each became coiled, if much pressure was used. The patient's friends now wished to have the opinion of Dr. J. C. Williams, of Nottingham. This gentleman saw the woman on the evening of the 21st of August, 1851; there were no very urgent symptoms. All attempts, however, to give an enema proved ineffectual; it passed no further than the constriction. On the following morning, after Dr. Williams had seen the patient, I was resolved to try the introduction of O'Beirne's tube; it, however, met with the same resistance the other instruments had done, and returned in a coiled form. When I repeated my visit in the evening of the same day, to my great surprise, the poor woman stood looking out of her window, and said, "*I am taking another look round before I go, for I am dying in health.*" She then sat up, and took some tea with her family. As Dr. Williams had seen her, she now expressed a wish to try whether anything more could be done for her if she went to the Nottingham General Hospital, and asked me if I should object to this, and whether it would be safe for her to risk the journey, a distance of ten miles. Of course, to gratify her wish, I assented, provided she travelled in a covered conveyance, on a bed or mattress; at the same time, I assured her that little more could be done by medicine. On the following day she was no worse, and her wish was gratified by her being admitted into the Nottingham General Hospital. A consultation took place, and I believe attempts were made to pass some bougies, etc. Unexpectedly, however, on the following day, the poor woman ceased to breathe. No evacuation had been procured. Hearing of her death, I felt naturally anxious to know whether a *post mortem* examination had taken place, and if so, what were the appearances of the intestinal tube. Accordingly, I wrote to Dr. Williams, and received his reply, with an inclosed description of the morbid appearances. The following is a copy of a letter written by Joseph White, Esq., the resident surgeon of the hospital:—

"In the case of Mrs. Kinton the principal seat of stricture was in the rectum, about seven inches from the anal extremity; a smaller amount of contraction existed lower down, though this was easily passable. The colon was ulcerated in patches throughout the greater part of its length; though most extensively in the transverse portion. The other viscera were all healthy. The stricture would with difficulty admit the point of the little finger; and the bowel immediately above was thickened and corrugated, so as to form a valve, preventing the passage of any matter downwards."

CASE VIII. Samuel Marshall, aged 60 years, a bricklayer by trade, was suddenly seized with all the severe symptoms which accompany a case of strangulated hernia. His sufferings appeared horrible. He threw himself on the floor, and rolled about in agony; then he would as quickly rise, with his hands firmly pressed on the lower part of the abdomen; but no position or place gave him the slightest relief. He never had had hernia, but had frequently felt some severe cutting pains along the abdomen. Calomel, castor oil, and calomel combined with a full dose of opium, were given. Enemata were administered; no relief, however, was obtained; the symptoms presented a darker aspect, and the man died in less than twenty hours of intense suffering. An examination after death showed a constricted condition of the intestinal tube near the caput cæcum coli. This, it appeared, had been progressing for some years past, and fresh morbid matter being continually laid down, a tough and constricted band had been formed, which gradually becoming closer, strangulation of the gut ensued.

CASE IX. A few months ago, I attended a case of intestinal obstruction, arising from internal strangulation. A young woman had for several months before complained of cutting pains across the umbilical region. When I was summoned to visit her, there was considerable nausea, accompanied with

occasional severe pain in the abdominal region, and which extended downwards. I learned that she had been confined to her bed for more than a week before I was requested to see her; she had taken castor oil of her own accord; a few days before she took the oil, she had a severe attack of diarrhoea attended with much pain. She informed me that she had frequently felt a dense pain in the lower part of the abdomen, on the right side, and that constipation had prevailed to a considerable extent. There was now considerable tenderness from the right hypochondrium downwards, but without the least tumidity of the abdomen. I could distinctly feel a circumscribed hardness nearly opposite the cæcum, or descending portion of the colon; and it was evident that the locality of the obstruction was in or near to these parts. It was, however, with the greatest difficulty that an enema pipe could be introduced up the rectum, and very little injection would pass, being quickly returned. The mildest aperients, and calomel combined with opium, were given. To attempt an operation, as suggested in another part of my paper, even if in other respects it might appear practicable, in this instance was forbidden by the symptoms. Death occurred early on the third day after I first saw the patient. A *post mortem* examination proved that a portion of the descending colon was constricted by a firm band of lymph not of recent formation, and the appendix cæci had become attached at its extremity to the descending portion of the colon, and formed a ring, through which a portion of the ileum had passed and became strangulated. In most of these cases the abdomen is considerably resonant and tympanitic, but in this instance it was perfectly flat.

Wymeswold, Leicestershire, February 1853.

THE CLIMATES OF THE WORLD, IN REFERENCE TO THEIR EFFECTS ON MAN'S GENERAL WELFARE AND DESTINY.

By T. G. HAKE, M.D., Physician to the Suffolk General Hospital.

At the present hour, when millions of human beings are leaving their homes in Europe, or contemplate doing so, for countries which may or may not possess a climate similar to that which gave them birth, it cannot fail to be perceived that many interesting inquiries are thereby laid open to science, on which none but the physiologist can enter with advantage.

If the race of man, then, in all its varieties, affords a general expression of the existing climates of the world, in reference to the circumstances which contribute to healthy organisation; if one climate maintains, while another modifies more or less the characteristics of human beings, as is undoubtedly the case, it cannot be out of season to make this investigation: With what result to his own physical conformation and moral character, and more especially to that of his descendants does man, born in a congenial climate, emigrate at random into different zones?

Having examined this subject in its many bearings, both by collating the written observations of travellers made cursorily without any immediate scientific object, and by questioning intelligent persons from our colonies, and other newly formed states, I premise with confidence that it is one which is most important and curious. To take a common example;—What a diversity of effects must obviously arise from one member of a family taking up his permanent abode in a portion of the American, and another in a part of the Australasian continent. Both regions afford climates which are called delightful and healthy; but their separate influence on the organisation of the European is already perceptible. Indeed, it has been forcibly argued that man cannot travel out of his own zone without entailing extinction on his race. Be this as it may, an inquiry into the subject of isogenetic*

* I venture to introduce this term in order to mark the distinction between zones of equal geniality of climate, and those of like temperature, or isothermal zones, both of which differ from each other, and from geographical zones, as much as the magnetic differs from the common equator.

or congenial zones is of sufficient moment, under the existing conditions and inevitable redistribution of nations, to give basis to a branch of science ; nor will it be passed over without due consideration in this series of papers.

The classical ethnographer is of opinion, that the human race is essentially migratory ; that while it has enjoyed the character of being so from its origin, it is in obedience to the same instinct that it persists in pursuing its migrations into lands still unsubdued or unpeopled. But if it were true originally that the human race, being of common stock, fulfilled one of its great ends in spreading itself over continents, does it follow that the physical conformation of man is calculated to endure these changes of climate indefinitely ? The race of man, physiologically considered, has its limits, like animal beings generally, many species of which have disappeared, some within our own time. Granting then, that after one or more migrations a particular race has become acclimated, as the Saxon, the Dane, and the Norman in this country, is it to be supposed that further migration, beyond our isogenetic zone, is in accordance with natural laws, especially at this not early period of human history, when disease to so large an extent is hereditary, and early death so general, as to mark an epoch in man's limited career ?

In answer to these inquiries it may be assumed, that the type of man's physiological condition is expansive to a great degree, and that change of character in it is not incompatible with its integrity ; but that, beyond certain limits, such change as is effected by diversity of climate does hasten the fulfilment of the natural law of its extinction.

With these preliminary remarks, the subjects intended for discussion may be approached in detail.

Climate, it will be found, is intimately associated with the history of countries. The Olympic games, the Greek drama, in common with the arts both of architecture and sculpture, are in some degree due to the influence of a cloudless sky. Rome owed her exterior splendours, Italy her palaces and unrivalled frescoes, to the same southern clime ; while the vivacious Frank, rejoicing in an atmosphere scarcely less pure, delights in the imitation of Athenian taste and Roman example, with their avenues, statues, and fountains. But the Englishman, enjoying equal, if not greater advantages, all of which are due to the climate of his native country, appeals neither to sun nor sky ; he is content to expatiate on the luxuriant verdure of his fields and hedgerows—on the perfection of his stock—on the breed of his cattle—on the manly character of his countrymen ; and for the rest, he exercises his privilege of grumbling, however unjustly, at the ever-varying weather and leaden sky, through which these unexampled benefits are maintained.

What meaning, then, is to be attached to the expression, *a good climate*, in the widest acceptation of the phrase ? Though the sun of Greece may have inspired the dream of an Acropolis, and its realization ; and somewhat later, but in the same spirit, may have marked out the boundaries of an eternal city on the plains of Italy,—of what avail is it, if human welfare prove not commensurate in duration with the glories of Nature ? But so it is ; the greatness of the South has been due to other causes than climate : it has arisen from a combination of human elements, the admixture of races having mainly contributed to the great result, the enduring monuments of which, climate alone was unable to sustain. Yet, that some climates are better suited than others to the development of man—to the formation of his genius—to the growth of his physical powers—to the production of his supplies—is scarcely to be disputed. What country or region, then, beyond all others, has proved the most congenial to man ;—and in what does its geniality consist ?

Excellence of climate is that quality which secures to any country its aptitude for the maintenance of intellect, strength, and health in the highest perfection, and for the rearing and growth of the supplies best adapted to the support of man. Some may, at first sight, pronounce this

definition to be too strictly economical—too exclusive of the pleasures derivable from sunshine and a perpetual spring. But who can dispute the supreme blessing of health ? And when this is once admitted, it cannot but be allowed that food, one of its chief sources, must take a prominent place also among human benefits.

Nevertheless, it is highly probable that the custom of undervaluing—indeed, abusing this climate, boasts a high antiquity. King Charles the First, with true discrimination, was among those who saw the subject in its true light : he observed, that in no other country was it possible to take exercise in the open air for so many days during the year as in England. And yet it has been reserved for the nineteenth century—that epoch of our scientific agriculture, of our success in sciences, in mechanical arts, in all that has its source in the intellect and energy of man,—to discover in how great a degree all this is due to climate.

Looking to exercise then as one grand source of health, let it be considered how many fine days, or portions of fine days, occur in all parts of England, however diversified, during the year. To the advantage our temperate climate thus affords, are attributable the vigour and symmetry of the men, and the corresponding beauty and freshness of our women. What other country boasts its pedestrians, who have accomplished the feat of walking over a thousand miles in a thousand hours ? Where else are we to look for a race of prize-fighters like that which, through moral, not physical influences, is now disappearing ? To descend in the scale, to what but to the climate of this country is the perfection of the horse attributable ; and not of the horse only, but every other kind of animal ?

As a grazing and agricultural country, England can scarcely be surpassed ; but it is unnecessary to do more than allude to the produce of her soil, whether vegetable or animal. If the superior excellence of our stock is attributable in the first instance to breed, no other influence than the climate could have perpetuated it ; for the same stock, imported into less favourable regions, is known to deteriorate rapidly.

This utilitarian view may appear novel to those who have been in the habit of associating the spontaneous productions of the earth, and a perennial spring, with all that is desirable in climate,—who, unaccustomed to the details of science, fall readily into the luxurious dream of the poet, in crediting the idea that the man of temperate zones can with impunity settle down within intertropical countries. But the true tests of a climate are seen in the quality of its productions ; the constitution and temperament of the people living under it ; the age to which they attain ; and other circumstances of a like character, to which reference will be hereafter made.

This country owes its productiveness to the somewhat equable fall of rain which occurs throughout the seasons ; to the moisture and warmth preserved to the land by a clouded atmosphere, which, by preventing a radiation of heat from the surface, tends materially to neutralise the effects which would else accrue from a high latitude. But these circumstances alone, while they might preserve it from becoming ice-bound during winter, like other countries of the same, and of still more southern latitudes, are not sufficient in themselves to create the truly temperate climate we inhabit ; other causes, of a most admirable and unique description, are to be looked to, not only in characterizing our zone, but in extending its geographical boundary over a great part of Europe.

A lake of warm water, having a maximum temperature of 86° Fahr. in the Strait of Florida, stretches across the Atlantic, from Cape Hatteras to the Azores ; its greatest breadth being 120 miles, and its entire extent equal to that of the Mediterranean Sea. The origin of this tepid lake, whose waters are directed ultimately to our coast, and the western shores of Europe, is the Gulf of Mexico—an enormous cauldron, measuring one thousand miles in length, and seven hundred in breadth ; having above it a tropical sun, which maintains a very high temperature in its waters.

From this great sea, both the name and source of the Gulf Stream are derived. After passing between Cuba and Florida, and taking the direction of the American coast, it turns eastward, preserving a mean velocity, from the commencement of its course to the Azores, of 38 miles a day; having a temperature of about 9° Fahr. above that of the surrounding ocean in the Strait of Florida, which decreases so gradually in its passage to the east, as to have lost only 5° Fahr. Opposite the south bank of Newfoundland, a distance of 1,300 miles, it still retains a heat of 8° or 10° above that of the adjacent seas, communicating its temperature to the superincumbent atmosphere.

The warmth diffused over the Atlantic Ocean by this means would be sufficient—such is the calculation—to raise the entire column of air covering France and the British Isles, on a winter day, from freezing point to summer heat—a fact which accounts for the comparative absence of ice in the North seas, and affords the true explanation of the mildness of our climate, and that of adjacent countries.

But, while its influence, by means of the atmosphere, thus affects a large extent of climate, the Gulf Stream itself washes our western shores. The waters of the Atlantic are still warm as they wash the coasts of Connaught, while their effect is perceptible along the shores of Norway, and to the very borders of the Arctic Ocean.

And lastly, among the tributaries of our temperate climate, is the south-west current of air, which is the prevalent wind of the northern hemisphere. Its gusts occupy the track of the Gulf Stream. They waft the warm moist air, arising from the contact and evaporation of its waters, over the coasts of Western Europe; they are felt in the same warm fitful gusts, from Cape Finisterre to the North Cape, as in the Atlantic, penetrating into the Baltic, and reaching to the Russian plains. It is the influence of this current which gives to the western coasts of these islands, from Cornwall to the Hebrides, almost the same isothermal line.

Bury St. Edmunds, Suffolk, January 1853.

CASES OCCURRING IN THE MEDICAL PRACTICE OF THE SUSSEX COUNTY HOSPITAL DURING THE YEARS 1849, 1850, AND 1851; WITH REMARKS.

By G. S. JENKS, M.D., one of the Physicians to that Institution.

(Concluded from p. 104 of last number.)

DISEASES OF THE HEART AND BLOOD-VESSELS.

In 1849, a case of very extensive disease of the heart was admitted, accompanied with distressing orthopnoea and oedema of the lungs. The man survived only two days. In early life, he had had acute rheumatism, afterwards chorea; and, five years before admission, he had undergone another severe attack of rheumatic fever.

Autopsy. The sternum was observed to be prominent. Old adhesions of the pleurae of the bases of the lungs to the diaphragm were found. Serous effusion had taken place on both sides; nearly a quart on the right, and about a pint on the left. The lungs were oedematous throughout, constituting the serous apoplexy of the lungs of authors. The heart was very large; the pericardium universally adherent. The right side of the heart was healthy, except some fatty degeneration at the apex of the ventricle. On the left side, there was great excentric hypertrophy. The mitral valve was thickened and rigid. The aortic valves were also much thickened and rigid, and so bound down as to have admitted of regurgitation. The endocardium presented a good-sized white patch just below the aortic valves. The abdominal viscera were healthy. The head was not examined.

In 1850, the following cases occurred:—

CASE. Esther Cain, aged 21, after a tedious and imperfect recovery from acute rheumatism, was admitted in an anæmic state; whether as a result of that disease, or of the suppression of the catamenia, is doubtful. There was disease

of the mitral valve, indicated by a loud, harsh murmur. The albuminous state of the urine led us to suspect also disease of the kidney. She died from anasarca and bronchitis.

Autopsy. Fluid was found both in the pleural and peritoneal sacs. The lungs were oedematous. There was an adherent pericardium, easily separable in the front and at the apex. The heart was large and flabby. Attached to the free edges of the mitral valve, were some wart-like excrescences, apparently not of long standing. The kidneys were large, pale, and firm; the capsules peeled off easily, disclosing the parenchyma, intersected by reddish streaks, giving it a mottled appearance. The liver was healthy.

CASE. Benjamin Emery, aged 67, had been ill for six weeks. He suffered from dyspnoea, palpitation, pain in the right arm, together with pain in the hepatic region, and much oppression in both hypochondria. The countenance was anxious; the pulse jerking and resisting. There was a musical murmur with the second sound of the heart. It was not agreed what this proceeded from; but I suspect there was some aortic regurgitation, from the character of the pulse. Under the use of blue pill with squills and digitalis, and a diuretic draught, the congestion of the liver and spleen was removed, and the dyspnoea greatly relieved.

Two girls, of the respective ages of 16 and 20, were under treatment for disease of the mitral valve, produced by acute rheumatism. Both suffered from dyspnoea and palpitation; and in both the heart was enlarged. They left the hospital much relieved. The younger one died, I am told, not long since, in the country.

I cannot help here reverting to the fact, so often presenting itself, of very young subjects, especially females, being affected with disease of the heart as a result of acute rheumatism. We have here three bad examples; and we shall find that, out of three cases of acute rheumatism admitted in 1850, two—one a girl of 18, the other a youth of 20—had symptoms of endocarditis; while a man of 46 had no cardiac symptoms whatever.

In 1851, a case of hypertrophy in a woman aged 51, without signs of valvular disease, was admitted. Palpitation was constant, but under exertion it became vehement and distressing. There was a whizzing sound with the pulse, high up beneath the sternum, which made me suspect dilatation of the arch of the aorta.

Another case, in a girl aged 13, was of a very serious character. It had been originally brought on by a severe attack of acute rheumatism. There was a loud endocardial murmur at the base. The heart was enlarged. Pain, palpitation, and dyspnoea, were induced by exertion.

DISEASES OF THE ORGANS OF DIGESTION.

GASTRO-ENTERITIS. A case of this description, admitted in the year 1849, has been already described under the head of tubercular diseases.

In 1850, a case of gastro-enteritis, with severe and protracted diarrhoea, in a scrofulous female, aged 28, terminated fatally. An examination of the body was not permitted. From the history and concomitant symptoms, there was reason to regard this case as one of intestinal tuberculosis.

DYSPEPSIA. In 1851, twenty-one cases were admitted under this head; fifteen occurring in females. In some instances, the symptoms exhibited a sub-inflammatory character. There were total anorexia, nausea, a dry red tongue and fauces, a sense of heat internally, and diarrhoea or constipation, with epigastric or abdominal tenderness. These cases were relieved by the application of leeches to the seat of tenderness or pain, followed by blisters. Effervescing draughts with hydrocyanic acid, and cold acidulated drinks or ice, are useful. When the inflammatory symptoms are subdued, mild mercurials and purgatives restore the healthy action of the secreting and excreting organs; and due attention to diet completes the cure.

Dyspepsia with gastrodynia and pyrosis is common. Pain in the stomach after taking food, in women of a leucophlegmatic temperament, with or without leucorrhœa as a