the sinus for the left coronary artery, equal to the size of a walnut: augmented calibre of the aorta; two ulcers in the ascending aorta—one situated an inch and a half above the valves, extending in the long axis of the artery, and capable of lodging two ordinary thimbles—the other commencing about two and a half inches above the valves, and capable of lodging one thimble (each ulcer being three times as long as its width). The edges of the ulcers were distinct to the touch; but red granulations nearly filled the cavities. The lining membrane of the aorta was smooth. The aortic valves were incompetent when tested by water. Blood was found in only one cavity of the heart, viz., the left auricle, in which it was liquid. The right auricle was empty, and very small. The right ventricle was small, and enclosed as before stated. The columnæ carneæ were very strong, and the little finger could be inserted its whole length into a diverticulum in the septum, between two such columnæ. The total weight of the heart was probably not more than twelve ounces. The muscular tissue was not visibly degenerated.

Abdomen. The liver was not enlarged. The spleen was turgid. Both kidneys were very weighty, probably four times as much so as natural. The capsules separated easily, leaving smooth surfaces. A large amount of sanguineous serum escaped on slicing the organs. The cortical structure was packed with greyish-white deposit.

Chatham, Kent, March 24th, 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.

(Continued from p. 125 of No. for Feb. 11.)

THE continent of America, stretching as it does from pole almost to pole, and embracing an immense breadth of land, offers a striking example of a series of natural climates; while that of Europe, chiefly if not wholly owing to the influence of the Gulph Stream, enjoys a climate which is strictly exceptional. The parallelism of latitude then, so generally indicative of similar inland climates, fails to unite the opposite shores of America and Europe under the same zones. The countries of New York and Spain (situated in 40° north latitude), of the Canadas and France (in 50° north latitude), of Labrador and Great Britain (in 55° north latitude), lie in the same parallels: but the mean temperature of New York (50° F.) equals only that of north Germany and the midland counties; of the Canadas (40° F.) that of Norway, Sweden, and St. Petersburg; and of Labrador (32°) that of the North Cape. Indeed, such is the interference of circumstances, local as well as general, with the climate of a country or even district, that the isothermal line of mean annual temperatures has only a qualified value, and might be extended to the seasons and even months, without fully reducing all the differences which exist to a uniform scale.

It is in vain then to seek for isogenetic zones in the same parallels, or old divisions of the globe into frigid, temperate, and torrid zones; and even the isothermal line, as above stated, is not a strict guide in the inquiry. Countries lying within the tropics present every variety of climate; but though the mean annual temperatures of Europe are individually repeated among the mountain ranges and table lands of Mexico, it does not therefore follow that these two remote regions contain the same isogenetic zones. Experience proves the contrary to hold true. It is the boast of some travellers that man is enabled to live in every quarter of the world, and that in this he stands alone in the animal kingdom; but the physiologist corrects this error.

The native of Europe attains longevity, and his race becomes acclimated in Canada; but his life is shortened, and his race is cut off, in Mexico and the tropical regions around. On the other hand, the African finds a congenial

climate in these latter countries; he is easily acclimated too in temperate, but perishes in frigid zones. In order, therefore, to map out the habitable globe into isogenetic zones, it would be necessary to institute a series of physiological inquiries, in reference, first, to the welfare of individuals who have migrated from one country to another; and next, to the physical and mental characteristics of their descendants. No other course is competent to determine that this or that climate has its duplicate elsewhere; and that man has a home in which the features of his race, and the productions of his native soil, can be preserved.

The influence of the Gulph Stream, which has made Europe an exceptional climate, blends a group of countries of very different latitudes into one isogenetic zone. The Danes, the Saxons, and the Normans, judging of them in a physical sense, have found a congenial climate in Great Britain, as well as the Celts, who cannot be said to have deteriorated in health during the many centuries they have inhabited this country and Ireland. Therefore, in mapping out an isogenetic zone for England, the countries of Europe, whose shores are washed by the Gulph Stream, and those lying along the coast line from Spain to the North Cape, should be included, besides such others, situated inland, as have from time to time supplied our population, and whose descendants embrace the same hardy races as still flourish in these islands; races with whom an interchange of region might be further made without material alteration in the physiological characteristics of their people. That the native of Great Britain, and his descendants, can live in even the more remote parts of Europe, in the south and east, there is little doubt—though not without change of temperament: but this subject will be illustrated hereafter, when the effects of climates, situated beyond our zone, on the Anglo-Saxon constitution, are examined.

Experience shows that the isogenetic zone of these islands is not confined to the limits thus marked out in Europe, but that it stretches across the ocean to Canada and her dependencies, and that it includes some of the northern states of America, to be specified presently. It is stated by eye-witnesses, that throughout the countries which extend from Newfoundland to the lakes of the American continent—Cape Breton, Prince Edward Island, New Brunswick, Nova Scotia, and the Canadas—the natives of British origin preserve their characteristic features; not acquiring the atrabilious aspect, dark hair and eyes, of the United Statesman, nor his emaciated look, but retaining the fair complexion, blue eyes, and other traits of an Anglo-Saxon descent. Nor is the climate of these countries less favourable to the agriculture than to the man of Great Britain. If the cattle is smaller on the whole than at home, this must not be put to the account of climate, but rather to breed. The beef, unlike that of the States, is usually fine and tender. The horse, if not yet bred equal to the English, is of a good kind, and capable of bearing great fatigue; it is often ridden thirty or forty, or even sixty miles without being fed; and will return in the same manner the next day without injury. The sheep thrive remarkably; and if tended with care, they maintain a rivalry with English flocks; and the same may be said of swine—but these, if not attended to, become long snouted, and tall, more like greyhounds, and if left to range through the woods acquire great swiftness. All kinds of grain cultivated in the mother country thrive and ripen perfectly in these dependencies, and produce heavy crops, which are equal in quality to any in the world. Legumes, bulbous roots, above all the potato, indeed every kind of culinary vegetable, arrive at great perfection; while every sort of fruit known in this country ripens equally well there, and is of excellent quality.

In no country do the inhabitants retain health and vigour to a later period of life than in British America; but the bloom of youth is, generally speaking, sooner lost than in England; a circumstance attributable in some measure to the hard life led in the colony, compared with that of the mother country. And the young arrive at maturity at an earlier period than in England—a physiological fact not to

be disregarded ; it is attributable to the forcing character of the climate, and is found to be cognate with a similar phenomenon in the vegetable kingdom. It has been observed already, that the more southern portions of Europe, being outside our isogenetic zone, alter the temperament of the Anglo-Saxon ; a change which may be induced in the constitution of a family without any encroachment on type : and more than this, their climates produce the forcing effect alluded to, leading to early puberty in the human species, and in the vegetable kingdom producing a more rapid growth and maturity.

This is true of South Italy in relation to England ; and yet more so of Calabria, where vegetation especially exceeds in luxuriance of growth that of adjacent and less southern regions of the same peninsula. In Canada the oldest trees do not appear to have exceeded a growth of two hundred years, judging from the number of rings ; and the woodsman buries his axe in them at a blow : while in our own country a thousand years is supposed to be the age of many a tough and venerable oak. This, however, may be fallacious ; the influence of a primeval forest on its individual productions has to be learnt. Still, the fact that Canada is more forcing in its climate than this country is indisputable ; and it shews that a zone, though practically speaking isogenetic, does not preserve a precisely similar character throughout, but that one zone runs into another gradually.

The most genial climate in British America is that of Prince Edward Island. Fever is unknown there ; and those who arrive with ague recover in a few days, often in forty-eight hours, without the aid of medication. Pulmonary consumption is so rare as to be seldom met with ; in a word, there are few places where health is enjoyed with so few interruptions as there, a large proportion of the inhabitants dying from the gradual decay of nature. The average mortality is scarcely one in fifty ; and large families are almost universal. The atmosphere is free from damp ; a foggy day does not occur often throughout the year, the morning sun quickly dispersing the dews.

The climate of Cape Breton is somewhat similar to that of Prince Edward Island, but is visited with heavy fogs, which interfere greatly with its excellence. In New Brunswick and Nova Scotia the winters are severe ; as likewise in Lower Canada ; but they are milder on advancing further to the south-west, where the country takes a turn towards the lakes. As a general expression, the winter of the Canadas may be said to last about four months. Though the cold is intense for nine or ten weeks, the air, dry and elastic, is free from the chilling moisture of a British winter. It is a season of hilarity to the Canadian ; during its continuance he enjoys the exercise of skating, hunting, and driving over the frozen snows ; for the air, which is a non-conductor of heat, being frequently without motion, the cold is unfelt. The summer is hot to excess, the thermometer standing at 100 F. ; but showers from the south-west, sometimes with thunder and lightning, occur once in seven or ten days, and the wind shifts to the north-west, producing a delicious coolness. At night the air is clear ; and the unruffled waters reflecting every visible object in the heavens, the moon, shining with a soft and silver-like brilliancy, exhibits a panoramic scene of the utmost beauty. In autumn the days continue warm, the evenings cool, attended sometimes by slight frosts at night ; and there is but little rain. After a time, sunshine, frost, and rain, succeed each other, and the leaves of the forest assume every tint and shade of colour. The Indian summer follows—a brief season of frosts at night and sunshine by day.

It would be out of place to enter here upon the characteristic beauties of these vast regions, but not so to express the hope that they may not be separated from this country to which they naturally belong ; forming, as they do, beyond all doubt, a part of one and the same isogenetic zone, and affording a legitimate outlet for our population. There exist other countries to the westward, Wisconsin, Iowa, and parts of Michigan, which, as far as is yet ascertained, belong to the same zone. In these the Englishman retains his fresh complexion, and enjoys the rudest health. Ague oc-

curs in the last, as in Canada, among the newly settled districts, but in the two former fever is unknown.

In the north-east, the states of Maine, and probably New Hampshire and Vermont, ought to be included in our zone, but this is doubtful ground ; since in those of Massachusetts and New York, which adjoin, those peculiar features of the United Statesman, or Yankee, which are the effects of a totally different zone upon the organization, are observable in a conspicuous degree, and will be notified hereafter.

It would be useless to enter on the discussion of climates within our own territory in the far west, those of the Oregon and Vancouver's Island. These countries are well known ; they have been the seats of commercial enterprise from the establishment of Astoria to the present time, and have been described by the trapper, as well as by the United States expedition : but the tide of emigration has not flowed in that direction ; therefore little is to be gained by opening the question of their fitness for British settlers.

Such then is the extent of a zone of like productiveness, of which the British isles form the centre ; it stretches over a large portion of Western Europe on the one hand ; of British America, including portions of the United States, on the other : in all probability it encircles the northern hemisphere, though in a zig-zag direction, and in a belt of varying breadth.

But the zone here mapped out is continuous. It includes none of those temperate climates between which and itself there is a break ; climates attained by elevation above the sea-level, such as exist in the table-lands of those high mountain ranges which are found in torrid zones. The claims of such to be considered as detached portions of our zone will be noticed in another paper.

But the great question for Europeans, especially for the colonizing race, the Anglo-Saxon, is this : Is it possible for the native of our temperate northern zone to cross the equator, and find a zone of like geniality and productiveness, one in every sense isogenetic, in the southern hemisphere ? This inquiry has to await a practical solution, for now thousands are annually passing from this country to our antipodes in quest of a new home. Meanwhile, they are utterly ignorant of the grounds on which they proceed, and their fate is to become subjects of a great experiment. I shall show in a concluding paper, that as respects a large portion of the Australasian continent, the question has already in a great measure settled itself ; sixty years have sufficed to determine the point, and that with a significance scarce less emphatic than the solution of a similar question has proved, as to whether the territory of the United States of America is strictly isogenetic with our own zone.

The inquiry into the character of the southern hemisphere will be limited to the more promising countries, and especially to the temperate portions of New Zealand.

After perusing the works of naturalists like Dieffenbach, and the observations of Dr. A. S. Thomson, on the climate of New Zealand, not to mention the important remarks of Cook, and the numerous voyagers, resident missionaries, emigrants, and others, who have uniformly afforded the same testimony in its favour, the general reader, probably, is satisfied that all further inquiry as to its suitability to the English constitution is uncalled for.

The observations of Dr. Thomson on the influence of the North Island, in the production and prevention of disease among emigrants from this country, refer to the nature of the climate, and to the health and mortality among the troops of New Zealand, compared with England and her other colonies. The climate he reports to be unexceptionable ; the mean temperature higher, the range of the thermometer less than in England ; the atmosphere more moist ; its pressure very similar to what has been observed in London ; indeed, it appears from him, and the concurrent testimony of many, to have nearly all the excellences, and few, if any, of the defects of the climate of England.

In one year, 1848-9, out of nearly two thousand troops, one per cent. died of disease, and in the following year a still smaller number—giving an average mortality, during

the two years, of 8½ per 1,000; while among the soldiers stationed in Great Britain, the mean annual mortality from disease is 14 per 1,000. Some part of the reduced mortality may be attributed, says Dr. Thomson, to New Zealand being an open country, with no large and densely peopled towns to generate disease. The annual ratio of mortality from fever in New Zealand was 0·3 per 1,000; in Great Britain, 1·4: the number attacked in the former country was 13; in the latter, 75.

But New Zealand enjoys a remarkable exemption, according to the same authority, from febrile diseases; such, when they exist, being generated by filth, and not by the climate or soil. The only fatal case among the troops appears to have been accompanied by internal organic disease. Ague, even in the swamps and low banks of rivers, is unknown. Scarlet fever has appeared in the town of Auckland, but no other eruptive fever. Those affected with pulmonary complaints have been one-third less than among the same class in Great Britain. The number of deaths from the same cause is very low, of which the following table affords a striking proof:—

Stations.	Annual ratio of mortality per 1000 among the troops, from all diseases.	Number of men, out of 1000, attacked annually by pectoral complaints.	Average number of deaths out of 1000 men, during a year, from pectoral diseases.
Malta	18	120	6·0
Ionian Islands	28	90	4·8
Bermuda	30	126	8·7
Canada	20	118	6·7
Gibraltar	22	141	5·3
Cape of Good Hope	15	98	3·0
Mauritius	30	81	5·6
United Kingdom	11	148	8·0
Australian Continent	11	138	5·8
New Zealand	8½	60	2·7

Not merely the troops, but the sons of missionaries who have been brought up in New Zealand, enjoy a remarkable exemption from consumption—a result which can be attributed, says Dr. Thomson, to no other cause than the climate: an opinion in which he is confirmed by the surgeon of the 65th regiment, Mr. Prendergast.

Diseases of the brain and liver are not more frequent than in England; those of the stomach and bowels are less so; but dropsical effusions are more common; the mild nature of the climate leading to chronic, while that of England, in the same cases, would have led to acute inflammation. Rheumatism is but slightly known; abscesses are less common; but ophthalmia is more frequent than in England.

In the report in question is the following remarkable passage:—"In a memoir which has no other object than simply to record the facts, it may appear out of place to enter into any speculation; but having seen that disease and death are less frequent in New Zealand than in England, the question naturally arises, Is the duration of man's life more extended? I should certainly say that it was, not only from the results adduced in this paper, but also from the circumstance that the mortality among children under five years of age has been found to be very low, and from the genial nature of the climate giving to old men an ease and comfort which no wealth nor artifice can produce in England.

"There is a question which time only can determine: Will the European population, born and brought up in New Zealand, possess the mental and bodily energy of those reared during their childhood in Great Britain? Will not the genial climate, and the ease with which the soil yields its fruits, produce a population similar to that found under the cloudless skies and tropical temperature of the shores of the Mediterranean?"

A climate productive of the advantages thus described, appears almost to exceed the standard sought after; and if one were in search of perfection, of the ideal of a climate, such might no doubt be found in New Zealand.

But, in seeking an isogenetic zone of Great Britain at the antipodes, it is not a question of perfect climate, but of summer and winter like our own; of seasons in which cer-

tain fruits of the earth just ripen, and in which ice and snow lie on the ground. In the northern island of New Zealand, the mean of the coldest month is from 47° to 54° 5', while that of London is only 36° F.; that of the warmest, 70° 5' to 73° 5', while that of London is 62°; that of the year, 57° 5' to 64°, while that of London is 50° F.: in fact, the climate is rather that of Madeira than that of England—with one great exception, that the wind blows with almost unabating violence, over all the islands of New Zealand, throughout the year: a natural phenomenon which renders the air fresh, and is necessarily productive of health.

The middle island of the New Zealand group approximates much more in its climate to that of England. Perpetual snow covers the vast mountain range which runs along its western coast, and is known to lie on the ground occasionally in the plains; so that, while the summer heat is temperate, as in the west of England, there is also a winter characterized by frost. The southern island, though occupying a higher latitude, enjoys a milder climate than the middle, but has the same characteristics as its neighbour. In these, then, far more than in the northern, are to be found the characters corresponding to our zone; and, as far as human foresight can determine, it does appear probable that an isogenetic zone in the southern hemisphere offers itself to our population—a zone in which the features of the Anglo-Saxon race, at the end of five centuries, might, if the race were preserved pure, be the same as should continue to exist in the parent country.

But to the curious inquirer there are problems of a grave kind yet to be considered on this subject, some of which will be determined in the course of three or four generations, while others must remain unsolved until a far remoter period. I am prepared to show, that the low mortality among children as well as adults, and the extended duration of man's life, are circumstances which, however favourable in themselves, afford no more ground for the conclusion that the northern island of New Zealand is isogenetic with the British Isles, than are Madeira, or Alexandria, or Rio Janeiro, in all which life may be more secure, both in childhood and age, than in this country. At present, as far as observation has found opportunity to penetrate, it is found that the offspring of Anglo-Saxon parents, born in New Zealand, resemble the parent stock, and do not, as in the vast regions of Australia and the United States, degenerate on reaching the age of puberty, but go on to acquire that full development which belongs to the youth of England.

This, then, is satisfactory; the race can be reared and preserved; but is not its purity endangered? is it not certain that it will be extensively blended with the Maori? On the shores of Cook's Straits, this admixture has largely taken place already, from intermarriage with the sailors and the daughters of the soil, and the result is said to be a race superior in beauty to the parents on either side; but such is often the result of a new cross at first, and three or four generations must elapse before the question can be solved, as to whether improvement or deterioration is to be the effect of this intermixture. This, however, may apply only to the states of the northern island, in which the natives abound, and where possession of the soil may give rise to such admixture of the two races. In the middle island, the aborigines are few; they are in the position of labourers, and the land is in the hands of the Anglo-Saxon. In this island, then, perhaps above all other localities in the world, provided such exist beyond the equator, is found an isogenetic zone for the English population.

But here follows a question of a more speculative, but scarcely less interesting description. In the southern hemisphere, though there are certain outward resemblances of climate, at least among its general elements, to the countries of the northern; though the atmospheric, the electrical, and the solar influences are the same apparently, and subject to the same laws of action in both,—it is a curious fact, that isogenetic influences, if such exist in both hemispheres, should have given rise to a flora and fauna so opposite. The islands of New Zealand have been not ill

explored, yet the number of plants discovered, including marine, scarcely exceeds six hundred species—a scantiness which corresponds with that of the animal kingdom, of which, however, the deficiency is far more striking. The greater number of plants, too, both species and genera, are peculiar to the country; and, although lists of marine mammals, birds, reptiles, insects, fishes, shells recent and fossil, and annulose animals, have been furnished, as yet no terrestrial mammal, except bats, has been found in these islands.

The question, then, which arises, is this: Are the flora and fauna of New Zealand—so different to those of its antipodes—to be viewed as the development of a southern region, which is co-ordinate with an opposite state of the earth's magnetism to that of the northern? and if so, will its effects, so far as they affect organization, prove congenial to the system of living beings deriving their origin within the polar influence of a northern hemisphere? Should this inquiry, aided by science and experience, receive a favourable solution, there is no reason left to doubt the isogenetic character of the middle and south island of New Zealand, in reference to our zone, or that they will prove the most suitable home for the Anglo-Saxon that has yet been colonized by his race.

Bury St. Edmunds, Suffolk, April 1853.

BROW PRESENTATION AS A CAUSE OF DIFFICULT LABOUR.

By J. G. SWAYNE, M.D., Lecturer on Midwifery at the Bristol Medical School.

(Read before the Bath and Bristol Branch, March 24th, 1853.)

CASES of brow presentation are by no means frequent, and on this account, perhaps, have not been much noticed in connexion with difficult labour. In the two following instances, which occurred consecutively in my own practice, the severity and duration of the labour were both much augmented from this malposition. In one, delivery was effected by art, and in the other by the powers of nature.

CASE I was attended, in October last, by one of my pupils, who informed me, when I arrived at the house, that the membranes had ruptured the preceding evening, and that he had been in attendance upon the patient ever since, but that no progress had been made, although the pains were very frequent and severe. I found the right frontal eminence presenting, the head being fully engaged in the brim of the pelvis. The anterior fontanelle was towards the left acetabulum, and the face towards the right sacro-iliac synchondrosis. The finger easily reached the eyes and nose, and also the mouth, which was wide open; the chin, however, was above the brim, and could not be reached. As the head was in this position, notwithstanding that the os uteri had been dilated for some hours, and the pains had been very violent, I proceeded to alter the presentation without delay. Using a blade of a forceps as a vectis, I applied it over the chin; and by co-operating with the pains, brought the chin downwards and forwards, beneath the arch of the pubes, so as to convert it into a complete presentation of the face. The delivery was soon accomplished; but the child was still-born, probably in consequence of pressure made by the instrument upon the funis, which was twice coiled round the child's neck. In this case, the woman suffered for some months from loss of power in the right leg, produced, no doubt, by pressure of the chin upon the nerves of the sacral plexus.

CASE II. The next case I saw a few days afterwards, in consultation with my friend Mr. Leonard, who told me on my arrival, about five A.M., that he had been with his patient all night; that the membranes had ruptured the evening before, but that the labour was very tedious, although the pains were constant and powerful. I found the head rather low in the pelvis, with the face directly behind the symphysis pubis. The head was so firmly fixed in the pelvis that it was impossible to pass the finger sufficiently high to reach the chin, or in any way to alter the position of the head.

We therefore allowed the labour to go on naturally, as the head was forced perceptibly lower by each pain. At last the forehead presented at the os externum, the root of the nose being pressed against the sub-pubic ligament, and the anterior fontanelle against the border of the perinæum. The nose now remained stationary in that position, forming, as it were, the centre of the semicircle described by the rest of the head, whilst more and more of the vertex protruded with each pain. At last the whole was expelled, the vertex first, and then the face. The child was still-born, in consequence, no doubt, of the extreme pressure on the anterior part of the head, as the forehead was enormously swollen, and the whole face much distorted. In this case, the mother recovered without any bad symptom.

REMARKS. Presentations of the brow are intermediate between those of the vertex and those of the face, approaching, however, more nearly to the latter than the former. When the vertex presents, the head is said to be flexed upon the body, so that the chin is close to the chest; when the face presents, the head is extended completely, and the chin is as far removed from the chest as the neck will admit of. In a brow presentation, the head is partially extended, so that one of the frontal bones presents, most commonly either the right or left frontal eminence. At the commencement of labour, the presenting part might be included in a circle, the circumference of which touches the root of the nose on one side, and the great fontanelle on the other. On examining at this stage of the labour, the face would be found usually looking towards one sacro-iliac synchondrosis, and the great fontanelle towards the acetabulum of the opposite side, or *vice versa*. As the head descends lower, and becomes more fully engaged in the pelvis, the mento-occipital diameter will correspond with one of the oblique diameters of the pelvis, and thus will take a position at right angles to that which it occupies in an ordinary case; for then it is parallel to the axis of the pelvic brim, and is perpendicular to these diameters. In a brow presentation, the head is placed in the most unfavourable manner possible for traversing the brim of the pelvis; for the longest diameter of the head (the occipito-mental, which measures five inches) corresponds with the oblique diameter of the pelvic brim, measuring only four inches and a half. It is, therefore, scarcely possible for the head to traverse the pelvis in this position; and if it remains unchanged, the chin may be arrested for some hours at the brim of the pelvis, as in Case I. Nature, however, frequently remedies the difficulty, by causing complete extension of the head, as was done artificially in Case I. The chin descends, and the vertex recedes, so that the face, which before presented itself imperfectly, now occupies in full the superior strait: the case is thus converted into one of ordinary face presentation, which, as a general rule, requires no further artificial assistance, the diameters which face presentations offer being scarcely less favourable than the ordinary ones. In some rare cases, a still more favourable change is effected; the face, instead of becoming completely extended, flexes, and thus a presentation of the vertex is substituted spontaneously for one of the face; but in other instances the chin is arrested at the brim of the pelvis, whilst the posterior part of the head is forced down lower and lower with each pain, as in Case II: this is, however, effected with great difficulty and after much suffering, for a long diameter of the head, namely, the occipito-frontal, comes into relation with the principal diameters of the cavity and outlet of the pelvis; the result is, that compression of the anterior part of the child's head takes place to such an extent as to be, in all probability, incompatible with life.

In the treatment of these cases, it will be found, as a general rule, that manual interference is necessary, provided the malposition is not corrected by nature very soon after the rupture of the membranes. If this does not take place, and the labour is allowed to proceed, the risk incurred by both mother and child will be great; it is therefore necessary not to delay interference, otherwise the head becomes so firmly wedged in the pelvis (as in Case II) that it is scarcely possible to move it in any way; it may even be-