respecting the second state of consciousness. Some of the most interesting of these are collected in Dana's article in the first edition of this HANDBOOK (Vol. II., pp. 277 *et seq.*)

Many of these cases show psychical states which are in the borderland between the sane and the insane and as such are worthy of the most careful analysis, and these are capable of the most interesting experimentation. Their relationship to the hysterical and epileptic symptom-complex should be kept in mind. It is impossible to enter into all of the details of such amnesic and automatic states. The countless varieties of the hundreds of cases that have been reported now make up an imposing mass of literature. It seems clear, however, that they occur for the most part in the highly strung neurotic individual, the artistic and emotional déséquilibrée.

3. *The Intoxications.*—It is only necessary to call to mind the altered mental states brought about, in man, by the toxæmias of the microbian diseases. The maniacal states of scarlet fever, diphtheria, typhoid, pneumonia, and other diseases are too well known to require further details. The muttering delirium of renal insufficiencies is also of this type.

The altered mentality induced by alcohol is also too well known to need further description; and the same is true, although to a less extent, of the mental states of the habitué to morphine or cocaine.

Cannabis indica, as is well known, brings about a condition of altered subjective personality which is interesting, but the reader is referred to that drug for its consideration. Like the following category, this subject is taken up only that the mosaic may show some pattern.

4. *The Insanities.*—The final stage in the gamut of disordered conscious states falls into the loose category of the insanities. Here the prevailing note is markedly anti-social conduct, and the individual and society are at loggerheads. It is not the purpose of the present article to discuss the insanities, and they are here included more for the purpose of rounding out the general conception of what is in the present article regarded as the "Disorders of Consciousness." Even in the insanities there can be traced the final stages of many of the milder forms of disordered conscious states. The analogies of a *melancholia attonita*, for example, to hysterical paralyses are suggestive, even if apparently far fetched, and certainly the vagaries of a major attack of hysteria, so far as the emotional content is concerned, pass by insensible stages into many maniacal states. The present writer would not push the analogy too far, however, but would employ it merely as suggestive of the continuity of the mental activities which both in their normal and abnormal manifestations present such a richness of variation as to defy all categorical classifications.

Smith Ely Jelliffe.

CONSTIPATION.—This term is applied to an abnormal sluggishness in the movement of the intestinal contents through their canal. In extreme cases, when the bowel becomes entirely closed up, one speaks of the condition as obstipation. When there is a movement daily, but the amount is small, so that an accumulation takes place within the intestine, it is called costiveness. It is obvious that there is no sharp line separating constipation from health. But in general it may be said that most persons to be in health require to have a stool daily. Exceptions do occur; some people habitually have an operation only once in two days, and show no signs of suffering for the lack of a daily evacuation; others habitually have more than one discharge a day. The dejection should be moderately soft in consistence, and cylindrical, not spherical, in form.

Among the symptoms, other than infrequency and incompleteness of defecation, may be mentioned headache, furred tongue, foul breath, muddy complexion and conjunctivæ, a sense of weight in the abdomen. The constipated condition may even be masked by a diarrhœa affecting only the lower bowel, while an actual impaction exists above. At times, moreover, in the cæcum and colon hard masses may accumulate in sacculi in the periphery, while a moderate amount of liquid fæces flows along the centre of the gut. Many of the symptoms of constipation are those of dyspepsia, the two conditions often co-existing, and mutually aggravating one another.

The causes of diminished bowel action are numerous. First may be mentioned mechanical or structural causes, including adhesions, bands resulting from inflammatory deposits, new growths within and without the intestine, constrictions, invaginations, twists, for whose discussion the reader is referred to their appropriate heads. The non-structural causes only will be considered in this article. Dilatation of the intestine with atony is, perhaps, the commonest cause of constipation. The fault lies especially in the large intestine, which is intended especially as a receptacle for the fæces. Normally, they rest, in the intervals of defecation, in great part upon the sigmoid flexure, and the rectum is for the most part empty. The passage of a portion of the dejecta into the rectum and the vicinity of the sphincter sets up that irritation which by reflex action produces the phenomenon of defecation. If this call is habitually neglected, the sensibility of this portion of the bowel is blunted, so that a great accumulation of fæcal matter may take place. This dilates the bowel and still further obtunds sensibility, so that a vicious circle is established and the evil is increased. Another cause of this condition of things is the lack of a regular habit of defecating at a fixed time daily. It seems possible to train the intestine, as it were, to send its contents into the rectum at a stated time daily; and if this periodicity can be secured, one has a powerful aid toward regular and complete evacuation. From the atony above described one finds various degrees up to paralysis of the peripheral nerve endings in the intestine, and of the centres in the cord presiding over peristalsis and defecation. Again, the atony may not be confined to the unstriped muscles of the intestine, but may affect the voluntary muscles as well. This is especially the case in obese persons, and those having lax, pendulous bellies, as after numerous pregnancies. Deficiency of secretion of the intestinal glands contributes to constipation by lessening the fluidity of the chyle. Over-active absorption of the fluids of the chyle may act in the same way; this occurs in febrile states, and when the perspiration is abundant. Anæmia is usually given as one of the causes of constipation; perhaps it would be truer to say that the two conditions have some causes in common; among them an indoor life and sedentary occupations. Probably a large proportion of individuals engaged in sedentary callings suffer at some time from constipation. This is especially the case in those who have changed their mode of life from a more active one, as in the case of students who have formerly been active bodily workers. Any change in surroundings, even though it do not involve a lack of exercise, may cause constipation, as when a person removes from one climate and soil to another. The change of water very possibly adds to this effect. Most landsmen taking a sea voyage suffer more or less from constipation. Congestion of the mucous membrane of the bowel has sometimes a constipating effect, especially when it is due to chronic venous obstruction. For this reason diseases of the liver involving passive congestion of the portal system are often attended with constipation. The explanation seems to be that long-continued passive congestion leads to thickening of the mucous and submucous coats, which impairs peristalsis.

Some forms of cerebral disease, notably tuberculous meningitis, are attended with constipation to a greater degree than other maladies of like febrile intensity. An important aggravating, if not primary, cause of constipation is the use of cathartics. These are seldom if ever required in the treatment of constipation, laxatives always being preferable to purgatives. But, through a mistaken notion of what is needed, the laity are much addicted to the use of powerful cathartics, which, though they relieve temporarily, in the end aggravate the difficulty. Enormous quantities of cathartic pills, chiefly of the proprietary order, are consumed by the public, and

no small proportion of their users arrive at that unfortunate condition when nothing but a repetition of these drastic purges will procure them an evacuation. Improper foods are another cause of constipation; among such we may mention those which are specially concentrated, so that they leave little residuum; a certain bulk of unassimilable residue is necessary for the intestine to act upon. Foods that are too bland, as milk, act in the same way, not affording an irritation sufficient to stimulate peristalsis. This effect of faulty foods is specially observable in young children. Finally, chronic lead-poisoning has among its symptoms marked constipation; here of course, ordinarily, one can obtain the collateral evidence of colic, blue line on the gums, etc.

Much of the importance attaching to constipation depends upon the effects which it produces. Among these that upon the digestive function has been referred to. It is perhaps to the latter that the mental depression so often observed in constipated persons is more directly due; but however this may be, the coexistence of constipation with mental irritability and melancholy is often marked. Intestinal catarrh may be induced by constipation, and may, as already hinted, show itself by a diarrhœa actually coincident with constipation in other parts of the bowel. The catarrhal process occasionally localizes itself, notably about the ileo-cæcal valve; inflammation here (typhlitis) may go on to ulceration, and even perforation, or may by extension cause perityphlitis, with or without ulcers. Other neighboring viscera may suffer from overloaded bowels; a distended and dilated rectum may cause uterine congestion, thence proliferation of tissue adds weight and finally causes displacement. More frequently is its aggravation of symptoms due to uterine disease that had an independent causation. Neuralgias, ovarian, and especially of the sciatic nerve, may be determined by constipation. In the male, seminal emissions are sometimes so caused. Hemorrhoids constitute one of the most annoying and serious consequences of constipation, the distention of the hemorrhoidal plexus being evidently aggravated by a loaded rectum. The general effects of the irritation of the blood by the absorption into it of the contents of the lower bowel, through the prolonged exposure of the latter to an absorbing surface, are shown by the fact that repair of traumatic injuries and operative wounds is observed to be delayed when the bowels remain for a long time constipated. From this it seems reasonable to suppose that other vital processes, depending upon a healthy state of the blood, are similarly hindered by habitual inaction of the bowels.

Auto-intoxication has lately come to be recognized as a cause of many diseases, especially of a mental or nervous character.

TREATMENT.—This is often a matter requiring great judgment and patience. Some of the essentials of treatment have been hinted at in what was said of the causes of constipation. Special attention should be paid to the prevention of this trouble in young children, by training them from their earliest years to regular habits in this regard. The person who is suffering from constipation must be enjoined to select a definite hour (if possible, directly after breakfast), when he will be able daily to devote at least fifteen minutes to securing a proper evacuation. This attempt should be made daily, whether the desire is felt or not, and in time the endeavors will gradually become more and more successful. The water-closet should be made comfortable enough, so far as temperature and accessibility are concerned, so that the individual can spend that amount of time in it without danger of taking cold. Unsheltered and exposed privies are a fertile source of constipation in delicate females. After a stool occurs, a few minutes should be given to see if a further amount of fæcal matter finds its way into the rectum, a thing which often happens. It should never be allowed to remain in the rectum, for that will blunt the sensibility of the mucous membrane, and so delay the cure. A call to defecate, no matter when it occurs, should never be neglected for a moment. The "postural" treatment has been recommended, wherein the patient assumes a squatting rather than a sitting attitude, thereby securing a mechanical advantage in the act of defecation. The diet is of great importance to a constipated subject. Fruit is usually of benefit, particularly figs, berries, stewed prunes, and baked apples. Oatmeal has a popular reputation in this regard, though occasionally persons are found upon whom it seems to have a binding effect. Brown bread and molasses are anti-constipative. An orange, or a pear, taken immediately on rising, will sometimes act as a laxative. In infants, after the fifth or sixth month, costiveness is usually an indication for introducing starchy substances into the diet. Among hygienic measures, we mention out-of-door exercise—in particular horseback riding; massage or kneading of the abdomen, which should be practised daily on rising, the manipulation being over the ascending, transverse, and descending colon, in that order. Electricity similarly applied has proved effective. It may be mentioned that tobacco-smoking acts with some persons as a laxative. The ingestion of a considerable amount of water is to be recommended, and a glass taken on an empty stomach in the morning is particularly effective. Mineral waters are, many of them, of value chiefly by attracting patients to ingest large quantities of fluid, which otherwise they would neglect to do. Some mineral waters, of course, have a distinct laxative character by virtue of their dissolved ingredients. Such are Hunyadi János, Friedrichshall, Congress, Carlsbad, Rubinat-Condal, Apenta, etc. Laxative waters that can be drunk on the spot, *i.e.*, among diverting and pleasant scenes and society, are particularly useful. One to five glasses daily, according to the strength of the water, may be required. The drug treatment of constipation always requires caution. Purgatives are almost never indicated, except, perhaps, once at the beginning of a course of treatment. Laxatives in the form of mineral waters, just alluded to, or as salines, magnesia, potassii et sodii tartras, etc., may be given in small repeated doses if necessary. Probably no better drug exists for the treatment of chronic constipation than aloes, which acts specially on the lower bowel, and but little upon the secretions. This should be given in small doses (say 0.01 to 0.02 gm., gr. ¼ to ⅓ in pill; two pills to be taken two or three times a day). Unlike other cathartics, this does not require to be increased in dose to maintain its effect, but one pill can be dropped at a time till the motions are natural. Belladonna in the form of the extract, 0.01 to 0.15 gm. (gr. ⅙ to ¼), once or twice a day, is highly recommended by Trousseau. Nux vomica and strychnine have given good results, but are most reliable when combined with other remedies. They act not as cathartics, but probably by increasing the reflex irritability of the spinal centres which preside over peristalsis. The buckthorn (*Rhamnus frangula, R. purshiana*, etc.) has been advocated, and the cascara sagrada, in the form of the fluid extract, in doses of 2 gm. and over (ʒ ss.), seems to be a valuable addition to the therapeutics of constipation. The latter drug is also used in the more palatable form of compressed tablets, with or without aloin and nux vomica. Cold- or hot-water injections may be practised daily as an adjuvant to other treatment; suppositories of glycerin or of soap immersed in oil are sometimes effective, especially in children. Finally, in cases of obstinate rectal impaction, mechanical removal of the fæces by the finger or by a scoop may be necessary.

Charles F. Withington.

CONSUMPTION, CLIMATIC RELATIONS OF.—From the period when *De aëribus, aquis et locis* was written to the present time, when each year sees a number of new publications devoted to the special virtues of particular *health resorts*, it has been generally accounted true that Hippocrates was right when he wrote, "Whoever desires to understand medicine thoroughly can by no means neglect the study of the seasons with their variations, of the winds, both as to heat and cold, and those peculiar to certain regions, and of the properties of different waters." The bearing of these words has, by writers of every age, both historical and scientific, been noticed in

connection with diseases in general, but especially with regard to phthisis, which has prevailed among every race of men of whose history we have authentic records. At the present day, so frequently do we read and hear of one region after another being free from consumption, and of this and that *health resort* being veritable *air cures* for tuberculosis, that, could we accept the statements of their advocates, "the conclusion would follow that wellnigh all of them are detached fragments of the original Paradise, replete with all that can make life enjoyable, and walled round from the incursions of death." Dr. W. H. Walsh says: "Probably the earth offers few known spots more favorable to the tuberculized British patient than Nubia; yet the native Nubians on their own soil are occasionally destroyed by phthisis." New Zealand is popularly believed to give perfect immunity from phthisis, and yet rheumatism and pneumonia prevail there, and partial mortality returns give more than ten per cent. of deaths as being caused by consumption. Dr. E. M. Wight writes of the inhabitants of the Cumberland tableland in Eastern Tennessee, as a "people without consumption"; while local physicians sing the praises of the Laurentide forest and lake region of Northern Ontario, as having a Canadian population free from phthisis. So the records read, but actual facts cruelly banish the illusion, and, concerning them all, we have finally to admit the truth of the statement of Dr. Bennett, who, while praising the towns of the Riviera, is yet forced to say: "The perpetual spring, the eternal summer, the warm, southern, balmy atmosphere described to the reader in such glowing terms, only exist in the imagination of the writers."

While, however, it is well to admit at the outset that perfection of climate, as regards immunity from consumption, is not to be expected, there has, nevertheless, been too much taught us by the healthfulness of the inhabitants of, and by the experience of invalids in, regions having certain climatic characteristics, to prevent us perceiving that there are certain meteorological conditions more conducive to freedom from phthisis than are others; and it will be our aim to point out what these are, and where they exist in highest perfection. The opinion of Hippocrates, thousands of years old, regarding diseases in general, was but repeated and added to by Mr. John Simon, C.B., Chief Medical Officer of the Local Government Board of Great Britain, when, in 1867, he wrote: "That vastly fatal disease [phthisis], if we are to have proper knowledge of its causes, must be studied from many different points of view." His investigations show it to be a disease "which undergoes development in proportion as men are *unwholesomely gathered together in indoor industries*"; and again he says, "it is shown to be a disease which develops itself in proportion as *men are dwelling upon a humid soil*." Dr. H. I. Bowditch, of Boston, arrived at a similar conclusion as long ago as 1862, regarding the intimate connection between dampness of soil and the prevalence of consumption; and the Secretary of the Provincial Board of Health, Ontario, Canada, has pointed out that in two contiguous health districts of the province, one of which is a plateau, and notably free from malaria, and the other, a flat, malarious district, the deaths from consumption in 1881 were, in the first, 8.5 per cent. of all deaths, or 1.02 per 1,000; and in the other, 12.7 per cent., or 1.64 per 1,000.

From these various statements, based upon statistics, it must be plain that meteorological conditions *per se* form but a part, and apparently a small part, of the factors entering into the question of the causation of consumption. Assuming the truth of these statements, it will be necessary to adopt some comprehensive method of treating the subject, from the evident fact that there are many elements of a heterogeneous character entering into it.

Simon asserts that in discussing the prevalence of phthisis, its *hereditary relations*, and *the nature of the morbid process which accompanies it*, cannot be overlooked. Within more recent years, however, as the study of the causation of tuberculosis has become more exact, most authorities are agreed that while the hereditary element in the disease cannot be neglected, a clear distinction must be made between cause and tendency. The general dissemination of tuberculosis, its chronic character and the great vitality of its germ, make infection more widely distributed than that of any other disease; and hence it is that persons inheriting a taint or vicious quality of tissue as the scrofulous habit, or living under conditions affecting the vital resistance of tissues, are especially liable to contract this as any other communicable disease, when exposed to infection.

This being the case, it is apparent that there are briefly to be considered:

1. The nature of the cause.
2. How its development is aided by (*a*) heredity, (*b*) vitiated air, (*c*) moisture of soil, and (*d*) atmospheric conditions.
3. The climatic conditions counteracting its development, and favoring a return to health of the phthisical.

1. The Nature of the Cause.—Assuming that until experiments, greatly more extended than have yet been instituted, shall have proved the incorrectness of the zymotic theory of tuberculosis, it may be taken as established, and hence the qualities of the *Bacillus tuberculosis* in relation to external influences affecting its development may be noticed. Koch observes that, while the sputum of tuberculized patients almost invariably contains bacilli, and that very frequently these bear *spores*, the former existing external to the body for many days, and the latter for many months, yet they are not likely to be borne on the air until they have become desiccated. This tends to the destruction of such vegetable cells, but their destruction is especially favored by the action of sunlight, experiments such as those of Marshall Ward and Büchner going to show that this destructive action depends especially upon the ultra-violet rays of sunlight, causing a destructive oxidizing action to take place on the cells. Owing to this sensibility to light and temperature, their growth requiring a temperature between 29° and 42° C. (85° and 108° F.), and their fastidiousness as to the composition of the soil, the important conclusion as regards infection is arrived at, *that the bacilli of tuberculosis are limited to a parasitic mode of life in animals, and cannot grow outside of the body under the conditions found in nature.* It has further been established that the inhalation of a spray, containing bacilli in suspension, by guinea-pigs, rats, and mice, inoculates these various animals with the disease, and that the extent of the tuberculization depends on the length of time between their inoculation and death. From the peculiarities of the Bacillus tuberculosis as regards its development, it becomes evident how little infectious the disease is, compared with some other zymotics, and how the spread of the disease is made possible, almost wholly, by the inhalation of the atmosphere of apartments which the phthisical have inhabited.

2. How the Development of the Cause is Aided.—That there are conditions favoring the development of tubercle there can be little doubt, and among these in this connection may be mentioned—

(*a*) *Heredity.*—Koch tells us that the character of the pathological lesions depends on the number and localization of the bacilli, and on the power of resistance of the tissues of the patient. Dr. H. F. Formad illustrates this difference in power to resist by asserting that the scrofulous habit, or a tending to take on a tuberculous inflammation, exists in certain animals, as rabbits, etc., through a structural narrowness of the lymph spaces of the connective tissue, and that similar tissue exists in scrofulous individuals. Dr. Jonathan Hutchinson, of London, maintained for years the position that the bacillus of tuberculosis is directly transmitted to the infant *in utero*, and that it may under certain conditions lie dormant in the tissues. Professor Bang, of Copenhagen, estimates this transmission at one per cent. in calves from tuberculous mothers; but perhaps as much as can be said with such isolated facts before us is that clinical evidence in this, as in many other diseases, as well as *inoculation* experiments, has placed the fact beyond doubt of there being a relative susceptibility or insusceptibility to infection, or, in other words, *hereditary* and *induced* tendency to disease.

(*b*) *Vitiated Air.*—It is hardly necessary to draw the conclusion, justified by the qualities of Bacillus tuberculosis, that the impure atmosphere of crowded apartments where consumptives are present must receive and retain greater numbers of bacilli than if it were frequently renewed, and that those exposed will be more likely to inhale them. There are other elements, however, which greatly promote the inoculation of the inmates of such apartments. The insufficiency of oxygen, the excess of carbonic acid, and the volatile emanations from those inhabiting the place, and the frequently vitiating action on the lungs of air containing much dust and insufficient moisture, all tend to induce anæmia, catarrh, and other derangements, which not only lessen the resisting power of the system to disease, but also, by colds and catarrh causing congestion of the mucous tract, produce just such conditions as form a *nidus* favorable for the reception and subsequent growth of Bacillus tuberculosis. The antithesis of this condition is the external air of even cities, which is purity itself when compared with indoor air: while the reconstructive effects of free country air and sunlight are the elements to which we now chiefly look for resistance to the disease.

(*c*) *Moisture of Soil.*—Of all the climatic conditions which promote phthisis Dr. Buchanan's investigations show this to be the greatest. Thus he found that after the completion of improved systems of land drainage, the percentage of deaths from phthisis in every town whose statistics are given decreased; this decrease amounting in some, as Ely and Rugby, to forty-seven and forty-three per cent. This remarkable decrease being the result of drainage, it becomes of interest to consider its *modus operandi*. Dr. Th. J. Turner, formerly Medical Inspector, U. S. N., has abundantly shown the influence of damp air on the health by comparing the sickness and death rates, especially from consumption, on vessels in the United States and British navies, in some of which the old custom of daily washing down the decks was practised, while in others this was performed much less frequently. He asserts that breathing the impure damp air has been the chief cause of phthisis; and that it is the damp air, rather than the limited amount of air, is shown from the fact that the air space per man in both classes of vessels was much the same. Sir Alexander Armstrong, of the British navy, says: "There can be no more fertile source of disease among seamen or, indeed, other persons, than the constant inhalation of a moist atmosphere, whether sleeping or waking; but particularly is this influence injurious when the moisture exists between the ship's decks, where it may be at the same time more or less impure, and hot or cold, according to circumstances." While doubtless the truth of the statistics of Buchanan and Turner illustrates a fact of extreme importance, yet the experimental work of recent years would seem to supply the explanation of the fact in a manner somewhat different from that understood at the time by these writers. In both cases we see damp atmospheres confined in spaces where the influence of sunlight is impossible, and where while the bacilli of tuberculosis may not develop, yet when introduced the conditions favorable to their vitality are present, whether in the cellar or spaces under floors and in the holds of ships. Moreover, in both cases decomposition of organic matters goes on, and morbific germs and the gases produced by them are ever present to lower vital resistance to the specific germs of this disease when once introduced.

Inasmuch, however, as the bulk of population live on the land, it is necessary to inquire into the influences affecting them in this regard. Ordinarily it may be considered that the relative humidity of the air for health should lie between 70 and 75, at the ordinary temperature of 66° F. When it is greater than this, as with a damp soil and low temperature, the heat is very rapidly abstracted, the action of the skin in its secretion of urea and carbonic acid is checked, and the internal organs, and notably the lungs and air passages, are congested, having increased work thrown upon them, and are, moreover, subjected to the same chilling influences as the skin. Hence colds and catarrhs are generated, and conditions favorable, as we have seen, to the development of the specific bacillus are produced.

That damp soil serves to keep the superambient atmosphere damp is seen in the fact that drainage raises the temperature of the soil, and, therefore, of the contiguous air. This has been proved by Parkes, who found that the mean average temperature of thirty-seven experiments gave, at seven inches below the surface, an increase of 10° F. in a drained and cultivated soil over that at the same depth in an adjacent bog. The wet land remains cold on account of evaporation from it producing cold, as water has a high radiating power and a high specific heat, and through the conduction of heat downward in a soil, deprived of a circulation of air, taking place slowly.

Inasmuch as every increase of about 20° F. of temperature doubles the capacity of air for moisture, it is not difficult to see how the soil, by keeping the contiguous air at a low temperature, must to the same extent keep it damp by lessening its capacity for moisture, and thereby produce the evils already referred to.*

When it is remembered that the inhabitants of wet lands habitually breathe an atmosphere saturated with moisture, that their sleeping-rooms are cold and damp, that such dampness renders the air of their unventilated living apartments more likely to retain suspended in it any volatile and organic matters that may be present, and finally that all these factors tend to diminish their resisting powers, it must be confessed that such a combination of conditions must favor in a high degree the successful implantation and development of the germs of tuberculosis in the people who are thus unduly exposed.

Other atmospheric conditions dependent upon the moisture of the atmosphere may be mentioned here. One of these is that the diathermancy of the air is increased or diminished according as the air has little or much moisture in it; and that proportionately to the diathermancy the day temperature rises rapidly, and the night temperature, through radiation, falls just as rapidly. Thus Denver, at 5,200 feet of altitude, shows an average daily range of 30° F., and even with this difference dew but seldom forms. Though this latter fact will indicate the low relative humidity of the air, there can be but little doubt that such extreme and sudden changes must injuriously affect persons other than the most robust. At these high-altitude *health resorts* it is carefully ordered that consumptives either wrap themselves well before remaining out in the night air, or remain within doors or under shelter during the evening. Notwithstanding these, the greatest drawbacks to such dry climates, the fact nevertheless remains that a comparatively small change of temperature in a moist atmosphere produces subjective sensations often greater than do much greater changes where the air is dry. Though under ordinary circumstances it can hardly be said that hot climates are favorable to phthisis, yet it may well be that the endeavors made to keep the body cool by seeking out shady retreats and protecting their houses by trees to shelter them from the sun's rays, create damp atmospheres in the latter, which, through favoring fungoid growth, may promote phthisical tendencies in the population.

3. The Climatic Conditions Counteracting the Development of Consumption, and Favoring a Return to Health.—The nature of the cause of the disease indicates, in great measure, in which direction these favorable conditions must be looked for. Most writers, in their remarks on the failure of all climates to produce a cure in cases of consumption, have failed sufficiently to discriminate between *hereditary* and *induced*

* Too painfully accurate is the distich from "Morte d'Arthur"—

"The white mist like a face cloth to the face
Clung to the dead earth, and the land was still."