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THE PERSONAL EQUATION IN THE TREATMENT OF PHTHISIS.[1]

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THE influence that the conduct and temperament of the consumptive exert over the progress of his disease is the question that I desire to bring to the attention of this association. We all of us doubtless agree that the amount of prudence and intelligence shown by the invalid in the care of his case greatly modifies the results. Further, that his general physique and his temperament are important elements in determining improvement or deterioration. Nothing, however, has been done, so far as I can ascertain, to demonstrate by statistics what are the proportionate influences of wisdom and unwisdom, of the quality of the physique, and of the special kind of temperament. The difficulty in correctly classifying each case and the difference in definition, and in reading the signs of each quality, among the various observers, has doubtless stood in the way of such attempts being made, and at the best it is to be admitted, in dealing with many cases, that a large margin must be allowed the exact figures given for the precise influence of such factors as conduct and temperament. It is only when the main points are agreed upon, the material plentiful, the observers many, and their opportunities of judging of these personal matters frequent and scattered over a good portion of the period of illness, that such facts can be arrived at. It is not the consultant who sees the patient once or twice, and is ignorant of his daily history, who can determine how far overexercise or sloth, apathy, or worry, lack of physical resistance, or excess of reaction, has been displayed during the months or years of the sickness, so as to bring the patient correctly under the special denominations used in the classifications which follow,

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but it is for the physician in charge to furnish the facts upon which such matters can be determined.

Admitting that it is possible to produce a rough scheme of classification out of elements so indefinite and complex, and then to demonstrate the influence of each class, it may be urged *cui bono?* The answer is that, although we are probably correct in our general common-sense views of these subjects, and we usually influence our cases so as to mitigate the various evils arising from the different elements, yet, although it is well to *believe* rightly, it is still better to *know* correctly, even though in each case the consequent treatment be the same. Further, our patients will hearken to us the more, when we can speak to them to the effect that the percentage of improvement is much greater among the wise invalids than among the foolish who perish by their own folly, in the proportion shown by the statistics of so many thousand cases. The physician, also, if he knows the relative percentage of danger that lurks in the special physique or temperament of his patient, is forewarned and so forearmed, and thus can shape his treatment and his prognosis with greater accuracy.

With these objects in view I have further analyzed the 141 cases of phthisis treated by me in Colorado, which I reported to the Climatological Association last September, and now present the resulting tables for your consideration. The number of cases are too few to be able to found upon them absolute proof of any of the points inquired into; and these statistics can be taken only as in a greater or less degree foreshadowing what is the nature of the truths to be discovered by longer and ampler investigations. As the whole question of the value of these figures rests upon the quality of the material on which they are based, and the opportunities enjoyed by the observer for forming his conclusions, I shall begin with a *résumé* of the previous analysis of the 141 cases before taking up the special one that I now desire to bring before you.

These cases are from the records of my practice in Colorado Springs during the past sixteen years, and were taken as they were able to be followed up accurately to date. In order to allow a reasonable time to elapse to judge of the results, none were taken whose first visits were paid less than two years before

the report was made, and in most of them many years ago. The number was limited to 141 for comparison with a like number treated in the Alps and reported on by Dr. C. Theodore Williams. The cases were not in any way selected, but as the history of any one was completed it was put in the tables, until the required number was reached. Although not giving a continuous record, yet taken as they were at random as regards results, and being widely scattered over the period of my practice, as the dates will show, they may be considered to give a fair average sample of it. The results of each case can be relied upon as known to me and not merely inferred. In the analysis I followed closely the plan of Dr. Williams, and gave each case under the same headings, viz.: *Number of case; name; sex; date of first visit; nature and extent of disease; length of illness; family predisposition; hæmoptysis; length of residence.* Next follows the result under the various headings of: *General results; weight; local results; chest circumference; notes.* The opinion that the results shown by these cases are, in spite of their fewness, average ones is shown by their close resemblance, where the quality of the cases was alike to those of all other observers which I could obtain, and which I present further on. I have confined myself, so far as possible, to practical conclusions and the main points, omitting details for the sake of clearness and brevity. The diagnosis of the cases in almost all instances was confirmed by several physicians, and in the later cases the presence of bacilli in the sputum was demonstrated.

Those which are put down as *cured* were those in whom all symptoms, both local and general, had disappeared, and who were known by me personally, or through their physicians elsewhere, to be in good health within a month or so of the time of making the report. That occasionally, at least, all detectable signs disappear, even in cases where marked cavities have existed, is the fact; and within the past week I examined with a colleague, and passed for life assurance as perfectly sound, a gentleman in whose paper we detailed the well-authenticated history of rapid phthisis and a considerable cavity, which had brought him to Colorado eighteen years before. The other divisions of results were *greatly improved, improved, worse,* and *died.* The *greatly improved* had

apparently perfectly recovered, except for some remaining evidence in the lungs of past disease, or slight partial disability in general health. The *improved* were those in whom the disease was in a state of arrest, or slowly improving; in whom the tendency to death was apparently averted; in whom there might have been some advance of disease since coming; and in whom there were still some local or general evidence of disease; but of whom it was fair to say they were improved by their residence in Colorado. The number grouped under the heading *worse* were few, as in most cases the time of observation being prolonged they had terminated in death. Under the head of *died* are all those who died of the disease in Colorado or elsewhere. For the purpose of more ready reference and comparison I have also grouped the results under two headings only, viz: *cured* and *benefited*, benefited including the first heading cured, as well as the greatly improved and improved.

Sex.—There were 35 females and 106 males.

Condition of Life.—Of all sorts, but none in actual want or poverty.

Age.—Females, average age 23 years. Males, 30.7 years.

Date of First Visit.—Usually within the first few weeks of residence.

Length of Illness.—This was the period between the appearance of the first symptoms and the first visit. Average length of illness: Females, 19 months. Males, 24 months.

Heredity.—Present in 57.14 per cent. of the females, and in 56.6 per cent. of the males, or 58.1 per cent. of the total of 141 patients. There was more or less benefit in 70; *i. e.*, 73 per cent. of the hereditary cases, (Dr. Fisk's 100 cases, referred to later, showed nearly the same, viz., 73 per cent). These are a little above the average improvement among the total number, which was 68 per cent., suggesting that perhaps the knowledge of heredity made these invalids take earlier and better care of themselves than those who, not having this warning, were slow to believe in the serious character of their indisposition.

Hæmoptysis.—Occurred in 55.31 per cent. Recurrence took place in 12.76 per cent. of the whole 141 after coming to Colorado, that is, in 21.79 per cent. of those who previously spat

blood. 64.1 per cent. of all who had hæmoptysis were benefited, which is somewhat less than the total average of improvement.

Pyrexia was more or less present in 56.73 per cent., of whom only 60 per cent. improved, which was decidedly below the average improvement.

History and Nature of Cases.—5 had pigeon breast; 2 syphilis; 3 heart displaced; 3 marked cardiac dilatation; 1 old mitral regurgitation; 1 asthma; 20 tuberculosis (besides pulmonary), viz., 3 anal fistulæ, 2 of hip, 3 aural, 2 of testicle, 2 renal (lardaceous), 2 glandular (cervical), 7 laryngeal (unmistakably tuberculous); and besides these, 13 had marked symptoms of laryngeal congestion, with more or less aphonia, which in several suspiciously suggested early tubercular deposit. Of the 7 undoubted cases of tubercular laryngitis 2 improved and 5 died, giving of improved 28.57 per cent. Of these 7 in all but one there was, at least at first, some improvement and healing of ulceration, and in some the ulcers remained healed till within a few weeks of death. Of the 13 dubious and the simple chronic laryngitis cases 61.53 per cent. improved.

State of the Lungs.—43.97 per cent. were in the first stage or that of tuberculization, 34.47 per cent. in the second or that of softening, and 21.27 per cent. in the third—that is, with cavities—and 16.3 per cent. had both lungs affected. In 83.68 per cent. one lung only was diseased. Of these the right was affected in 42.55 per cent., the left in 41.13 per cent. Of the 62 cases in the first stage, 16 had signs limited to one apex, all of whom improved. 17 were limited to both apices; of these all but 3 improved; one of the 3 would probably have improved had he not gone home too soon; 4 had more or less tuberculization scattered through both lungs.

Length of Residence.—This does not convey an accurate idea of what was the length of time needed to effect permanent improvement or a cure, because so many invalids make their permanent residence in Colorado, as they often find opportunities to engage in work or business, and always pleasant society, and a climate in which they can live agreeably all the year round.

Returned Home.—41.84 per cent. left Colorado, of whom 61.44 per cent. are still to-day in the improved class—less than

the average improvement—while of those who remained in Colorado 82.76 per cent. are improved. This would show that several more of those who left would have improved if they had remained longer. While of those who stayed some undoubtedly could have left in safety—19 cases, for instance, being evidently cured. I believe it may be assumed that 50 per cent. of those who come with phthisis to Colorado may in a longer or shorter time return without danger to their homes unless the surroundings and attendant circumstances to which they return are unhygienic. My observations in this regard corroborate the opinion of Weber, Williams, and others, that patients cured at an altitude have at least as good and probably a better chance of keeping well at home than those cured at or near sea-level.

Gross Results.—Of the total number, the percentage benefited was 67½ per cent., and cured 33⅓ per cent.; while in the first stage alone 58 per cent. were cured and 87 per cent. benefited. In the second and third stages combined 14 per cent. were cured, and 52 per cent. benefited.

For the purpose of showing that, although the number of cases is small, one is justified in believing that they bear a close resemblance to the results that would be obtained from a much larger number, and are a fair sample of the results of most of the cases treated in high climates which have been reported upon, I offer for your inspection a table that is published in my article on Climate, in Hare's System of Therapeutics, giving the results of treatment in high climates, gathered from all the reports I was able to obtain. It will be noticed that the results are grouped for the better comparison under two headings only, namely, cured and benefited. Of the six observers, the first three, viz: Drs. Weber, Williams, and Johnson are consulting physicians who selected the cases and sent them to an altitude for treatment; and the last three, Drs. Denison, Fisk, and myself are resident physicians who had no control over the selection of the cases, and had to make the best of the material we received, many of our patients having come on their own judgment, or on the advice of physicians unacquainted with the principles of climatology. This, probably, accounts for what the original records would show, that

the quality of the cases treated by the last three observers was inferior; and, therefore, the gross results not as good as those of the first three.

TABLE I.

Stage.	Number.	Per cent.	State of lungs before residence in Colorado.	Cured.	Greatly improved.	Improved.	Worse.	Died.	Total.
1st	62	43.97	25 had right lung alone affected.	13	7	3	—	2	25
			21 had left lung alone affected.	15	3	—	—	3	21
			16 had both lungs affected.	8	4	1	1	2	16
			Totals	36	14	4	1	7	62
2d and 3d	79	56.02	30 had right lung alone in 2d and 3d stages.	8	6	6	1	9	30
			5 had right lung in 2d and 3d stages, and the left in the 1st.	—	1	—	—	4	5
			28 had left lung alone in 2d and 3d stages.	2	5	8	—	13	28
			9 had left lung in 2d and 3d, and right in 1st stage.	—	2	1	—	6	9
			7 had both lungs in 2d and 3d stages.	1	—	1	1	4	7
			Totals	47	28	20	3	43	141

Stage.	Number.	Per cent.	State of lungs in 2d and 3d stages separately.	Cured.	Greatly improved.	Improved.	Worse.	Died.	Total.
3d	30	21.27	13 had right lung alone affected.	1	3	3	—	6	13
			14 had left lung alone affected.	—	5	1	—	8	14
			3 had both lungs affected.	—	—	1	—	2	3
			Totals	1	8	5	—	16	30
2d	49	34.75	22 had right lung alone affected.	7	4	3	1	7	22
			22 had left lung alone affected.	2	2	8	—	10	22
			5 had both lungs affected.	1	—	—	1	3	5
			Totals	10	6	11	2	20	49

TABLE II.—*Elevated climates (4500 feet and upwards).*

ALL STAGES.

Reported by	No. of cases.	Cured.	Benefited.	Where treated.
1. Dr. Herman Weber,	106	36 per cent.	75 per cent.	Swiss Alps.
2. Dr. Theo. Williams,	141	41 "	75 "	"
3. Dr. H. A. Johnson,	19	37 "	79 "	Colorado.
4. Dr. Charles Denison,	202	37 "	80 "	"
5. Dr. S. A. Fisk,	100	35 "	67 "	"
6. Dr. S. E. Solly,	141	33½ "	67½ "	"

FIRST STAGE.

Reported by	P. c. of cases.	Cured.	Benefited.	Where treated.
1. Dr. Herman Weber,	66	51½ per cent.	64 per cent.	Swiss Alps.
2. Dr. Theo. Williams,	65	63 "	90 "	"
3. Dr. H. A. Johnson,	47	44½ "	78 "	Colorado.
4. Dr. Charles Denison,	37	75 "	92 "	"
5. Dr. S. A. Fisk,	42	66 "	90½ "	"
6. Dr. S. E. Solly,	44	58 "	87 "	"

1. Dr. Herman Weber, of London, reported, in the London "Lancet," May 12th, 1888, 106 cases that were sent by him to the Swiss Alps. They were of a selected class only in the sense that they belonged to the well-to-do classes, and were, therefore, persons who were able, and generally intelligent enough, to take care of themselves, and had previously been in good condition, and were chosen as suitable cases for altitude treatment.

2. Dr. C. Theodore Williams, of London, reported on May 8th, 1888, to the Royal Medico-Chirurgical Society of London (Vol. 71 of the "Transactions"), the results, etc., of the treatment at an altitude of 141 cases, all but four having been resident in the high Swiss Alps. The four had been in Colorado, New Mexico, and the South African Highlands. They were all of a similar class to Dr. Weber's patients, and carefully selected for the climate they were sent to.

3. The late Dr. Hosmer A. Johnson, of Chicago, reported to the American Climatological Association, September, 1890, 25 cases of phthisis that went to the Western Country. Of these I found that 18 came to Colorado, and 1 to Western Kansas, where the climate and elevation are very similar, the remaining 6 going to California. The exact stage of the disease was not given, but the descriptions are such as to justify their separation in the way given here. The social condition of the patients, I believe, was favorable.

4. Dr. Charles Denison, of Denver, in his work entitled "Rocky Mountain Health Resorts" (published in 1881 by Houghton, Mifflin & Co., Boston), reports on 202 cases treated by him in Colorado. He did not put any under the head of cured, but of much improved he reports 47 per cent. He estimates, however, that a deduction of 10 per cent. should be made from this to arrive at the approximate number of cured; and as this brings it in close resemblance to the other figures, it is probably near the truth; the unusually high percentage of benefited in the cases of Drs. Denison and Johnson are proba-

bly due to the subsequent histories of the cases not having been traced for as long a period as by the other observers.

5. Dr. S. A. Fisk, of Denver, in his address as president of the Colorado State Medical Society, reported in June, 1889 (see "Transactions"), 100 cases treated by him in Colorado. Like Dr. Denison, he does not give any as cured, but as much improved. From recent correspondence with him, I learn he estimates that a deduction of 15 per cent. from his 50 per cent. of those much improved would give about the proportion of cures.

TEMPERAMENT.—Looking carefully through the original notes of my 141 cases, and recalling mental pictures of each individual, their mental and physical peculiarities, and the tendencies exhibited in their reactions to their surroundings, I find it comparatively easy to range them under the several temperaments which I have described in a paper read by me before the Denver Medical Association ("Journal of the American Medical Association," June 8, 1889). In order to explain my views upon temperament, I quote the following extracts from this article:—

"The ancient writers upon our art endeavored to explain these different underlying forces as due to certain humors; the history and description of their views is too well known for me to recapitulate them here. We moderns have accepted and must still accept much of their nomenclature, but we have rejected their explanations of the causes of the several temperaments, without seriously concerning ourselves with finding new ones. A recent writer in 'The Medical Record' (Aug. 4, 1888), in reviewing two essays of Hellwig upon temperament, says: 'Physicians learn, consciously or unconsciously, to recognize temperamental differences, and to suit both manner and medicine to the fact.' He further goes on to remark that the best definition has been given by Muller, who essentially describes temperament as 'the reaction of the individual to his environment.' In the same article Hellwig's tabular definition of temperament is presented, which is founded on the view that it is the varying strength of the reception of an impression and of the reaction of the individual to it that distinguishes the temperament.

HELLWIG'S TABLE.

Temperament.	Reception.	Reaction.
Choleric.	Strong.	Strong.
Sanguineous.	Strong.	Feeble.
Melancholic.	Feeble.	Strong.
Lymphatic.	Feeble.	Feeble.

"Darwin Hudson (Johnson's Encyclopædia) defines temperament 'As a mixture or tempering of the essential elements of the body, whose excess or variable quantity determines the chief characteristics of mind or physique.'

"What are the essential elements of the body? In the various definitions of temperament that are to be found there is always a reference to some such undefined factors as being at the foundation of the problem of temperament. Before we can build up any reasonable scheme of temperament we must clear off the wrappings and expose the root of the matter; in short, we must explain what is meant by the essential elements of the body.

"What is the essential quality of living matter; its power of renewal, that is, nutrition? When a portion of elementary living matter, which we term protoplasm, becomes separate and individual, as in an amœba, what is the essential quality of its individuality? It is its capacity to receive an impression from, and its power to react to, its environment. This quality is exercised through nerve force. It is true that we cannot detect nerve structure, as we know it, in the dawning life of the individual, but though the localized and visible machinery, which we term nerve-tissue, is not apparent, the real essential element of nerve force is undoubtedly diffused through the general mass of the individualized protoplasm, conferring on it the capacity to receive impressions, at least in an elementary manner.

"The first reaction of the separate piece of protoplasm to the reception of an impression received from its environment would appear to be the formation of a cell wall, whereby it reacts to external pressure by hardening itself superficially. Thus it defines its individuality and protects itself in the exercise of its essential function of nutrition, which function consists of the importing of raw material for food, and the manufacture of it into the structure of the individual. The first evidences of a nervous system show that it is used to receive and react to impressions made from without; the passing food is drawn in when reflex action is developed by the impression received from without.

"Thus we see that a living individual has two essential qualities, nutrition, whereby it lives, and innervation, whereby it individualizes itself, both essential to each other.

"The evolution of nutrition is briefly thus: Simple absorption and assimilation of food by the whole mass of protoplasm and the general excretion of its waste; then the localization of digestion in a stomach; next the carrying of the digested nutriment to remote parts by lymphatic vessels; then this circulatory process elaborated into a vascular system, with its heart or pump. Then a portion of the clear, white lymph gradually changed into red blood, then the chemical changes producing bodily heat. Thus the circulatory system of nutrition passes from a lymphatic, cold-blooded stage to the warm, red-blooded form of the mammal.

"The nervous system beginning in the sympathetic form, next the motor, then the sensory up to its highest elaboration in the brain of man, with its power of receiving impressions without bodily contact, by means of thought.

"Through innervation comes the power of reception of impressions made upon the individual.

"Through nutrition the power of reacting to such impressions, the latter being exhibited immediately through its circulatory system, which in man in its most important form, with respect to the power of reaction, is sanguineous.

"The essential difference in reception is in speed, and, therefore, the two chief divisions are into quick and slow. Quick reception may be best called 'nervous;' slow, 'phlegmatic.'

"The essential difference in reaction is in strength, therefore the chief division is into strong and weak. Strong reaction may be called 'sanguineous;' weak, 'lymphatic.'

"Thus temperaments should be primarily divided into those of quick reception, nervous; and those of slow, phlegmatic; those of strong reaction, sanguineous, and those of weak, lymphatic. But as each individual has both qualities of reception and reaction, so each quality should be expressed in the name of each temperament; therefore, taking these four in their main varieties of combination, we have eight different temperaments, the first of the names signifying the most pronounced of the two qualities as exhibited in the temperament.

Temperament.	Reception.	Reaction.
1. Nervo-sanguineous.	Quick.	Strong.
2. Nervo-lymphatic.	Quick.	Weak.
3. Phlegmo-sanguineous.	Slow.	Strong.
4. Phlegmo-lymphatic.	Slow.	Weak.
5. Sanguineo-nervous.	Quick.	Strong.
6. Sanguineo-phlegmatic.	Slow.	Strong.
7. Lympho-nervous.	Quick.	Weak.
8. Lymphio-phlegmatic.	Weak.	Weak.

"No mention has been made of a normal or balanced temperament, as it was styled by Galen, it being an ideal not met with in real life. The nervo-sanguineous, or perhaps rather the sanguineo-nervous, would be nearer to it, that is with respect to quality, though it may not be in regard to quantity. That is, it is normal when the reception of an impression is in proper degree to the cause. For instance, a normally nervous person, when angered with sufficient cause, would not let his passion run riot, but would fit it to the occasion, while the abnormally nervous person is thrown into a passion by a trifle or is over-excited by trifles. The normally sanguineous individual, when affected by disease or injury, responds by vascular excitement and perhaps even inflammation, sufficient to defend his tissue or repair the damage, and no more. The phlegmatic temperament is always behindhand in its work of reception, and is evidently a type of arrested evolution at the stage when the sympathetic and motor systems are well developed and the sensory yet incomplete.

"The lymphatic temperament always lags behind in reacting to the stimulus conveyed to it through the nervous system, and may be looked upon as a type of arrested evolution at a stage when the change from white, clear, cold lymph to red, thick, hot blood is going on, but is not fully accomplished.

"An individual born with a certain temperament can undoubtedly modify it considerably by force of will and education. Circumstance or disease will also modify, and permanently or temporarily change the relative force of its phenomena. Change of climate often exaggerates or diminishes certain of its manifestations. As physicians the impression made upon temperament by disease is what chiefly concerns us. The reception of the impression made by the invasion of the body by disease is quick or slow, excited or calm, according to whether the individual is of the nervous or phlegmatic, and reaction is strong or weak as he is of the sanguineous or lymphatic temperament. Knowing the temperamental type of a patient, we can explain and allow for many of the incongruities of pulse, temperature, and nervous phenomena that we meet with.

"How are we to diagnose the temperament? Is the individual plethoric or anæmic in appearance? Finely chiseled in feature and small-boned, or coarse in outline and large-boned? Is he mentally quick or slow in conversation, and nervous or phlegmatic under our examination? Is his view of his case exaggerated in its despondency or cheerfulness? Does his history show a tendency to inflammation or to passive congestion? Is he inclined to fever? Does he react quickly to cold? Are his feet usually warm? These, suggestively, are some of the observations and questions which will give us the material for classifying a patient's temperament.

"The old classification of temperaments into hot and cold suggests the sanguineous or hot and full-blooded, the lymphatic the cold and thin-blooded. The old forms of dry and moist are suggestive of the nervous and phlegmatic, high nerve tension and dryness being necessarily allied, while moisture and low tension are equally inseparable.

"If Hellwig's table and the one herewith presented are compared, the first four temperaments are identical except in name. The nomenclature suggested

is somewhat cumbersome, and if it could be lightened without losing the advantage of the name conveying the meaning and the dual nature of the temperament, it would doubtless be better. The chief advantage, if the previous premises are accepted, is that the meaning and the name are linked together, instead of, as in other titles, the meaning being open to various interpretations and merely suggestive of ancient physiological errors and not of the underlying and causative physical facts.

"These definitions admit of subdivisions if needed to describe particular temperamental peculiarities, as in the nervous system when the mental, motor or sympathetic systems appear most prominent in excess or deficiency of action; or with respect to special phenomena of nutrition as exhibited in the working of a special organ, as the liver, stomach, etc. All these, however, will be found to ultimately range themselves under the divisions here given. Diatheses which are pathological temperaments, and excesses or deficiencies of function dependent upon pathological changes, are not here considered."

Following the classification thus laid down, I find that the 141 cases range themselves with respect to their temperamental peculiarities, as follows: nervo-sanguineous, 31; sanguineo-nervous, 29; nerve lymphatic, 25; lympho-nervous, 19; phlegmo-sanguineous, 13; sanguineo-lymphatic, 3; lympho-phlegmatic, 12. Grouping together all those with a nervous tendency, we find that there are 104 such cases, that is about 74 per cent., while of the phlegmatic there are but 37, or 26 per cent. Taking now all the sanguineous, which term may be misleading owing to its old meaning, and therefore may, perhaps, better be spoken of here as those with a *strong physique*, we find that there were 84 (about 60 per cent.); while of the lymphatic, which again, owing to the old application of the term, we may perhaps better distinguish as having a *weak physique*, there were 59, which is about 41 per cent. of the whole number. Dividing them still further, we find that, taking those of a nervous temperament and a strong physique, there were 60, that is 42½ per cent.; while of the nervous, with a weak physique, there were 44, about 31 per cent.; while of the phlegmatic temperament 22 (15½ per cent.) possessed a strong physique, and 15 (that is 10½ per cent.) had a weak one. It would, therefore, appear that of the 141 persons who had phthisis, the greatest number were of a nervous temperament; and that there were more of a strong than a weak physique. It is impossible to show whether the nervous and strong are more subject to consumption than the phlegmatic and weak, without knowing what is the normal percentage of the various temperaments among the whole population from whom these people came.

This, however, we may remember, that, among the American people to whom most of the persons belonged, the nervous temperament is believed to predominate; but this throws no light upon whether those of strong or weak physique are most open to attack by phthisis. It may be there are more people of a strong physique than a weak, in the population generally. We, however, must leave this interesting question for more extended investigation, and turn to the influence of temperament and physique upon the course of the disease.

This is exhibited in the following table:—

TABLE III.—*Proportion of cured and benefited in the different temperaments.*

IN ALL STAGES OF THE DISEASE.

Temperament.	Physique.	Cured.	Benefited.	Cured.	Benefited.
Phlegmatic,	Strong,	59 per cent.	86 per cent.	41 per cent.	70 per cent.
"	Weak,	13 "	47 "		
Nervous,	Strong,	45 per cent.	68 per cent.	37 "	60 "
"	Weak,	18 "	62 "		
Strong physique, both nervous and phlegmatic				49 "	84 "
Weak physique, both nervous and phlegmatic				19 "	57 "

We find from this table that the greatest number cured and benefited are among those possessing a strong physique irrespective of their temperament, while contrasting temperaments the phlegmatic are more benefited than the nervous, providing they each possess a strong physique; but on the other hand when the physique is poor those with a nervous temperament show a greater power of resistance to the disease than the phlegmatic.

WISDOM AND UNWISDOM.—To find out in a measure what amount of influence the prudence and common sense of the individual exerted over the course of the disease, I went carefully over the records, and marked down each person as wise and unwise in the matter of taking care of himself, and then found the percentage of the 141 cases. 86, *i. e.*, 61 per cent., were wise, and 55, that is 39 per cent., were unwise. I then proceeded to find out the percentage of wisdom in the various temperaments, and these are shown in the appended table.

TABLE IV.—*The proportion of wisdom among the various temperaments.*

		Wise.	Wise.
Phlegmatic . . .	Strong	82 per cent.	76 per cent.
	Weak	53 "	
Nervous	Strong	62 per cent.	60 "
	Weak	57 "	
Strong, both nervous and phlegmatic . .			67 "
Weak, both nervous and phlegmatic . .			56 "

From this it appears that the greatest amount of wisdom was among those of a phlegmatic temperament, and there was more among the strong than the weak, and that therefore those of a phlegmatic temperament and a strong physique were by far the most apt to show wisdom.

Finally, I found the percentages of cured and benefited among the wise and unwise in the first stage cases only, then in the second and third stages combined, and, lastly, in all stages together, heading each table with the average percentage for the total 141 cases, so as to show the relative effect of wisdom upon the results.

TABLE V.—*Proportion of cured and benefited among wise and unwise in the different stages.*

		Cured.	Benefited.
1st stage . . .	Total 141 cases . .	58 per cent.	87 per cent.
	Wise cases . . .	68 "	91 "
	Unwise cases . . .	31 "	75 "
2d and 3d stages combined . .	Total 141 cases . .	14 per cent.	52 per cent.
	Wise cases . . .	21 "	59 "
	Unwise cases . . .	2 "	41 "
All stages combined . . .	Total 141 cases . .	33 per cent.	68 per cent.
	Wise cases . . .	42 "	77 "
	Unwise cases . . .	11 "	51 "

From these tables it would appear that among the wise the percentage of cures in all stages was a third more than the average, and nearly four times as many as among the unwise. The percentage of benefited was similarly higher, though in a less degree. Among the first stage cases a like difference prevailed, but in both the cured and benefited in a degree about 50 per cent. less; while, taking second and third stages, and omitting the first stage cases,

the difference was similar, but among the cures very much more marked in this than in the other tables. This would indicate that, although imprudence was a bad thing in an early stage, it was far more serious in an advanced one, in which an act of folly was often irremediable. The superiority of results among the prudent serves to explain in a measure the better reports obtained from sanatariums than those from open resorts, which is demonstrated by my tables in the article upon "Climate" already referred to, for doubtless the discipline and example enforced in the sanatariums turn many of the would-be unwise into the class of wise invalids.

Conclusions.—If, as would appear from the comparison made with the other reports of cases treated in high climates, that these 141 cases represent the average qualities of such cases, then the truths indicated by these inquiries are that the qualities which most aid the consumptive in recovery are, first, strength; second, wisdom; and third, equanimity.

Therefore, the essentials of the general treatment of phthisis are to preserve and strengthen the physique, enforce prudence, and induce placidity.

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