

asserted that several who, years ago, were advanced to the stage depicted, are today free from all of these phenomena and able to be about as old, but comfortable seniles. The continuous use of "digitalin" in doses sufficiently large to restore lost circulatory equilibrium, is the treatment which brought about these truly wonderful results.

A few words about "digitalin": Unfortunately, this term is applied to a product in the shops which represents a complex mass or glucoside composed of one or more of the following active principles contained in crude digitalis:

1, digitalein, a glucoside occurring as a white amorphous bitter powder, soluble in water and alcohol; 2, digitalin, a yellowish powder, soluble in alcohol, chloroform and 2000 parts of water; 3, digitalin German, really digitalein and an alleged inert crystallin derivative, known as digitin (this latter in a very small percentage); 4, digitonine; 5, digitalin kiliani, resolvable by treatment with acids into digitalose and digitaligenin; 6, digitalin crystallin, soluble in alcohol and ether; 7, digitalin purified, which contains, also, digitalein, digitonin and digitalin kiliani; 8, digitonin; and 9, digitoxin.

When a prescription is ordered for "digitalin," the question may well be asked, what is supplied? Each of these derivatives possesses especial therapeutic power, which it is not the province of this contribution to consider; therefore, with simply indicating why there is such diversity of opinion entertained concerning the value of so-called digitalin, attention is directed to the fact that that derivative, the use of which this paper is the outcome, is a so-called digitalin, known as *Digitalin German Merck*. *None other will effect the results set forth.* Its dose is from one-tenth to one-half grain, from three to six times daily, as the severity of case requires.

If instances of advanced disease are encountered, and dissolution threatens when first seen, one-half a grain is safely exhibited hypodermically, and repeated in one hour; after that, two grains additional are administered by mouth, in quarter grain doses every two hours, should the emergency require. This bold plan has, in the writer's experience, several times averted impending death, and enabled restoration practicable. When the circulation has been restored by two or three days' treatment, the advantage is maintained by just sufficient of the remedy to secure permanent results. Skillfully used, this is maintained, as the title implies, continuously. A gentleman who, last October, was in the condition described and dying, has taken daily ever since, two grains a day. He now walks to my office, a distance of more than one mile, and returns to his home without any inconvenience whatever. After observing the effects of this treatment for years, it can be confidently asserted that *no* hypertrophy of the heart follows; also, that sclerosis of the arteries, not an expression of calcareous infiltration or atheroma, but what may be viewed as an ankylosis, so to speak, frequently disappears.

This is due to the fact that the contraction and expansion essential to the calibrating function of the arteries being restored as a result of the action of "digitalin," normal functional activity and, consequently, nutrition of the coats is instituted; just as a stiffened articulation, by normal movements loses its rigidity, does an artery, similarly affected. The treatment must be practically continuous, because the

senile changes having already become permanent are a constantly acting factor in the onward march. It must therefore be constantly held in abeyance and it can be, just as long a time as the life with which the vital unit of the individual was originally endowed.

RECOGNITION OF TEMPERAMENT: A FACTOR TO THE SELECTION OF REMEDIES AND THEIR DOSAGE IN DISEASE.

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BY J. E. MOSES, M.D.

KANSAS CITY, MO.

Temperament may be defined as that quality, made manifest by the physical and mental characteristics of man. There are four distinct types of temperament: The nervous, the sanguine, the bilious, and the lymphatic. To these I will apply the term primary, because they are the base of all the combinations or compounds met with in the majority of people. A pure type of any one temperament is not often found, and when it is the characteristics are very marked. For the purpose of my paper it is necessary that I describe each temperament separately, and then take up the various compounds as they present themselves. Before taking up this description, I would state that I shall differ from all the authors that I have been able to consult, in that I shall consider, not only the skin, the eyes, the hair, and the contour of the face as they do; but also the brain, the respiratory apparatus, the heart, liver, and digestive organs, as elements entering into the type or temperament under consideration.

Hippocrates and his followers claimed that the difference between men lay chiefly in the color of the eyes, hair and complexion, and that these could be sorted into four groups, in which all men might be placed. In the original idea or arrangement of temperament the mental qualities and traits of character were not considered, thereby losing sight of a very necessary factor in the recognition of an individual. A number of men have given this subject some consideration, and all have, in my humble opinion, fallen into the same error—overlooking the proportionate, relative sizes of the various organs of the body as elements of temperament; failing in this, they have been unable to present any system or plan that appealed in any measure to the medical profession as a possible aid in the treatment of disease. That these temperaments are easily recognized, when of a single type, is very true; but when in combinations of two or more, they become complex and difficult to master. As to a description of the temperaments, I know of no better than that formulated by Dr. Alex. Steward of Edinburgh, in his able work, entitled "Our Temperaments," and adding thereto certain ideas of my own which, I believe, materially influence the recognition of the characteristics of each.

THE NERVOUS TEMPERAMENT,

as the name would imply, is composed of a preponderance of nerve structure and mechanical velocity of action.

Physical characteristics.—Light brown hair; grey eyes; pale, clear complexion; face tapering from a high forehead and broad supra-orbital region to a narrow chin; the nose narrow; trunk slight and thin, never

corpulent, often tall. The chest is small, the respiratory apparatus is proportionately so, as are also the digestive and other organs of the body. In other words, the nervous is in excess, proportionately, to all other elements.

Mental characteristics.—This temperament is impulsive, animated, quick at conclusions, excitable, readily provoked and as readily reconciled, imaginative, sensitive, fastidious, irresolute, persistent after final decisions, having great capacity for work, and will not give in even when in danger of physical exhaustion. Intellectual and muscular exercises are enjoyed; happiness, from whatever source, pleases the senses; and the mind is enriched by travel, literature, or art. The speech is characteristic, being rapid—often exceedingly so—frequently interrogatory and undecided. The nerve energy in this type is great, and is spent without regard to results.

THE SANGUINE TEMPERAMENT.

This is probably the most happy type of humanity, and this temperament probably enters into as many compounds as all others combined. The blending of this temperament with either of the others, or with any two of them, only adds vim and vivacity to the compound.

Physical characteristics.—Red or reddish hair; blue eyes; and a more or less pronounced florid complexion. The face is usually square; nose, broad and alæ outspread; neck, usually short, but some are more moderate in length; build, thick-set; chest, large and expansive, indicative of large respiratory organs and a large heart. The respiratory effort is full and deep, affording immense oxygenating capacity, therefore a full red glow to the exposed cutaneous surfaces. The abdominal organs are proportionately smaller when compared with those of the chest; though larger than those of the nervous temperament.

The mental characteristics.—Are impulsive, buoyant and cheerful. They draw favorable conclusions without thought; are excitable, readily provoked, readily reconciled, emotional and passionate. They are not enduring in work; but muscular exercises are preferred to intellectual ones. They are equally happy in the pursuit of small things, as they are in the greater ones. They are more happy in the pursuit than in the possession. In speech they are usually firm and outspoken, but are not often minutely informed. Every respiratory effort seems to intoxicate them, so they look only at the bright side of life, when left to themselves. They are prone to undervalue danger of all kinds; only to rue it when too late.

THE BILIOUS TEMPERAMENT.

This may be termed the intense temperament, which knows no obstacle too great, nor effort too laborious to attain an end.

Physical characteristics.—Black hair; black or very dark brown eyes; and dark or a pale olive color complexion. The face is square; nose outspread; mouth, square cut, indicative of firmness and strength of character; build, usually thick-set. The chest and abdomen are well balanced and possibly slightly larger liver, the glycogenic function being unusually active.

Mental characteristics.—This type is not impulsive, but serious conclusions are arrived at only after due deliberation; passionate, jealous, revengeful, unscrupulous when not properly trained. In business cool and wary; eager, earnest and persistent.

Business or pursuit of worldly gain preferred to muscular or intellectual labor; but they are able to excel in all. They are happy in the pursuit of wealth or power, and also in their family relations, if not disturbed. They are decided; always ready; and well-informed.

THE LYMPHATIC TEMPERAMENT.

This type of humanity is characterized by its absence of hurry, and its great appreciation of animal comfort.

Physical characteristics.—The hair may be fair or light brown, flaxen, sandy-white and thin; eyes, brown or light hazel, grey, sometimes giving the impression of a green color. The corneal area is smaller, with a corresponding greater sclerotic exposure. Complexion, colorless, dense or opaque. The face, square, rather inclined to heavy jaws; nose, outspread; neck, short; build thick-set tending to corpulency. The abdominal cavity is larger, and the digestive organs proportionately so; they are usually large eaters, tending to gluttony. These people live to eat, and do not eat to live.

The respiratory effort is usually shallow, the chest flat, and its expansive power somewhat limited.

MENTAL CHARACTERISTICS.

These people are not impulsive, but slow, and the face shows a heavy expression. They come to conclusions by degrees. They are not excitable nor readily provoked; they forgive but never forget. They possess a certain amount of persistence, but lack ardor. They are somewhat enduring in work but plodding in business. They enjoy personal comfort and indulgence. The speech is slow and deliberate, and when trained they are well informed. Their greatest effort is in the direction of food and rest.

Having carefully considered the four primary temperaments, we find that in the first type, the brain is predominant; in the second, the heart and lungs are in excess; in the third we find the chest and abdomen well balanced, with marked hepatic activity, giving strength and intensity to its individuality; in the fourth, abdominal organs, with the natural result attending—a disposition to hibernation. The various compound temperaments are but modifications of the primary ones, by the union of two or more temperaments, and are indeed often difficult of recognition. But this may be materially overcome by a careful examination or inspection of the body, and noting the relative size, and development of the patient; taking this into consideration with the contour of the face, the head, the color of the eyes and hair, with the complexion, the subject would then be easily classed, as to the compound to which it belonged. It is true, physical training and environment affect temperament and tend to modify it, but not enough so to destroy its identity.

The compounds most frequently met with in this country are the nervo-sanguine, the sanguino-bilious, and sanguino-bilious with a strong nervous infusion. Occasionally we find combinations of the nervo-lymphatic, and also all the temperaments combined; giving us a people, the one, a constant care for the physician, while the other is a well-balanced individual. The first three compounds give our American people their characteristic push, speed and energy, placing them in the fore-front for physical and intellectual endurance and capacity. It is not in the province of my paper to discuss these compounds in detail, but rather to

apply the elements that we have furnished to a practical use in medicine.

To the surgeon this knowledge is necessary, that he may recognize the degree of shock sustained by reason of injury, compared with the recuperative or reactionary power of the patient, enabling him thereby to prognosticate probable results more perfectly. In his operative work he may be able to judge with some degree of certainty as to possible chance of success. In anesthesia, it will indicate the element best calculated to support the patient during the trying ordeal, and which of the anesthetics offer the best results. With the general practitioner it is often a question as to what complications may arise, and wherein lies the direction of danger. In his dealing with the very young he may anticipate a cerebral complication, by recognizing the peculiarity of the temperament. In another he may expect pulmonary or hepatic involvement and so on until every element of temperament is exhausted. To the obstetrician, this knowledge is of incalculable benefit, for by a thorough knowledge of his patient, he will be enabled by suggestion, to control the expulsive effort and direct the parturient forces, so that the patient will be capable of utilizing all her energies, both nervous and muscular, to her own ultimate safety and good. To the neurologist it suggests the best method of overcoming the various neuroses and reflexes; and by a proper direction of remedial agents, reconstructive and eliminative, to restore tone and vigor to the overwhelmed nervous organism. To the dermatologist it affords like relief, estimating as he does the possible nerve involvement or digestive disturbance likely to exist in the premises. To the oculist it is of material importance, as by a prompt recognition of temperament he may the better determine the source of ocular disturbances.

These suggestions will serve to give the student an idea that he may enlarge on, so that still greater benefits may accrue. It seems reasonable to me that a nervous temperament would be more susceptible to affections involving the brain, in the form of congestion, anemias, etc., that would be disastrous. In these people you would naturally expect various forms of neuralgias, due to the cerebral disturbances existing. In the sanguine temperament the large respiratory apparatus, to properly functionate, must have at any one time a larger blood-supply, than other organs, hence the greater danger from congestions or trauma from any cause. This is the temperament (and compounds having this temperament in the ascendancy) that gives us the greater number of pulmonary tuberculous patients and these are people who suffer the most frequently from fatal pneumonia and bronchial affections, the bilious temperament being more frequently assailed by intermittent and remittent fevers. They are not a fruitful source to the physician, for they are usually hardy and resist infection with great vigor. The lymphatic temperament, by reason of its construction, is frequently the victim of hypochondriasis, and hepatic and intestinal torpor; portal congestion seems almost a normal condition. Fermentative dyspepsia, hepatic concretions, and catarrhal jaundice are the conditions most frequently met in this people. Cardiac weakness and functional derangements are a common failure and also rheumatism and gout, due to faulty elimination. This temperament is most prone to sudden heart failure during acute attacks, by reason of innervation.

The various compounds are modified in their tend-

encies, and they are the ones that give us the greater trouble and perplexity. This rule may be applied to all; whichever temperament predominates in that direction will afflictions tend. I believe this to be argument enough for the close observer. Many will recall instances such as I have described. This does not in any manner conflict with the germ theory of disease, but it does explain why some enjoy immunity from infection, while others do not.

As to remedies.—The nervous type stands cerebral excitants poorly, because of a possible irritant congestive condition resulting, while cerebral sedatives and arterial depressants act kindly even in decided doses. But when suffering from shock, such elements as strychnia, glonoin and strophanthus are strongly indicated to hasten circulatory distribution and buoy the respiratory and cardiac action. The sanguine temperament is inclined to favor arterial stimulants when depression exists, and depressants in active disease conditions, with such elements as will favor the maintenance of the fluidity of the blood, also elements that control respiratory and cardiac effort. The cardiac stimulants, that, have a marked effect on the peripheral circulation, are well borne, but after inflammatory processes, due regard must be given to deobstruents and alteratives. The bilious temperament is best treated by an exhibition of antispasmodics, motor depressants and arterial sedatives. Motor excitants are decidedly contraindicated in acute conditions; the indications are for general sedatives, particularly muscular and glandular sedatives. The glycogenic function is most active in this temperament. The lymphatic subject must be favored by catharsis, to relieve common tendency to portal congestion, and autotoxemia, but especial attention is necessary to combat the tendency to cardiac failure, and cerebral stimulants are almost always indicated, particularly of the strychnia class, favoring as they do the support of the cardiac and respiratory apparatus.

The dosage of these remedies depends on the condition of the patient; if in the active or acute stage, pronounced doses of the remedies that are opposed to the condition existing; if passive, then small doses to give impetus by graduated stimulation of the organs involved. This holds good in all the compounds as well. The fact necessary to be borne in mind is, that what type of temperament is in the ascendancy, or predominates, in that line or direction will the danger lie, and the remedy and dose must be applied to these conditions. If we would add to the celebrated Von Haller law, for the proving of remedies (or substances used as medicines) a knowledge of temperament; we would be able to get more positive and perfect knowledge of their physiologic and toxicologic actions.

In conclusion, I wish to acknowledge my indebtedness to the excellent work of Alexander Steward of Edinburgh, from which I have taken some of the descriptions verbatim, because of their terseness and clearness in the primary types, for which I wish to give due credit. Some of his suggestions have but strengthened my own conclusions that a proper recognition of the peculiarities of people, both mental and physical, which we call temperament, is at least, very serviceable, if not a factor, in the proper and successful practice of medicine. Failing in this, we shall but obstruct the way to the placing of our beloved profession in a line to become a positive science.

Let us have a Department of Public Health!