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Talks to Patients

I. Elementary Mental Mechanics

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**TALKS TO
PATIENTS**

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**ELEMENTARY
MENTAL
MECHANICS**

**PRIVATELY PRINTED 1912
REPRINTED 1916**

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AUSTEN FOX RIGGS, M. D.**



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ELEMENTARY MENTAL MECHANICS

One hears much nowadays of the sovereignty of the mind, and of its power over the body. This obvious fact is the grain of truth about which many of the modern-day pseudo-religious and pseudo-scientific cults wrap their veil of mysterious jargon. The truth itself is too simple, too well-known and too over-worked to need emphasis; but unless one looks upon it circumspectly, one is apt to draw from it a distinctly erroneous secondary conclusion, and that is, that the mind and the body are two separate entities. When we think of mind and body in the relation of master and servant, we are far too apt to consider each one apart,—as though the body lived and had its being in one of two super-imposed boxes, the mind in the other. This false separation leads not only to mental befuddlement but if logically carried out, to over-valuation of the mental powers and a coincident foolish neglect of the body.

As a matter of fact, the body and mind are welded together for life. No change in one can possibly take place without causing a concomitant change in the other. Thus, though realizing that the mind presides, as it were, over the activity of the body, we must not forget that the latter in its turn, affects the former, and that the two are but integral parts of the one whole. They are co-ordinated elements of one unity—one entity—one individual,—the human machine. The mentality of this machine is as inseparable from the rest of the apparatus as fragrance is inseparable from the flower, as light from the sun, as flavor from wine. This mind-body machine is a wonderfully complex and complete mechanism. It is automatic, it repairs itself, and most remarkable of all, it is self-guided, self-controlled, by means of its presiding intelligence, the mind. One department is connected with another and all are co-ordinated as a whole by means of an extraordinarily complete system of telephone wires, the nerves, and a central office,—the brain.

This so-called "nervous system" is that which makes mind and body one. It consists, roughly speaking, of the brain and the nerves. The nerves are of two kinds, those which

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transmit impulses from different parts of the body to the brain, and secondly, those which transmit impulses from the brain to different parts of the body. There are others which serve a function like that of the house telephone, and connect different departments of the brain with each other,—and still others interconnecting different parts of the body. The function of nerves of all kinds then, is simply that of transmission. And popular misconception notwithstanding, they do not vibrate, cannot be strung up nor unstrung, but are simply passive conduits for incoming and outgoing impulses.

The brain is the great central office. It receives impulses from different parts of the body,—registers them and sends forth others. At least a great part of its business is translated into terms of consciousness, and finally, some of this consciousness is translated into nervous impulse again.

In short, the central nervous system can be likened to a very complete telephone apparatus, with its sending and receiving instruments, its insulated wires, and its great central office or exchange.

There are various details of this system, such as the relay stations of the spinal cord (which

take care of purely reflex actions), and other more or less complex secondary elaborations; but all of these we must pass over without further ado, for to add them to this elementary picture would only complicate the description unnecessarily, and furthermore would add nothing essential to a good general working knowledge of the matter in hand.

In order to get a practical view of the nervous system in action, let us "make the wheels go round" and see what happens when for example, we become aware of touching something; in other words, let us trace a nervous impulse from its inception at the nerve ending in the skin to its reception in the brain, where it undergoes translation into consciousness. A stimulus applied to the skin, such as the prick of a needle, produces a physiological change in the end-organ of the nerve-fibre supplying that area. This physiological change is transmitted in the form of a nerve impulse, a sort of current, which travels up the length of the nerve from the skin through the spinal cord, which is the big main conduit, to the brain. Here the impulse presumably produces a physiological change in the brain cell, which change, in some way, transforms the energy of the impulse and liber-

ates it in an entirely different form,—namely, as the psychic entity of a *sensation*. This sensation then joins and is received by the already present elements of consciousness and takes part thus in the psychic action, or reaction in consciousness for which its entrance into the field is responsible. The process thus traced is, in a rough way, very much like the production of light from electricity by means of an arc lamp. There an electric current is transmitted by a wire to a mechanical contrivance, an arc lamp, which transforms the energy of the current into light. When once this energy is transformed into light, it is subservient to the laws of light and we use it according to these laws and not according to the rules governing electric currents. So with thought,—it must be considered according to the laws of consciousness, although the apparatus necessary for its production is a physiological mechanism and obeys the laws of physiology.

We may thus consider the elements of consciousness as energies transformed and liberated by the physiological mechanism of the brain.

To get a complete view of the cycle of body and mind, it is now only necessary to see that

as the psychic phenomena must necessarily be affected by the physiological apparatus, so also the psychic energies in their turn, at least in part, are translated and flow back as motor impulses into the physical mechanism, and that they thus affect the latter and exert their controlling or exciting force upon it.

Let us take a simple sensory-motor reaction as example. What happens when something that is too hot for comfort touches us and we respond to this feeling by removing the offending object? The heat, let us say, of the hot water bag produces a change in the end organs of the nerve supplying the skin of the foot. An impulse travels up the nerve from the skin through the spinal cord, to the nerve centre in the brain. The nerve centre undergoes a change as a consequence of this impulse and translates at least part of the energy thus received into a psychic phenomenon,—the sensation of heat. This sensation then becomes oriented through the process of association, and we furthermore recognize it through its quality and intensity as undesirable. Consequently, the desire to escape from it is born, and is translated into a new form of psychic energy, namely, a series of motor impulses which ex-

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cite the cells in the motor area of the brain. These in their turn, further elaborate the energy and send it forth as messages along the efferent motor nerves to their end-organs. These end-organs lie among the muscle fibres and in physiological connection with them and have the faculty of translating a motor impulse into a direct excitant of the muscle fibre, thus causing it to contract. We move away from the offending object, or move it away from us.

In short, the feeling of heat produces the desire to escape and the motor apparatus is set in motion to accomplish the desired end; and thus the physical apparatus responds to the reaction in consciousness.

With this rough sketch of the whole system in mind, let us turn to that part of it which most closely concerns us at present, namely, to the field of consciousness. Let us bear in mind that this is the part of the apparatus which lies between the reception of impulses and the sending forth of others. It has to do with nerve impulses only *after* they are translated into conscious phenomena.

We must consider these phenomena as ultimately dependent for their existence upon the physiological, but in no way directly

governed by the laws of physiology, just as we must study the phenomena of light and the laws of illumination, quite separately from the science of electrical engineering, although fully recognizing that the electric light owes its existence to the mechanism of the arc lamp.

In describing the field of consciousness, we are forced to use terms that relate to physical things,—in other words, the description must be figurative. The phenomena of consciousness, as far as we know, do not possess length or breadth or weight or color, nor have they volume or density, but we must describe them as though they had these characteristics to a certain extent. If then we bear in mind that we are dealing with a figure, and if we treat this figure purely as an imperfect description and use it only as a good working hypothesis, we shall avoid a confusion common to figures and symbolism.

For the purpose of description then, let us consider the field of consciousness as though it were a sheet of water, the borders of which we know by inference must exist, but which we have never seen and probably never shall see, and whose depth likewise is immeasurable. The surface of this sheet of water is covered by waves of various sizes, shapes

and colors, and unlike the waves of the real water of our terrestrial seas and lakes, which move in ranks and owe their size and motion to the direction and intensity of the wind, these waves are arranged in groups, the groups in families, the families in constellations, and the constellations in one great co-ordinated system. In this figure, each impression made upon our consciousness from the time of birth to the present moment, is represented by a wave, and the waves are arranged in groups and systems, according to the laws of association. This group may be made up of impressions received at a certain time, and constitutes the memory of an event; that group, of impressions having the same or similar emotional content; and the next group may be held together by some other bond of similarity.

These groups and individual waves are in continual motion, that is, there is motion within the groups and also a general ebb and flow of the larger or smaller combinations across the whole field. Part of the movement is due to the continual formation of new combinations from the old. This group or that may dissolve and its component parts join other groups, or the central wave of one group may leave it to become one of the subsidiary waves

of another group. For example, if the objective of the consciousness of the moment be the construction of rhymes, *loss*, *boss*, *toss*, *dross*, may group themselves by similarity of sound around *cross*, whereas, were the objective changed, *cross* by similarity of ideas, might become the central idea or wavelet of another group composed entirely of ideas dealing with religion.

The wavelets in the further regions, especially those which represent sensations, are more stable in their grouping. Those belonging to the stomach, for instance, are closely and permanently bound together as are all those belonging to the knee joint or the heart, or the intestines. Waves that have to do with happenings in the past, especially with forgotten scenes and incidents, are also closely associated, and when they migrate, move not singly but as groups, whether they consist of ideas, sensations, emotions or of all three combined. This changing and re-arranging is most active in the central part of the lake, is most inactive as we approach the borders; in other words, the grouping is mobile, changeable and evanescent in the central portion, more stable and permanent in the outlying regions.

Let color represent the qualities of pleasantness and unpleasantness in this picture, and we designate red as the symbol of the former while blue represents the latter. All waves will be some shade of red or blue or purple in some degree of intensity, and this coloration will then represent their feeling tone or emotional quality. Furthermore, each wave of any group will take on the color of the central or dominating wave of that group. The more intense the color the more apt is the wave or group of waves bearing it to seek the central region; and vice versa, the farther from the central region a group may be, the duller and more neutral is its color.

Now assume that the whole sheet is in total darkness, save that at or near the middle portion there is a light suspended from above, which illuminates a very small area. It is a mere pencil of light, capable of illuminating but one wave at a time, but it has the faculty of very rapid motion, and is thus capable of illuminating a good many waves in such quick succession, that it produces the effect of having illuminated them almost simultaneously. This light represents the attention. To carry out the figure, we must imagine ourselves suspended above it and as being able to

control its direction by our will. Just as the searchlight of a battle ship has a definite range beyond which the light does not reach, so the light of our attention can be projected over only a limited area of the sea of consciousness. All that lies outside this area, at any given moment, is, for that moment, sub-conscious,—so that we speak of that portion of consciousness outside the range of the attention as the *sub-consciousness* and that portion which lies within the illuminated area, as the *consciousness* or more accurately,—the former is called the *unaware* consciousness and the latter, the *aware* consciousness.

Bearing in mind the continual motion of the waves, we may picture them as coming single file and in groups, from the darkness into the light, and passing from the light out into the darkness again. One wave brings others in its train, in the order of their associative values; and impelled by the object of the moment, we direct the light of our attention in a selective way upon the passing throng. But if we are resting, the attention is allowed to illuminate, in a more or less haphazard fashion, the waves as they pass under it,—we do not try to control its direction, nor do we attempt to focus it, but allow it to pass from wave to

wave, entirely according to the already pre-determined lines of association. At these times, long-forgotten scenes may drift out of the sub-consciousness with a definition and vividness which shows well how perfectly impressions are preserved, no matter how long they may have been in storage in the outermost regions where forgotten things accumulate, and where unconscious or sub-conscious action takes place.

That sensations, *real* sensations, may make their impressions and become associated with other sensations without ever reaching the light of the attention,—that in other words, they can do this without our knowledge, is a factor of the greatest importance in understanding the hidden dynamics of our consciousness. It is comparatively easy for one to understand how mental impressions may be made, recognized and then forgotten, only to be remembered at some future time; but at first sight, it seems much more strange, and difficult to realize, that mental impressions may be made and may go on existing for an indefinite period, without ever being recognized and therefore needless to say, never reaching the possibility of being forgotten. Nevertheless, this is true. It is safe to say that there are

a thousand times as many sensations recorded in the field of consciousness as are ever recognized, or in other words, of which we have ever become aware.

As we have seen, the interchange of impulses from the physical to the mental and from the mental to the physical, constitutes the essential co-ordinating system and bond between body and mind. When we think of the number and complexity of the functions of the human machine, it is not surprising that the vast majority of the mental reactions accompanying these functions, must necessarily take place outside of the very limited area of the aware consciousness, and thus the reasonableness, or better, the necessity of sub-conscious sensations, becomes manifest.

The fact of sub-conscious sensations, though an odd one at first sight, explains the many co-ordinate movements and automatic actions that without this explanation would remain mysteries. How many unconscious acts, more or less complex, do we go through every day with our minds completely occupied with other things? Consider for a moment the complexity, from a mechanical point of view, of the simple act of getting up from a sitting position. Each one of us does it many times

a day, probably without a thought as to how it is done,—without the slightest scheming or planning. We do it as we say, spontaneously, unconsciously, and yet all the complicated mechanical movements are regulated and the equilibrium of the body is maintained. How is this possible? Essentially by virtue of the guidance that every joint and muscle must receive through the sensations coming from all the parts involved in the action. The vast majority of these sensations is recorded in the sub-consciousness, and yet it constitutes the absolutely necessary guiding knowledge upon which are based the orders to the motor apparatus. One does not have to think just what one is doing with one's right foot, just how to maintain the unstable equilibrium of one's balance, nor how to propel one's self forward in such a way as not to trip over the rug. One simply thinks of getting to the door, or very likely one does not even think of this, but only of why one is going to open the door, or of whom it may be that is waiting to be let in. The whole series of complex actions is accomplished quite unconsciously. Every movement, however, is carefully, perfectly balanced, and depends absolutely for its efficiency upon sensation. We must know,

even though it be sub-consciously, just where each foot is, and the only way we can know is through sensation.

With the eyes closed, we can describe accurately the various positions of our limbs. We know that our arms are extended or flexed, that our hands are open or closed, that the head is turned to the right or left as the case may be. How do we know? What tells us? It is not the pressure sense nor the feeling of touch, for our knowledge of the position of the different members of the body is just as accurate and just as instantaneous when we are floating, and the water makes even pressure all about us. We get this information through sensations of which we are normally never aware, and which give it to us not in detail but as a unified whole, while they, the invaluable messengers, remain concealed.

We find another example, not only of the existence of sub-conscious sensations, but of their enormous importance to the balance of the body, when we examine certain diseases where their absence produces definite symptoms. In one disorder, for instance, when the sense of position is lost, there appears a perfectly characteristic clumsiness or ataxia. Al-

though the motor apparatus may be in perfect condition, the patient staggers and stumbles and makes wide, awkward movements because, unless he is actually looking at his feet, he cannot tell how near the ground or how far away from it they may be, while he is in the act of walking;—all this because he has lost the sensations that should guide these movements sub-consciously.

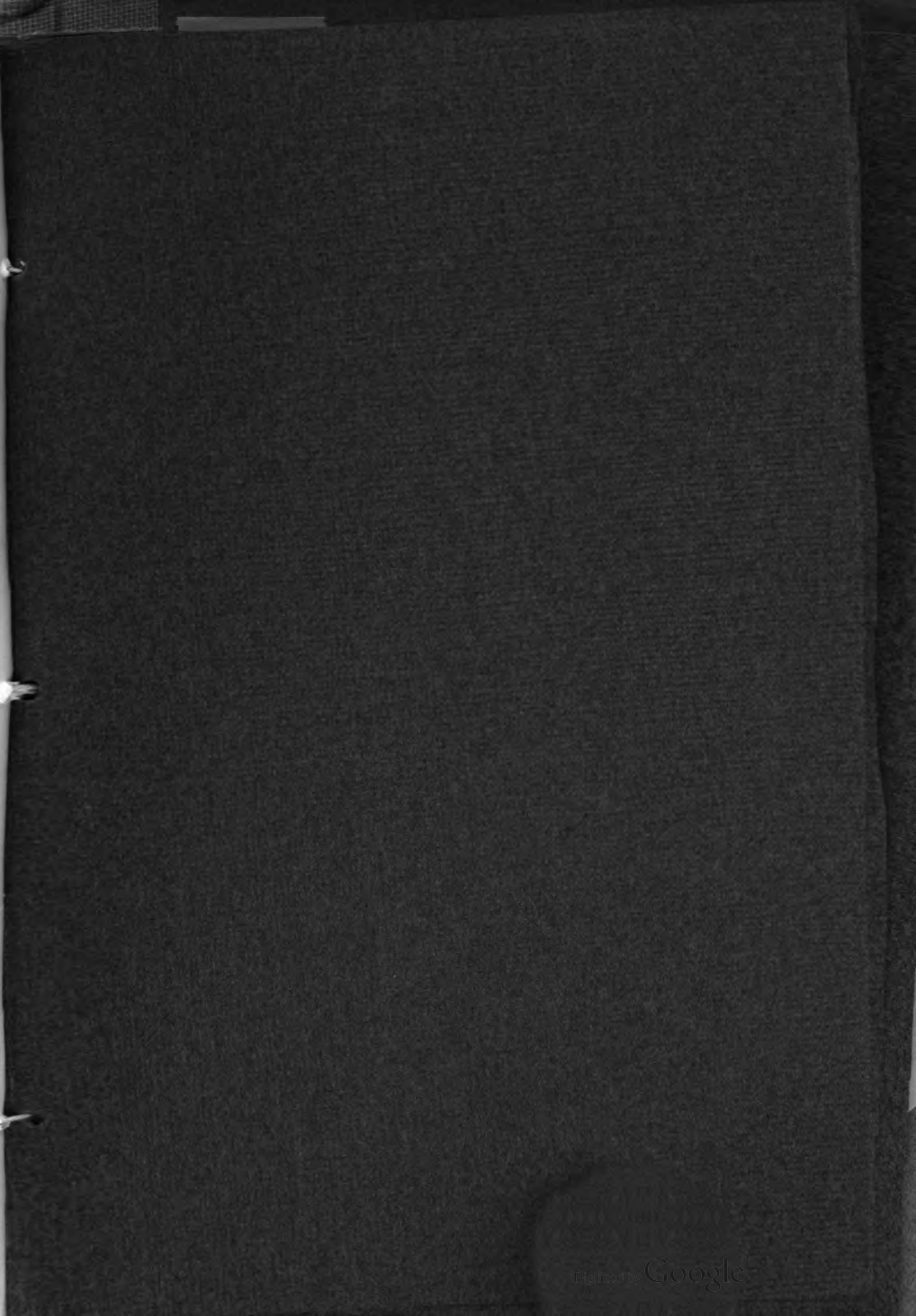
These sub-conscious sensations, which are so absolutely necessary to the balance of the body, to muscular co-ordination, are represented in the sea of consciousness as sub-groups of each family of waves belonging respectively to the knee or to the ankle or to some other definite bodily region. Thus the heat, cold, touch and pain sensations of the knee region, constitute the mobile group of what we might call the knee family, while the other group of this family is made up of the less easily accentuated, more stable sensations such as those of position, vibration and the deep muscle and tendon sensations. This smaller and more stable part of the knee family always stays at home in the sub-conscious region and there serves in its inconspicuous but absolutely necessary function of presiding over unconscious and so-called "automatic"

movements of the knee; while the other members of the family may at any time, be called from the home circle into the illuminated area of the attention.

This arrangement makes it possible on the one hand, for movements to be carried out unconsciously, at the same time that the active or aware part of consciousness is carrying on other business; and on the other hand, it enables us to pursue the business of the moment without fear of what may be going on in the out-lying regions of the body, for we know that our sensations will give us ample warning of any danger, for instance, of an undue pressure or of heat or cold. Indeed the sensations of the latter class are so mobile, so easily accentuated, and are being registered in such a constant stream from all parts of the body, that we may at any time become conscious of them. Thus by simply putting the attention on this or that part of the body, we will at once become aware of a flood of sensations of which a moment before, we were unaware, but which nevertheless, have been uninterruptedly present in the sub-consciousness. Sensations of this class may be sub-conscious or conscious, according to their intensity and the momentary condition of the

attention. For example, the feeling of pressure of one's collar or hat band may go perceived or unperceived according to how interested one may be in some outside matter, or according to the tightness of the collar or hat band; but the sensations of position—of vibration—and the like, which go to make up the stay-at-home, stable sub-group of each family, remain in the normal individual always in the sub-consciousness.

When the family relations of sensations become disturbed, the normally sub-conscious sensations may find their way into the aware region, and others, although quite normal in their position in consciousness, may become abnormally intense. In either case a sensory disturbance results which is often not only an expression of nervousness, but also frequently an important factor in the genesis of these disorders.



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Talks to Patients

II. Nervousness



TALKS TO
PATIENTS

II

NERVOUSNESS

PRIVATELY PRINTED 1912
REPRINTED 1916

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NERVOUSNESS

There are a few general considerations, partly by way of review, partly as preparation of new ground, which even at the risk of tiresome repetition, must be set forth, before we go on to the consideration of the more or less specific abnormalities called "nervous," of whose nature we merely hinted at the close of our last talk.

The human machine is unlike any other in that it is conscious, sentient, aware of itself. It has besides its blood pump, repair departments and fuel burners, a marvelously perfect and intricate system of telegraph and telephone lines which co-ordinate all these different departments with each other and with a central office—the brain. A disorder in any one of the departments must affect in some measure all others. If the central office is demoralized, the trouble is felt not only there but all through the complex system over which it presides, and conversely, disorder anywhere

along the line disturbs the equilibrium of the office. It is therefore really impossible to draw a distinct line separating the physical from the mental in the human being, and one can only say that some disorders are primarily mental and that others are primarily physical. They can never be said to be purely one nor purely the other. Thus the toxins of typhoid, a distinctly physical disease, produce marked secondary mental symptoms which vary from the typical apathy of this malady to the equally typical delirium. Furthermore, other things being equal, this or any other infection is more apt to overcome an individual in whom it has engendered a mortal fear which has thrown him into a panic, and whose general resistance has thus been lowered, than it is one whose mind has remained calm and comparatively undisturbed. A melancholy point of view is always exaggerated, and may even be caused by the poisons of imperfect elimination or mal-digestion, whereas it may be vastly improved by securing normal action of these functions. Cheerful dinner companions and pleasant surroundings produce an emotional tone which affects both appetite and digestion in a way far too familiar to need emphasis. We all know from observation, if

not from actual personal experience, the disastrous effect that a violent fit of temper has upon the gastric functions. On the other hand, the chronic dyspeptic who can boast of a placid, jovial and sunny disposition, is a curio of the very first magnitude, equaled only by the possibly existant melancholic who is nevertheless free from auto-intoxication.

Of course one cannot produce typhoid nor pneumonia by just thinking about them, but certainly a great deal can be done towards keeping the bodily resistance above the point of succumbing to these or indeed to any other diseases, by living a normal life, not only physically but also mentally. It is equally true that a stupid abuse of the mind, such as worry, self-pity, fear and the like, may so far lower the general bodily resistance as to make one an especially facile victim to any infection that may happen along.

The psycho-physical interaction which these few random examples will serve to illustrate, is a fact that must be kept very clearly in mind when we come now to the consideration of some of the so-called "nervous" disorders. In this class of cases the cause-and-effect relationship between underlying conditions and their resultant symptoms is only too apt to

become confused. The symptoms are conspicuous, while the real causative conditions are often hidden or so vaguely realized, that a purely secondary physical result may masquerade as the cause of the mental condition, while the latter is in reality the true cause of the former.

The pallor of fear and the flushed face of anger stand out clearly as results of their respective emotional (mental) causes in normal life, but very similar disturbances of the superficial circulation, such as cold feet and hands, when they occur as symptoms of an underlying neurotic condition, are often mistaken as the basic cause of the latter, and thus we hear many a patient mistakenly say: "It's my bad circulation that is at the bottom of all my troubles," when really "bad circulation" is merely an effect, not a cause.

The good engineer in order to drive his engine well, that is economically and steadily, must understand it thoroughly. He must know each part and its functional relation to every other part, for upon this knowledge depends his ability to avoid accident, and to detect and remedy disorder. If a bearing runs dry from lack of lubrication, the engine wastes some of its energy to overcome the

added friction, and it no longer develops its full power, although using just as much if not more steam. In short, it becomes inefficient, and this inefficiency obviously will continue until the cause is found and remedied.

So it is with the human machine. If the engineer is to be able to readjust its finer parts when they get out of gear, and to keep them in adjustment, he must have a modicum of knowledge. The complexity of the mechanism makes a detailed understanding of it impossible, and fortunately it has too many and too adequate automatic controls to make this at all necessary. However, a rough working knowledge is not beyond our reach. Although most of us can scrape along without it under ordinary circumstances, yet when our mental mechanisms become demoralized, psychological knowledge becomes a prime necessity, and ignorance and bliss are no longer synonymous.

To obtain this desirable knowledge we must first clear away a few confusing misconceptions which beset our path. The first of these springs from a name whose apparent meaning is as directly suggestive and misleading as the label of any quack nostrum. This name is "nervous exhaustion." It is the one popularly

and indiscriminately given to a variety of disorders in which as a matter of fact, the nerves themselves remain perfectly normal, and which furthermore are not characterized by true exhaustion. (There are cases of true nerve exhaustion, where the nerve-cells themselves are affected, but these are rare cases, very different both in name and nature from those now under discussion and so falsely labeled "nervous exhaustion.") An ordinary routine examination tells us quite definitely whether any given case belongs to the so-called functional nervous disorders, or is a disease of the actual nerve tissues themselves. In the former case, the nerves throughout their length, from nerve endings through the spinal cord to the brain, are always found to be normal. Thousands upon thousands of cases of "nervous exhaustion" have been so examined, and in every single case the nerves have proved their innocence, and incidentally, the falseness of the label. Thus we can assert that this disorder is positively not a nerve disease, its popular and misleading name to the contrary notwithstanding.

There are a few other errors that must be looked into and corrected,—a little more gentle demolition,—before we can go on comfort-

ably to the construction of our positive conception of "nervous exhaustion." In the first place, it and other forms of functional disorder are not confined to the hard working nor yet to the idle rich; neither are they peculiar to any age, climate or nation. They cannot therefore be effects of gross environmental difficulties. It is not a question of morality, for among the sufferers are individuals of every moral grade from the very finest to the vilest. The unusually robust as well as the frail-bodied are numbered among its victims. It cannot therefore be a matter of too much or too little physical strength. Furthermore good, hard, honest work, whether physical or mental, plenty of it, lots of it, never produced one single case of this disorder.

No; nervous exhaustion is not a matter of environment, nor morals nor strength; it is not exhaustion and does not involve the nerves. So we must look upon the scientific name "neurasthenia" (nerve weakness) simply as a curious symbol, surviving from former times when mystic terms served the function of knowledge and when the nerves were supposed to be endowed with a strange, dynamic force, which as a matter of fact they do not possess.

We hear of "high-strung, nervous people" as though they were comparable to harps and the nerves to harp strings. This is a grotesquely false figure, for the nerves are utterly incapable of either tension or relaxation, so they cannot vibrate and therefore needless to say, they cannot be either in or out of tune. The truth is that they are perfectly inert conduits, whose sole function is to carry impulses both to and from the brain. The nerves themselves have no more to do with nervousness than has the twist in the silk-covered telephone wire to do with getting the wrong number. Neither is the over-sensitiveness which is such a prominent feature in many of these cases, due to a defect of the nerves. The impulses are transmitted over perfectly healthy nerves, without hindrance and without delay; they are registered by a perfectly healthy brain, as numberless neurological examinations prove, but their reception in the central office causes an undue commotion and excitement. In short, it is the reaction in consciousness, not the stimulus, nor the conduit that is at fault. Indeed, the neurasthenic is comparable to a telephone system which, though in perfect mechanical order, is being badly run by incompetent operators.

This inefficiency, I maintain, is the result of ignorance in nine cases out of ten, is very rarely due to inherent weakness and is still more rarely, if ever, due to moral obliquity. It expresses itself not only in the patient, or as one might say locally, but also in a more general way, namely in the manifestly imperfect relationship of the patient to his environment. Thus the basis of nervous exhaustion and kindred disorders, is to be found primarily in an inefficient use of an intrinsically normal apparatus, and secondarily in an imperfect adjustment of the individual to his environment, —the latter condition being largely the effect of the former.

Now let us turn to what is, according to our hypothesis, the actual seat of the trouble,—in short, to the field of consciousness. Let us see what happens there, and secondarily elsewhere, when the mental mechanism becomes demoralized through inexpert use. We are dealing for the moment with nervous impulses after they have been translated into terms of consciousness and we will do so according to the figure given in the last talk, in which, you will remember, consciousness was represented by a broad sheet of water, impressions by waves, and the attention by a searchlight.

The area within range of the light represented the aware consciousness, and all beyond its range the sub-consciousness.*

Sensations from different parts of the body were represented in this sea by more or less distinct but closely associated groups, constituting various families of waves,—such as the knee family, the heart family, or the stomach family. The color of the waves symbolized their pleasantries or unpleasantries.

Most of the time, the vast majority of these waves stay quietly in the sub-conscious region, while only a small minority pass in and out of the aware region; but under certain circumstances, a great many may obtrude themselves into the illuminated area, and when this happens, trouble promptly ensues, as we shall presently see.

Each family of waves may be said to be made up of two sub-groups; one of which, comprising the waves representing the sensations of position, of vibration, and the deep muscle and tendon sensations, is a stable, stay-at-home cluster which normally always remains in the sub-consciousness. The other sub-group, which includes the sensations of touch, pain, and temperature, is more mobile.

*Note—"Elementary Mental Mechanics," page 8.

more loosely held together, and thus any of its members are easily drawn from the family circle into the aware region. Any of these mobile sensations become very easily accentuated by the ordinary physical stimuli of the environment and are thus constantly flashing in and out of the attentive region. Even without physical accentuation, one or more of them may be drawn to the attention if one simply thinks of this or that part of one's body, and consequently, at once becomes super-conscious of it.

Bearing this mechanism in mind, it is easy to see that sensations of this class, after being repeatedly picked out and dwelt upon by an otherwise idle attention, will form a most unwelcome habit of finding their way with greater and greater ease into the aware consciousness, and that consequently they will become exaggerated through repetition and over-attention. For the effect of focussing the light of the attention on a wave is not only to raise it above the level of its surrounding, but also to deepen or intensify its color. This process in fact plays an important part in the genesis of hypochondriasis, where the sufferer becomes abnormally aware of many, one might almost say of all of his sensations; and it also plays no

small role in numerous other sorts of "nervousness."

There is another accident which may occur in the mental field which produces a similar result. Not only may the mobile sensations of the "touch" class, of which we normally may or may not be aware, become accentuated in size and color, but even those sensations of which we are normally never aware, namely those belonging to the stable, sub-conscious group, may under certain circumstances, reach the light of our attention. This they do by virtue of a process of disassociation,—that is by a breaking up of the normal arrangement of sensations in sub-groups and families. Thus when a family of sensory waves becomes accentuated, (although usually only the more mobile sub-group of the touch and pain class is affected), provided that the mental constitution be liable to disassociation, the lightly balanced associative values of a whole family may be upset. The result is that one or more sensations of the stay-at-home group, which should have remained quietly at home in the sub-consciousness, now disassociate themselves from this their normal cluster, and promptly join the other sub-group of the family. They then assume the habits of their new com-

panions and wander with them into the illuminated area. Thus not only does the "touch" sensation become prominent, but it drags with it into the aware field one or more of its normally sub-conscious brothers. Here of course the latter literally "make a sensation." They wear the uniform, let us say, of the knee family and are therefore recognized as hailing from the knee country; but this is the only familiar characteristic they possess, and they are above everything fascinating to the attention because of the utter strangeness of all their other qualities. They are out of place,—as startlingly out of place as fish out of water. The sensations are perfectly normal in themselves but they are distinctly and markedly abnormal in their relative position in consciousness. Like deep-sea creatures suddenly hauled gasping to the surface, they are out of their natural element, the quiet sub-conscious regions, and are showing themselves in the utterly strange environment of the intensely active and brightly illuminated aware region. Of course they seem unnatural, undesirable; and furthermore, we treat them with fearful attention and respect, because they seem to signify that there is something very strange going on in the bodily region from which they emanate.

The sufferer little realizes that their abnormality consists chiefly in mal-position and not in intrinsic quality or significance.

Once having gained the *entré*, the dislocated sensations in question very soon acquire the habit of calling with always greater frequency and familiarity. Naturally the attention dwells with greater and greater intensity upon its strange guests, and the latter consequently swell to an enormous importance. Before long the secondary physical results make their appearance. The function over which the sensations in question formerly presided without let or hindrance, now suffers over-stimulation or over-inhibition as the case may be. The sensation, because of its abnormal activity and also because of its mal-position in consciousness, has attracted more than its share of the attention and the latter consequently interferes with the nervous control of the function.

This condition which allows the intrusion into consciousness of disassociated sensations, may take place as a direct result of a mental shock such as a railroad accident, where nevertheless, the sufferer has entirely escaped any physical injury; or it may happen as the effect of a much less severe cause, in an indi-

vidual whose consciousness is peculiarly predisposed to disassociation. The latter predisposition is the basis of true hysteria, not to be confused with what is popularly known as "hysterics."

The patient finds it very difficult to describe one of these dislocated sensations. For instance, it may be described as a feeling of heat, and yet more like cold; the skin may be said to feel large, and loose, and yet very tight; the part may feel brittle, like glass, and yet flabby, and so on ad infinitum. The keynote sounding throughout is always peculiarity, strangeness.

To illustrate the foregoing, let us consider one or two practical examples. Suppose the tissues overlying the knee joint to have suffered a slight superficial injury. The injury will have accentuated the nerve impulses from this region, and consequently, translated into terms of consciousness, they cause an exaggeration of the waves which represent in our picture the mobile group of the knee family. These waves will then immediately be focussed upon by the attention. Their height will then be further accentuated and their color intensified. They will become very frequent, persistent visitors in the aware region, and

may if the patient be so predisposed, continue their visits, even after the last vestiges of the original physical cause have long since disappeared. Indeed this is the process which eventuates in a "pain habit." Besides this, provided however, the individual be peculiarly liable to disassociation of normally associated sensations, one or more of the normally sub-conscious sub-group, such as the deep-muscle sense, will join the party, and because of its utter strangeness in its new surroundings, it will receive more than its share of the attention. The patient not only feels pain or heat or some other ordinary though accentuated sensation, but he also becomes aware of a strange new feeling, let us say one of extraordinary weight or bigness or weakness, in the joint. Even after all the physical effects of the injury have disappeared, even though the accentuation of the mobile tactile sensations has ceased, and they have consequently almost or entirely gone back to their normal size and activity, this strange guest still stays, by virtue of his very strangeness.

It is hardly necessary to add that being so conscious of a part of the body, naturally leads to worrying about that part, and this in its turn still further accentuates the abnormal

awareness. Furthermore, from the beginning, the function is still further curtailed by the fear that anything but the gentlest use of the joint may cause damage. If this condition persists for any length of time, a secondary physical change takes place in the joint itself. The structures composing it become more or less stiff, through lack of use, and this stiffness itself gives rise to further abnormal sensations which are accentuated on even slighter movement. Thus the secondary physical result adds its quota to the vicious cycle and we have not only a sensory disturbance, but also a genuine lameness without primary physical basis.

Obviously, rest alone will not cure this condition. Rational exercise, backed up by determination, but above all founded on a clear understanding of the nature of the condition, will do what rest at best merely postpones.

The genesis of nervous dyspepsia is similar to the example just described, varying only in detail. The candidate for this malady may have his attention drawn to his gastric sensations in any one of a variety of ways. An acute but passing indigestion, following some indiscretion of diet, may accentuate these feelings sufficiently to turn the trick. The reading of a patent medicine folder,—which is usually

a masterpiece of graphic description,—may cause him to search his consciousness with much apprehension for the presence of any of the sensations described and the search rarely fails to yield an ample reward. The sensations, however they may reach his attention, when once they have done so, are only too apt to become frequent visitors,—this being almost inevitable, if he has been born with or has acquired the hypochondriacal tendency.

Beside these sensations, one or more of the sub-conscious stay-at-home group of the same family may join the procession in the way they did in the knee case just described. Whether this happens or not makes only a difference of degree in the result, and in either case when once the sensations have engaged the attention sufficiently, the quiet autonomy is destroyed. The gastric functions are inhibited or stimulated as the case may be, by the effect that the attention has had upon them in interfering with the quiet interchange of sensations and motor impulses which previously presided undisturbed over them in the outermost sub-conscious regions. Furthermore, the surplussage of emotional energy of the apprehension present, expresses itself along the already wide open stomach route, and does its share as a

disturber of the function. Consequently, too much or too little gastric juice is secreted, or the muscular action of the stomach is affected, and an actual chemical and mechanical disorder is established. The disturbance of gastric function then becomes responsible in itself for additional sensations which are abnormal not only in intensity but also in quality. The latter do their part in further disturbing the harmonious automatism that should exist,—and so the dance goes on.

Obviously, to attack this problem with medication and diet alone, that is, from a purely physical standpoint, is a long, tedious and thankless job, usually ending in failure, for the basic cause of the mal-function does not lie in the chemistry of the stomach but is to be found in the interference of the attention with an autonomy which should have remained sub-conscious and which, so to speak, resents being interfered with.

Fatigability is one of the most prominent symptoms in "neurasthenia" and the one most often complained of. The latter fact probably has had no little effect in fixing the popular misnomer, — nervous *exhaustion*, — upon this malady. As a matter of fact, fatigability is itself a misnomer, for the neurast-

thenic suffers not so much from true fatigue as from an overwhelming *sense* of fatigue.

The genesis of this star in the galaxy of nervous symptoms is much the same as that of the two preceding examples. The patient however, instead of suffering from the accentuation of merely a few sensations of the mobile class, or from intrusion into consciousness of a few others which normally should remain sub-conscious, becomes unduly aware of a great many sensations of both kinds and from nearly every part of the body. The attention is of the "ingrowing" type, sharpened to appreciate the slightest sensory changes, and thus that flood of sensations which is continuously pouring into the sub-consciousness in every one, and in normal people remaining there, is encouraged and indeed invited to overflow into the aware region on the slightest pretext. These sensations when they become conscious are vague, unnatural, disagreeable. They are not clean-cut, and familiar, as are those of pain or heat or cold, but they form a jumbled mass, without outline,—without beginning or end. The sufferer does not experience the more or less comfortable, soporific sensations of the true fatigue that follows a twenty-mile tramp, or

comes as a natural result of a good day's work. On the contrary, the victim of fatigability feels as though his mind and body had been transformed into a seething mass of sensations and finds himself in a very agony of aching confusion. Quiet and rest, if he is still able to rest, will give only temporary relief, and for this very reason, rest is sought more and more frequently and for ever more protracted periods, and with always less relief as the case progresses. The sufferer becomes more sensitive to the feelings of fatigue,—his attention becomes more exclusively occupied by his sensations, and consequently becomes more difficult to control. For this reason it actually requires more energy to hold the attention upon any outside matter and therefore, in performing a given task, he suffers an actual and disproportionate mental fatigue, which adds its effect to the sensory turmoil. Furthermore, his sensations lead him into more and more pronounced physical indolence, and this very naturally results in the muscular weakness which always follows disuse, as well as in general sluggishness of nearly all of the mechanical and chemical functions of the body. Worry as to the outcome of the disorder and the emotional disturbances centering about self-

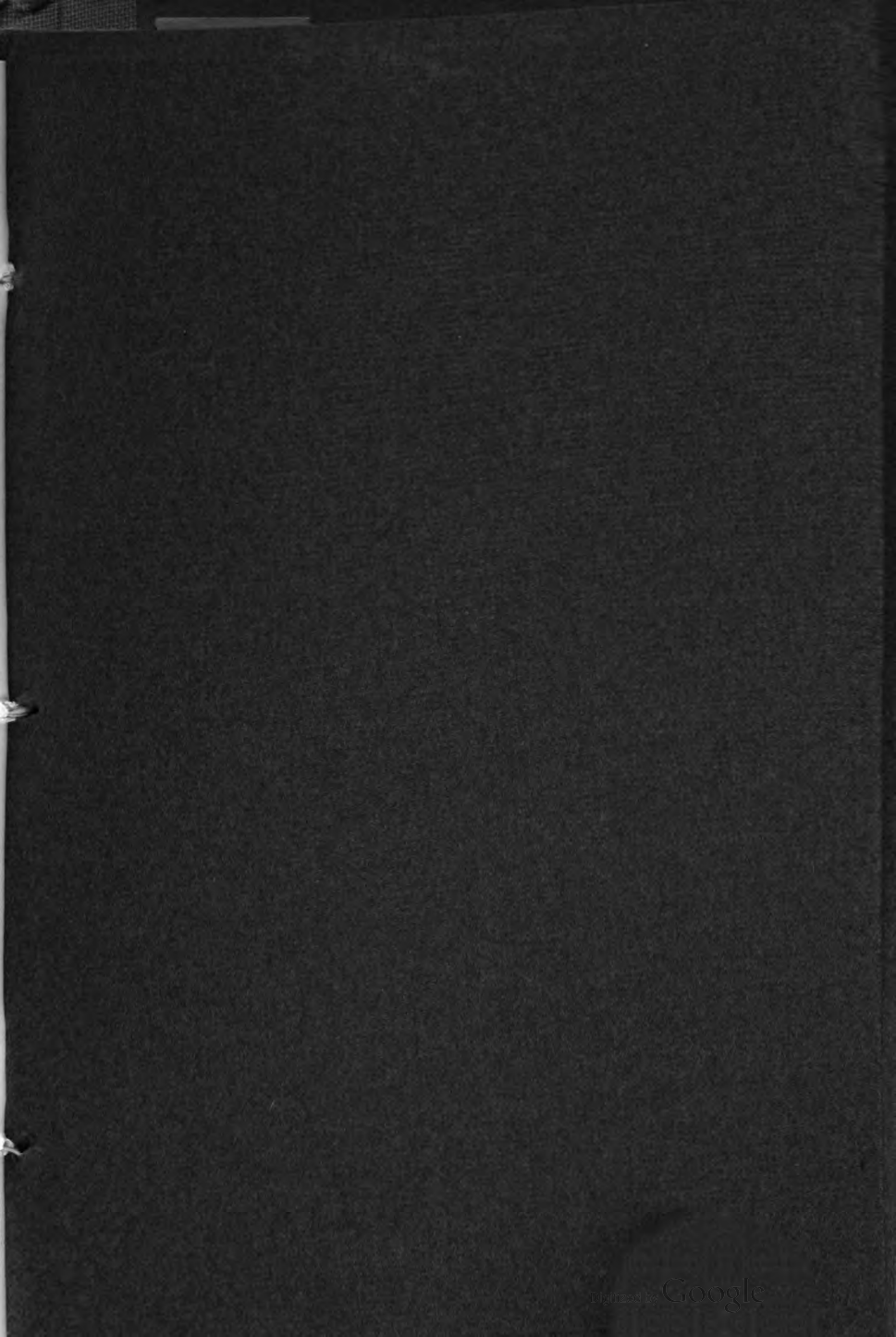
pity are the links which complete the chain of the vicious cycle.

What is true of the part is true of the whole, and here again, the attempt to re-establish normality through merely physical means, is doomed to failure. Rest produces only temporary relief, and with each repetition of the "cure" the relief lasts a shorter and shorter time.

Treatment of "nervous" cases by electric currents, baths, odd dietary regimens helps not so much by producing physical changes, but chiefly by engaging the attention and thus withdrawing it temporarily from its abnormal and demoralizing occupation of self-examination and by producing a change in the emotional state in-so-far as it may substitute hope and confidence for fear and despair; but here again, in each case, failure waits only a short distance away, and then the patient goes on his pilgrimage to the next most suggestive cure. Only the symptoms have been treated, but the condition producing these symptoms has been left undisturbed. The root of the evil lies imbedded in consciousness, while only the fruit is to be found in the distinctly secondary physical symptoms, and when the fruit is picked by this or that regime, the patient, like the good

tree that he is, always grows new clusters for the next cure. The harvest season may be postponed for several weeks, or months, or even years, but sooner or later, it will return.

Physical training to restore the flabby muscles to normal strength and the impaired functions to natural activity, is clearly indicated, and every help that materia medica and physical therapeutics offer should be invoked; but to strike at the very root of the evil, the mental mechanism must be put in order and the individual reinstated as its master. Mental training is thus the most urgent indication, and of this the most important part is re-education, not mental gymnastics. The training, in other words, must be based not on the patient's blind faith in its efficacy, but first and foremost it must be founded on a good working knowledge *on his part* of the psycho-physical apparatus which needs readjustment. If it be so founded, he is not only enabled to set his present disorder right, but he does so fundamentally, from the bottom up, and can then go forth permanently and efficiently armed against recurrence.



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Talks to Patients

III. Efficiency

TALKS TO
PATIENTS
III
EFFICIENCY

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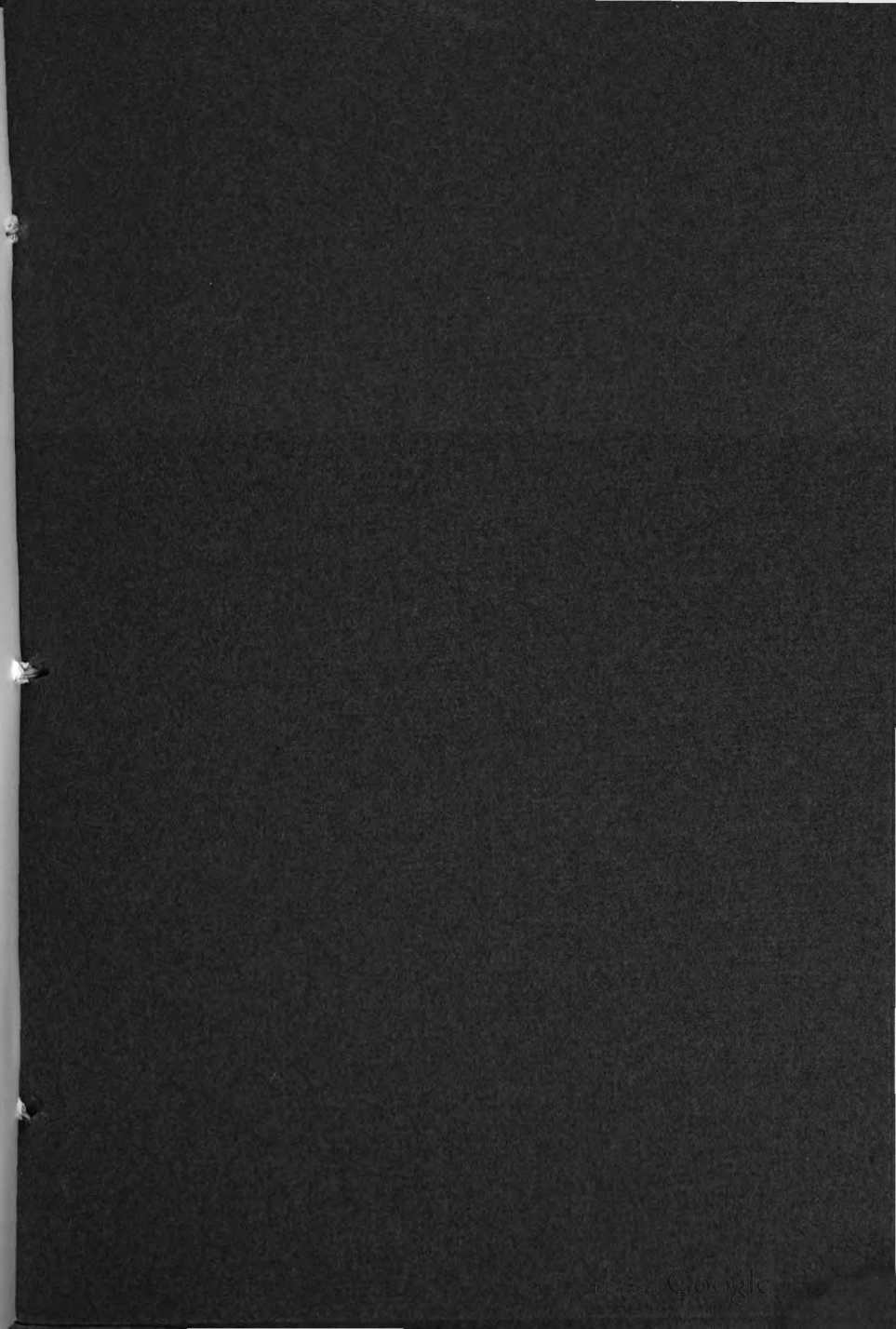
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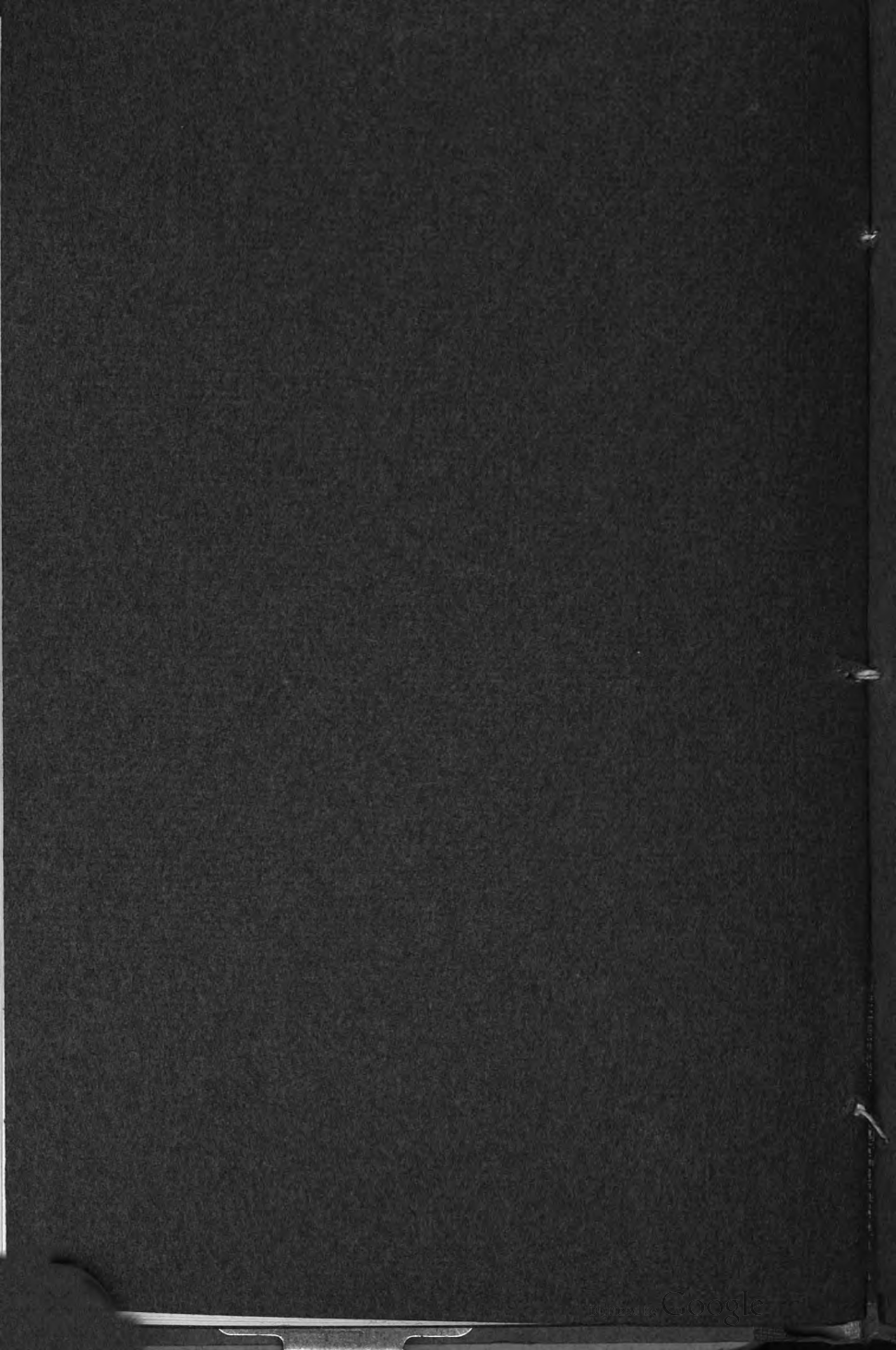
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TALKS TO
PATIENTS

III

EFFICIENCY

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EFFICIENCY

IN the last talks I gave a more or less technical explanation of the main points of normal psychology, and upon this as a basis attempted to make clear the mechanism of the disturbed psychology of the so-called neurasthenic. I tried to show that neurasthenia is not a condition of diseased or disordered nerves but that by all the most careful methods of examination the nervous system in these cases is found to be organically sound; that the patients suffer not from a primary lack of strength, character or vitality but from an unintelligent, unskillful use of these forces. In short, I came to the conclusion that the neurasthenic suffered from the effects of using inefficiently an otherwise normal mental and physical apparatus, and consequently from an impaired ability to adjust himself to the varying needs of his life. If the key-stone of these nervous disorders is inefficiency, the cure must lie largely in acquiring efficiency. For this reason and also because the ideals of efficiency are important to

us all, whether sick or well, I have made them the subject of my present paper.

I claim no originality for the precepts and principles which I wish to lay before you, but I believe that I am justified in thinking that they may be called common sense. I do not wish to pose as having a monopoly in this divine commodity, but I hope that my axioms will not seem platitudes and that the truths I have to tell, though well known, may be found useful in the business of getting well and above all, in that of staying well.

Efficiency or inefficiency is determined by the relation between effort expended and result obtained. In the case of the steam engine it is a question of how much or how little horse power can be produced from a given amount of coal. So also with efficient or inefficient living, it is not the gross result alone which must be considered, but the relative amount of effort which has gone into producing it.

No corporation will knowingly keep in its employ an inefficient servant. In a well-run factory a bit of machinery which will give the same result at less cost or a better result at the

same cost, immediately replaces the less efficient apparatus.

It seems strange that a principle so obvious and so thoroughly understood in almost every industry in the world, is so little appreciated, indeed is so universally ignored, in the business of just living,—the very place where it is most needed. Just as man has spent millions of dollars and endless labor in breeding domestic animals for his immediate profit and the ultimate profit and comfort of his fellows, but has made little or no attempt to improve his own race, so has he labored and spent his millions in making his industrial machinery efficient, while he has almost utterly neglected to turn a similar wealth of effort to the mechanical betterment of his own individual life.

The business man who insists upon one hundred cents' worth and more on his every dollar, the engineer who demands every foot pound of energy which each shovelful of coal can possibly be made to produce, these very men with all their intelligence and all their clear understanding of what efficiency means outside of themselves, only too often utterly fail to apply this knowledge in managing their own individual mechanism. Whether spurred on by cupidity or by ambition or by competi-

tion, they burn the candle at both ends. They forget that rest and repair are as necessary to them as they are to their inanimate machines of commerce,—they forget that every point gained must be worth the effort or else is not worth the gaining, and so, sooner or later, depending largely upon how tough they happen to be, the breakdown comes, the lesson of efficiency which they might have learned voluntarily, is forced upon them through necessity.

To acquire efficiency in every day life one must see to it that the effort expended, both in amount and quality, is justly proportioned to the probable value of the object. There is more in the technique of living than just the simple process of determining whether this or that be a worthy goal and then trying to reach it with all one's might and main. After the objective has been chosen,—and it is to be supposed that it be attainable,—then to get there with the greatest ease, with the least waste of energy, is the problem of efficiency. Our ideals of accomplishment should be broad enough to include the actual technique of the doing. Thus when a certain bit of work has been determined upon, whether it be a household duty or a public service, ease of accomplishment through skill and accuracy, is an

ideal well worthy of attention. The larger the work, the more important is this principle.

Obviously there is nothing worth doing, no matter how small it may be, that is not worth doing well, but the term "well" must include more than just the attainment of the gross result in view. Of course it must mean this, but it must also mean attainment without waste of effort; quality as well as quantity, skill rather than crude force.

At least a good half of the sport of life is in the form and method of playing it. Thus and to the point spoke Epictetus; "Things are indifferent, but the uses of them are not indifferent. How, then, shall one preserve at once both a steadfast and tranquil mind, and also carefulness of things, that he be not heedless or slovenly? If he take example of dice players. The numbers are indifferent, the dice are indifferent. How can I tell what may be thrown up? But carefully and skillfully to make use of what is thrown, that is where my proper business begins. * * * Now, this is what you shall see done by skillful ball-players. None careth for the ball as it were a thing good or bad; but only about throwing it and catching it. In this, then, there is rule, in this art, quickness, judgment so that I may fail of catch-

ing the ball, even if I spread out my lap, and another, if I throw it, may catch it. But if I am anxious and nervous as I catch and throw, what kind of play is this? How shall one be steady? How shall he observe the order of the game? One will call 'Throw,' 'Do not throw,' and another, 'You have thrown once.' But this is strife and not play. * * * Thus Socrates knew how to play ball. How? When he jested in the court of justice. * * * And thus he played with the ball. And what was the ball that was there thrown about among them? Life, chains, exile, a draught of poison, to be torn from a wife, to leave children orphans. These were the things among them that they played withal; yet none the less did he play, and flung the ball with proper grace and measure. And so should we do also, having the carefulness of the most zealous players, and yet indifference, as were it merely about a ball."

—*The Teaching of Epictetus—Book II—Chap. II.*

To return to our own simile, an efficient engine is one which produces the maximum horse power with the minimum consumption of fuel.

and then that a single twenty-four hours contains the necessity of making a really large and vital decision; consequently the opportunity for becoming an expert consists in practicing upon the multitude of smaller and less important things. The process is the same, whether the question be of the utmost importance or of apparently no import whatever. It consists in the first place, in stating the question as simply, and above all as unemotionally as possible. The equation should be made as far as possible of unadulterated facts, not feelings. The pros and cons will then range themselves almost automatically upon opposite sides and the decision will be forthcoming with little more expenditure of energy than would be required in subtracting one number from another. If, however, one's knowledge is insufficient, that is if the important facts are unknown, a decision must be postponed until further knowledge is obtained, or else the process must frankly be acknowledged one of mere guessing.

On the other hand, if the situation resolves itself into a conflict of desires, or a battle between ideals and self-indulgence, it becomes a matter of morals, and does not concern our present discussion, which here deals only with the mental mechanics of decision.

Obviously the whole process must also be worth while, and worth while at the time. The decision must be of some present moment, directly or indirectly, or else it will degenerate either into speculation or worry.

Lastly, all decision should be made subject as it were, to wind and weather. A decision, when made, should be ticketed with the date of its making, and we should never hesitate, if we gain new knowledge on the subject, to remake it,—nor should we under any circumstances look upon a decision as a sacred, inviolable affair for which we resent either interference or remodelling.

The virtue of a clean cut decision is in no way affected by the question as to whether it be carried out in action or not. The process of decision stands by itself. When it comes to action, facts may have so changed as to make the action most undesirable, or facts remaining the same, the materialization of the decision may have become merely a matter of moral determination. The decision itself, if well made at the time, will remain always a good decision of, let us say, that particular vintage.

To illustrate the point, let us suppose that I decide to take this letter which I have just written, to the post box on the corner.

Obviously if the decision is a good one, it has been made on what at the time seemed good grounds, the chief one being perhaps that the letter should go by the next post, and also possibly, that a little exercise and fresh air would be desirable for me. Upon these grounds, this decision is a good one. I think no more about it and when the time comes proceed to put it into action. Now whether the action comes off or is interrupted will in no way effect the pristine virtue of the decision. Whether I post the letter or whether I let someone else whom I happen to meet at the door, post it for me, makes absolutely no difference as far as the practice of decision is concerned. At the time, with the knowledge at hand, the decision is good,—it is clean cut, and supposing that I allow someone else to post the letter for me, I simply revise it in view of new facts, and I ought to do so without the slightest hesitation or intolerance. If I worshipped the decision for itself, then with misplaced, bull-headed determination, I should undoubtedly insist upon posting the letter myself no matter what, and then a hugely disproportionate amount of energy would be expended upon a very poor object, namely the object of preserving the decision itself intact.

Practice clean cut, accurate, reasonable decisions. Let them deal only with relevant probabilities. Let them stand for what they are, decisions not vows, and hold them always subject to change according to changing circumstances or better knowledge.

Observation is another faculty amenable to great improvement through practice. Skill in observation adds not only to the ease of life by increasing its efficiency, but also adds immeasurably to its pleasure. In most of the learned professions and useful arts, observation is trained only along certain special lines, and between narrow limits; and with most of us, outside of this occupational training, the matter is pretty thoroughly neglected. Yet to become a skillful observer of the passing show, not only from the bird's eye point of view, but also from that of one interested in the significant minutae of life, carries with it so much that is desirable, is so certain to broaden life's horizon and to add to the interest and ease of living, that it is indeed a wonder that the "Game of Kim" is not more popular. It is practically as easy, and certainly infinitely more interesting and inspiring, to see what we look at than just stupidly

to look. Opportunities for practice are just as numerous in the twenty-four hours as they are in the case of controlling the attention, for these two faculties are twin and inseparable. Observation is indeed the objective, purposive use of the attention, and consists simply in taking an intelligent, critical, voluntary interest in what is presented to us by our senses. Use of this faculty, or rather these faculties, may easily raise many of the ordinary activities of everyday life from boredom to a high plane of intellectual and aesthetic enjoyment.

Take for example, an ordinary walk, and for the sake of simplicity let us consider one without the inspiration of human companionship. Picture yourself walking along city streets or even country lanes, with your eyes staring unfocussed at a spot about fifteen feet ahead of you, with your hearing and all your other senses in a condition of dull suspension and your attention consequently turned inward and held within the narrow confines of yourself. What, under these circumstances, is the peculiar profit gained from the energy expended? What object have you attained? Merely a little exercise,—that is all. Suppose, on the other hand that you had gone forth as an observer, to see, to learn and appreciate. Suppose that you

had kept your senses alert, — critically, appreciatively alert, as though you intended to describe with pen or pencil whatever was worth describing for the entertainment and profit, let us say, of some less fortunate person. Would not then the attitude or the bearing or the expression of every passer-by have been of at least potential interest? It would have required only a very little more energy; and as to profit, is it not probable that you might find something new and harmonious even in the concert of city noises? Surely if it were in the country, lights, colors, sounds and scents would present themselves to you in such ever-changing wealth and variety that your one difficulty would lie in selection. In the city we may see just houses, or we may, by observing, see good houses, bad houses and indifferent houses, and more than that, know why we think them good, bad or indifferent. In the country we may see just trees, or we may observe and remember that they are maples, beeches or elms, and we may become delightfully familiar with the personal characteristics and beauties of each. In short, we may take just a walk, or we may, with only a slight increase in output, make of it at the very least an interesting and delightful episode.

Applying this definition directly to the human machine, the efficient individual is the one who gets the maximum result with the minimum output of energy. On the other hand, a first rate example of inefficiency is a poorly managed steam plant, much of whose power escapes through leaking pipes and loose bearings. This figure fits the neurasthenic with peculiar aptitude, in that he wastes energy in almost everything that he does. He is apt to put as much emotional force and intellectual energy into writing a simple note of acceptance as he would put into constructing a thesis on the fourth dimension. The note, very likely, will compare favorably with the average note, but what it cost in time and energy makes the whole performance lamentably and grotesquely inefficient. To drive a tack with a sixteen pound sledge hammer is not only inefficient but is far more fatiguing than to drive a full sized railroad spike with the sledge. Disproportion between effort expended and result obtained, even though it may only vaguely be realized by a person, nevertheless produces an amount of dissatisfaction which added to like results of similar performance, fills the individual's consciousness with a continuous and over-whelming sense of fatigue, failure and inadequacy.

Fatigue that is proportionate to the object obtained or to the work accomplished is the acceptable, natural sort of fatigue which is to be expected and which is taken quite naturally as part of the day's work; but the unnecessary and false surplus fatigue which arises from inefficiency is of a different quality and is met with resentment and impatience, if not with despair. It is always a fair measure of the inefficiency of which it is the direct result.

There is an abiding interest, which often amounts to an inspiring force, in acquiring skill and accuracy and consequently ease in the performance of any task in life. Indeed this interest is capable of raising the humdrum bread-and-butter chores of every day to the dignity and interest of an intellectual game second to none. Not only to gain the good gross result, but to gain it through good workmanship, adds enormously to the fun of the doing, of course enhances the result, and furthermore leaves a reserve supply of energy untouched and ready for any emergency. The spirit of this way of doing things is akin to the old fashioned "pride of craft." One has only to watch a skillful mason use his tools to appreciate that the natural abandon and apparently careless ease with which he throws each brick into its allotted

place, are but the bi-product of carefully learned and oft repeated actions, each one perfectly fitted to its object,—and that his spirit of nonchalance speaks of the big reserve of energy insured by his efficiency.

To acquire this desirable ease in doing and living, one must become skillful in the use of the mental tools at one's command, but first and foremost, one must always remember that every mental act to be efficient must always be used as a means to an end and must not be considered an object in itself. Literature, art, music, each for its own sake would amount to nothing; expression for expression's sake is an impossibility. Art must express something, must have a purpose or else it is not art; and so with music, literature and every other form of expression.

Turning now to the mental tools at hand, there is in the first place the attention. The control of this function, let it be clearly understood, is in no way a matter of force or violence. The commonly accepted picture of concentration, where the victim is portrayed with his head tied up in a towel, with knitted brows, clenched teeth, and his whole body in an attitude of convulsive tension, is an intensely

false, dramatic misrepresentation of a process which consists almost entirely of small acts of skillful selection. As we have already learned, the attention can entertain but one idea at any given moment of time. It is indeed like a tiny search-light, capable of illuminating but a single wave of thought at any given moment. But it has the faculty of intensely rapid motion, and its control actually consists, as does that of a search-light, in guidance with the use of hardly an appreciable amount of force. The ideal of concentration which demands that the thinker be hermetically sealed, completely isolated in a chamber with one idea, impervious to all outside influence, is absurdly false, unattainable and for practical reasons extremely undesirable. Witness the risks due to detachment from the immediate environment which the "absent minded" man runs in crossing the street.

Real concentration does not consist in grimly and consciously holding the attention on a single focal point. It consists merely in turning it back again when, and only when, it has strayed away from the object in hand, and above all in doing this with the least possible conscious effort. Furthermore, to be truly efficient, it should be done with perfect tolerance towards the interruption, whatever it may have been.

For example, if I am reading a book and I hear a dog bark, I must not make the mistake of thinking that because I heard the dog bark, my concentration was necessarily imperfect, nor must I make a second error in trying with all my might to exclude the sound of the barking dog, for by so doing, I merely concentrate my attention for the time being not upon my book, but upon the dog. On the contrary, I must accept the interrupting noise with tolerance, because after all my ears must hear, whether I'm listening or not and I need listen only if the noise be of some import to me. In this instance it happens to be of no import, it bears no relation whatsoever either to my book or to my concentration and therefore with ease and perfect equanimity, my attention should, almost of itself, return to the matter that really interests me,—the subject of my reading.

The control of the attention is certainly not comparable to holding some heavy, wobbly object on a slippery surface with all one's force and strength. It is a function much more nearly akin to the skillful manipulation of a very easily controlled and very freely movable and sharply pointed instrument of accuracy. It is an active, dynamic function, an endless series of selective acts, not a long continuous muscu-

lar strain. Above all, it is not a moral struggle. It is not determination, and is not even faintly related to sin or virtue. The attention is a delicate mechanical function, the control of which approaches perfection only through patient and oft repeated practice,—but never through dull strength.

Another most important tool in our mental kit is the power of choice, and this, even more obviously than the attention, is a selective function. In the strict sense of the word we do not create opportunities—we choose among those presented to us—and whatever our metaphysical theories in regard to Free Will may be, practical life demands, and moral standards insist, that we accept the fact of this power of choice, and with it the responsibility that it entails. There are many opportunities to become an expert in the exercise of this function by patient practice for although it is perfectly true that most things decide themselves for us, there still remains a wealth of opportunity in the multitudinous little things of every day life to practice making clean cut decisions. In point of quantity and time, for most of each day is made up almost entirely of little, apparently unimportant acts that require only intelligence and patience for their accomplishment. It is only now

When it comes to the use of our faculties, any or all of them, it is to be remembered that short periods of clean cut high class, efficient effort, relieved by spaces of rest and change, are far superior from the point of view of accomplishment, are far less costly in fatigue and nervous wear, than sessions of work prolonged too far beyond the point of highest efficiency, or almost to the point of its disappearance. When in working over some task, a fatigue point is reached and our mental processes have slowed down to a difficult, lumbering pace, it is far better and indeed far more efficient, to leave that task for the moment and to turn to something else; or if nothing else is at hand that needs doing, simply to go to the window for a half dozen deep, unhurried breaths of fresh air and a good wide look about to see whatever there may be to see, then quietly and patiently to take up the work again. This is far more economical of strength and energy will give far better results than to plug away doggedly in spite of the ever-diminishing power and the ever-increasing fatigue; and far better too than to throw down the task precipitately and desperately rush out to find diversion in excitement.

To attain efficiency, it is of the utmost importance, especially for the neurasthenic, to realize clearly the relative importance and normal relative positions of thought, action and feeling.

The ideal order of things is to think, to act according to the supposedly intelligent thought, and then, incidentally to feel for feeling is always, without exception, an effect, a result, before ever it can be a cause. The abnormal order, and one which the neurasthenic is especially prone to follow, is to feel, to act at once according to how he feels, and then lastly, to try miserably to think out the muddle he has created. The sequence is especially easy to fall into when one has acquired the habit of implicitly trusting to one's feelings as uncensored guides to action. As I have pointed out in a previous talk, sensations often become too prominent and may seem because of their accentuation, significant of trouble which in reality does not exist. Thus a person who is super-conscious of his sensations and allows the latter to determine his conduct, is sooner or later led to avoid effort, to dodge one thing after another which may have become associated with fatigue or with disagreeable sensations, and thus he slides inevitably into an ever-

narrowing and ever more invalid existence. Whereas, if with the help of a little sound knowledge as to his true condition, he were to make an effort to establish the normal order of thinking, doing and incidently feeling, he would be led to discount the exaggeration of his sensations, to accept them as temporary evils which are sure to disappear as soon as he gets to doing things skillfully and efficiently. His attention could then be directed more easily upon action, less upon feeling, and the latter, stripped of its undue significance, would soon assume both normal size and intensity.

The refrain from one of Kipling's Barrack Room Ballads illustrates my point,—

“March-in' on relief over Injia's coral strand,
Eight 'undred fightin' Englishmen,
The Colonel and the Band.”

The “Colonel” stands for intelligence which presides over and guides the “Eight 'undred fightin' Englishmen,” our energies; the Band represents our feelings. Let the Regiment do what and how the Band pleases, then let the Colonel try to remedy what has been done, and the resulting demoralization truthfully and vividly pictures the neurasthenic's usual state.

The success of the so-called occupational cures is proof positive of how comparatively simple, (I do not say easy) it is in many cases to discount abnormally accentuated sensations, and how much of this undesirable accentuation may lie purely in the point of view. For instance, a person who has become intensely over-sensitive and finds the tap of a carpenter's hammer an almost unbearable agony, may be perfectly impervious to a much worse clatter provided that he himself is making it. Thus, as he attentively and very noisily pricks out an intricate pattern on a piece of sounding, clattering brass, which he is in the process of fashioning into a possibly ornamental and a very improbably useful article, the rattle and bang receive scant attention and have little or no effect on his composure. The difference in reaction is obviously not due to the difference in the physical properties of the two noises but to an absolute difference in his own point of view. In one case his attention is focussed upon the noise, not upon its purpose, and following the dictates of feeling, the victim probably makes frantic and panic stricken efforts to escape it. In the other instance his attention is focussed upon a purpose, an object, to which the noise is merely an incidental, even if a somewhat dis-

agreeable accompaniment. His very acceptance of the noise as an accompaniment saves it from exaggeration and him from unpleasant and distressing reaction. In other words, the first instance is an example of feeling, doing, and incidentally thinking,—and the second an example of thinking, doing, and incidentally feeling.

The two arch enemies of efficiency are Worry and Hurry. The first of these is also a beautiful example of the most completely inefficient mental action. The process, like that of a dog chasing his tail, is circular, and like that has neither beginning nor end, but worse even than that, it has no object. If efficiency is a measure of true proportion between effort and object, then worry which is all effort and no object, is its true and perfect opposite. As worry is efficiency's enemy, so are all the allies of efficiency the enemies of worry. Be efficient. Do one thing at a time and let that one thing be well done. Think first, then act,—lastly and incidentally feel.

Consider seriously only those things which are relevant, only those for which you are responsible and which are therefore your busi-

ness. If a situation worry you, consider first whether it is your business, second whether it is your business *now*. If so, what is the wisest thing to do? If you know, get busy and do it. If you do not know and it is your present business, seek the knowledge you need. If it is not your business or not your business now, shrug your shoulders and turn to the next thing which does need doing, which is your business now, and do it now. By using your mind thus as means to an end, it will serve you well, for it will not be abusing itself by objectless action and thus cannot "talk back" to you in terms of worry.

The second of these arch enemies, Hurry, is a trespasser, a waster of time and energy. Hurry is almost always the result of poor planning or of no planning at all. Only some people hurry, yet everybody's day contains but twenty-four hours. See to it then that outside of the occasional inevitable emergency, there be no cause for hurry. Therefore arrange your set engagements, the fixed charges of every day life, so that they do not even touch shoulders. Leave a little more than enough time for each of them, else your time will become crowded, and you will end by hurrying from the last unfinished, scanted job, late and

weary, to the next, and so on to the close of a wearisome, unsatisfactory day.

Volume of work does not spell success. Quality of work does, and quality is lost in hurry, ruined by it. One opportunity mastered is worth a thousand slighted.

The wisely planned day is the one in which work, rest and play are proportioned. Such a day and only such a day, affords skill and accuracy their chance to forge lasting success out of opportunity. And as to speed,—deliberate skill saves as much time, let alone energy, as hurry wastes.

And lastly, to approach this ideal of efficiency, waste neither time nor energy in "kicking against the pricks;" Whether you be sick or well, rich or poor, strong or weak; use your intelligence to find the opportunities inherent in your present situation,—make the most of them and do it now. For "the past is a dream, the future a vision," but the present is reality, and it is the only workshop wherein you can accomplish. Whatever your role may be, accept the part graciously and play it with snap and sincerity.

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