

part, and an aperture in the corresponding portion of the membrana tympani. These injuries had doubtless been effected by a frozen hazel twig, having been driven into the ear. Both wounds healed without any evil consequences.

## Illustrations

OF

### HOSPITAL PRACTICE: METROPOLITAN AND PROVINCIAL.

ROYAL LONDON OPHTHALMIC HOSPITAL.

ACUTE GLAUCOMA OF BOTH EYES, SUCCESSFULLY TREATED BY IRIDECTOMY.

Under the care of J. DIXON, Esq.

Mrs. P., aged 46, was admitted December 27th. She was a thin, moderately florid woman, not subject to gout or rheumatism. Twelve days before admission, she had severe pain in the right eye, which came on suddenly at night. Next morning, she found that she could scarcely see with it; and the pain, still severe, had continued up to the time when Mr. Dixon saw her. Blisters and various applications had been used, but without any benefit. When admitted, she could with the affected eye only just distinguish light from darkness, and could not count fingers held up between the eye and the light. The sclerotic was dusky, leaden-coloured, and crossed by enlarged veins. The pupil was dilated moderately, and fixed. The fundus, as seen through the pupil, looked dull and yellow. The cornea had lost its brilliancy. Atropine did not produce any effect on the size of the pupil; whilst in the other eye the pupil readily dilated under its use. The ophthalmoscope was used; but a mere red reflex from the fundus was seen. The woman would not submit to the operation of iridectomy, which was at once proposed, until the 31st, the fourteenth day from the attack, when iridectomy was performed. The piece of iris removed was from the upper part. No chloroform was given. The pain was at once relieved.

Four days after the operation, she had had no return of pain, and could read No. 10 of Jäger's test-types. There was a minute fistula in the cornea, to which Mr. Dixon applied nitrate of silver. She gradually improved, and was soon able to read small type.

On January 25th, the left eye became suddenly very painful. The pain was in the globe; it was very intense, and was accompanied by vomiting. She was not seen by Mr. Dixon until the 28th. He then found that the eye was in exactly the same state as the right had been. She could only just count fingers. The pupil was dilated and fixed; and the fundus could not be illuminated by the ophthalmoscope. Iridectomy was at once performed, and with the same amount of success as attended the operation on the other eye. She can now see well with both eyes, and can read pearl type without the aid of glasses.

Mr. Dixon remarked that, in this case, the disease had been of the exact form to the relief of which iridectomy is best suited; viz., acute glaucoma. In the chronic cases, as far as he had seen, little or no benefit followed the operation, but rather an increase of the irritation. It is interesting to note that the attack in the left eye occurred whilst the right was going on satisfactorily. The ophthalmoscope had not been used to examine the sound eye, and therefore no blame was traceable to it,

as having re-excited the disease in it. The occurrence of glaucoma in the second eye a few weeks after it has attacked the first is quite in accordance with what is frequently observed; and hence, as both eyes generally suffer, the value of iridectomy is much increased.

## Original Communications.

### MEDICAL PSYCHOLOGY.

By ROBERT DUNN, F.R.C.S., etc.

THE following article will comprise a brief exposition of the leading phenomena of the mental states, and of the nervous apparatus through which they are manifested with a view to the better understanding and elucidation of the mental phenomena or symptoms of disease.

It cannot be disputed that the influence of the bodily states upon the mental manifestations presents a subject for investigation as interesting and important to the medical practitioner, as it is to the psychological inquirer or mental philosopher. Nevertheless, it has long been the abiding conviction of my own mind, that in the general practice of medicine, the psychological phenomena, or symptoms of disease, have been too much unheeded by us. Under the influence of this conviction and with a view to the better understanding and appreciation of their value and importance in the practice of medicine, it has appeared to me that a summary survey of the correlation of psychology and physiology—a brief exposition of the leading phenomena of the mental states, and an inquiry into the nervous apparatus through which they are manifested in the life—would form a useful contribution, as introductory to a systematic study of medical psychology. It could scarcely fail of being interesting and instructive to the young psychological inquirer; and it might prove suggestive, and even of some value and importance to the thoughtful and experienced medical practitioner.

As a labour of love, I have thrown into shape my own meditations on the subject; and, in submitting them to the candid consideration and free discussion of others, I am not without the hope that I may be instrumental, among my professional brethren, in rousing into activity the energy of other minds, of higher intellectual endowments, possessing more leisure, and having better opportunities than I can command, for the prosecution of such an interesting subject of inquiry. Of the practical value and importance of the subject, there can be no dispute. For, as the seat of consciousness, of feeling and emotion, as well as of the higher attributes of reason and reflection, the human mind, alike in its normal and abnormal aspects, ought surely to be studied in the correlations of organisation and of consciousness, and in connexion with the material conditions of the brain; since it is upon the vesicular matter of the encephalic ganglia, as its substratum, that the mind is dependent for the manifestation of all its activities throughout the totality of life in health and in disease. And to search after the phenomena in which the relations of the bodily states and the mental manifestations are revealed, with the unprejudiced eye of experience; to investigate them scientifically in every point that is of importance to the medical practitioner; and to collect them into one whole, has been justly defined as the province of medical psychology; and, "although," as Dr. Reid has well observed, "the labyrinth may be too intricate, and the thread too fine, to be traced through all its windings, still, if we stop where we can trace it no further, and secure the ground we have gained, there is no harm done (but, surely much good effected); and a quicker eye may in time trace it still further."

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I. *On the Normal Phenomena of the Mental States.* We have first to consider the leading phenomena of the mental states. Now, the more closely we observe and diligently study the composite nature of man, as an animal and social, a moral and religious, as well as an intellectual and thinking being, the more clear and irresistible becomes the conviction that he is born into the world, not "a mere blank recipient of impressions," but endowed with inherent cravings and impulses, animal appetites and instincts; with personal or individual, and with social propensities and affections; and with emotional, moral, and religious intentions and feelings, as well as with intellectual faculties—reasoning and reflecting powers. In the primordial cell of a human organism are potentially contained the vital, nervous, and mental forces. Inherent in it are the vital powers of nutrition, development, and growth, under which, *in utero*, duly supplied with the nutrient pabulum, the bodily fabric is evolved and built up, in accordance with all the subsequent wants of the future man; not only the osseous, muscular, and vascular systems, but the nervous system also, upon the encephalic ganglia of which, as its substrata, the mind itself is dependent for the manifestation of all its phenomena in this life.

The germs (so to speak) of all our mental activities, sensational, perceptive, and intellectual, are present from the first. They exist implicitly, *ab initio*, as constituent elements, in every *mens sana*; and they are all, in due order, evolved explicitly, as the successive phases of consciousness become developed. And while, on the one hand, we cannot by teaching or training educe or bring forth a new mental faculty any more than we can make a new law of nature or a new organ of sense, so, on the other hand, before all teaching or culture, the instructive intuitions of the mind, sensational, perceptive, and intellectual, as original principles, are spontaneously developed in the successive phases of consciousness. And first in the order of time are evolved the sensational intuitions of the mind; for the senses come into play from the moment of birth, and among these, as primordial, are those of feeling and touch—universal, or common to all, and the most essential to human existence. Next follow the perceptive intuitions—ideas—the ideation, or intuitions of the perceptive faculties; and such are our immediate cognitions of external objects, their sensible qualities and physical attributes—our moral intuitions of right and wrong—of the true, the beautiful, and the good; and our religious and emotional intuitions—of awe, wonder, veneration, and reverence, inspired and awakened by objects of sublimity, grandeur, vastness, and mystery.

Lastly, arise the intellectual intuitions—our primitive beliefs and primitive judgments. Such our belief is in our own conscious and abiding existence, in our personal identity, and in the existence of an external world. Among our primitive judgments, instantaneously and intuitively formed, we may instance those in relation to the differences in objects or things when compared together; such as that "the whole is greater than a part"; that for every known effect there must be a cause; that it is impossible for a thing to exist and not to exist at the same time; etc.

After birth—that is, as soon as embryonic life is passed, and an independent individuality is established, with the organic vital powers of nutrition, development, and growth—the animal functions, and their allied appetites and instincts, come into action; and then, too, the nascent consciousness becomes awakened, but which is purely sensational at first, for man is at birth the mere creature of sensation and instinct. And thus his outer life begins with consciousness, and with consciousness it ends; but, as for consciousness itself, that is an ultimate fact, beyond which we cannot penetrate. It is an essential attribute of animal life, and the primary and universal condition of intelligence—in a word, it implies

*mental existence.* It is equivalent to the knowledge that we possess of our own personal identity, for it is involved in every sensation which we experience, and every mental act that we perform, in feeling, perceiving, thinking, and willing. Reid and Dugald Stewart were clearly in error in restricting the functions of consciousness to that of a particular faculty co-ordinate with the other intellectual powers, instead of regarding it, as it manifestly ought to be, as the universal condition of intelligence. The great and fundamental mystery of life, indeed, consists in the relations of consciousness, and of that dynamical agency, or intellectual force, which we call volition, or the will, to the functions of the special senses, and to those of the perceptive and intellectual faculties, which connect man as a sentient, percipient, and thinking being, with his own organisation, and with the world without.

Now, we can best conceive of consciousness in relation to time, not merely as an incalculably rapid succession of acts or states, but as passing through a series of successive developments. *Still one it is, and indivisible*; for the unity of consciousness is the deepest and most indisputable fact in the nature of man; and psychology has accordingly been briefly but aptly defined, "*developed consciousness.*"

There are three phases of consciousness successively developed: the sensational, the perceptive, and the intellectual, marking three distinct stages in our mental progress, however difficult, if not impossible, it may be to determine precisely in time the genesis either of the perceptive or of the intellectual consciousness—at what moment, for instance, the infant eye, ceasing to convey a mere nervous impulse, awakens in the mind its first perceptive glimpses of the sublime and beautiful, or when the ratiocinative and reflecting faculties come first into play. But true it is, that we feel before we can perceive; we perceive and form ideas before we can think; and, long ere we can either reason or reflect, we manifest the animal instincts, and the social propensities, affections, and feelings. Equally true it is, and indisputable, that feeling, perceiving, willing, and thinking—in other words, sensation, perception, and intellection—are different and distinct states or phases of consciousness successively developed, and not to be confounded with each other. Hereafter, as we shall find, they each severally have and require a distinct nervous organic instrumentality of corresponding elaboration and complexity, for the manifestation of their respective phenomena in this life. Nevertheless, self-consciousness, world-consciousness, and intellectual consciousness, are indissolubly connected. They cannot exist without, but only by and through each other; and under these three phases of mental activity or consciousness, the sensational, the perceptive, and the intellectual, all our psychological phenomena of whatever kind are comprised, and may be grouped.

Self-consciousness, as the earliest, is necessarily the lowest phase of mental development; for in it, the mind, at first, exists in a state of bare receptivity. The senses, indeed, come into play from the moment of birth, but the intelligence is purely sensational; the feelings are simply those of pleasure and pain, and the impulses to action are innate and instinctive. The instincts, as the untaught activities of our animal nature, are innate; as subjective feelings, they arise in obedience to certain laws of our nature, or are brought into action in direct response to stimuli acting upon the sensational consciousness from without. All our actions are automatic, reflex, consensual, and instinctive, at birth; the infant mind responding solely, at first, to impressions from without, or to instinctive feelings from within.

The sudden light, indeed, may dazzle, and a loud noise may startle; but, until the perceptive consciousness has been awakened, the mind is in a state of isolation; it takes no cognisance of an outward world. And thus

we see that the essential phenomena of the sensational consciousness, besides the intuitions of the special senses, are sensori-motor consensual and instinctive feelings and actions. Among the phenomena of the sensational consciousness, common sensibility or feeling, and the capability of receiving pleasure and pain from mere tactile impressions, are primordial—the most universal in Nature and the most essential to human existence. But still strictly consensual are the intuitions of all the special senses, and confined to the sensible phenomena of matter. For we see light, we hear sound, we smell odour, we taste sapor, and we feel pain, heat, and cold; so that it has been truly observed, we have no knowledge of body by any of the senses. What we are conscious of by sense is the sensible phenomenon itself, and not the bodily substance, with which it is connected, either as the proximate cause of the sensation, or as the organ by and through which it is felt; so that the exercise of the senses displays to us five elementary modes of being, logically unconnected with the bodily substance.

But besides the intuitions of the special senses, and the simple elementary feelings of pleasure and pain associated with their functional activity and exercise, we have various subjective sensations, appertaining to the bodily states, both in health and disease. Such are the sensations of the appetites, as in hunger and thirst; and of abnormal conditions of the muscular system, as in cramps, spasms, shudderings, etc. We have painful as well as pleasurable sensations; but pleasure is the natural associate of all the normal actions of life—pain, the exception, acting as a monitor, and revealing to the consciousness the existence of morbid actions and abnormal conditions.

In fine, sensation is the link in the chain of being between the vital and mental forces, connecting together the conscious and the unconscious processes. As a complex act, it lies partly within and partly without the consciousness; but, as soon as embryonic life is passed, it traverses the line which separates the physical and vital from the nervous and mental processes, enters the light of consciousness, and thus becomes a fact, psychological as well as physiological.

*Phenomena of the Perceptive Consciousness.* We have seen that in sensation the conscious mind is solely absorbed in its own subjective conditions or feelings, as induced by the bodily states; but in perception its attention is transferred from these to their interpretation, as expressive of outwardly existing facts, so that perception implies a consciousness of the object which induced the sensation or impression—a recognition of its cause, as something external to the mind itself—an outward reality; and, thus, while on the one hand, sensation is wholly subjective in relation to knowledge, perception is, on the other, objective. The one is self, and the other is world, consciousness; but they are indissolubly connected, and no sooner has the perceptive consciousness begun to dawn, than greater mental activity is manifested, increasing in intensity and energy as the sphere of its action is widened; arising, not only from the direct conflict of the perceptive faculties with the external world, but also from the development of the will or intellectual force, and from the evolution and play of the individual or personal and social propensities and affections, and of the emotional, moral, and religious intuitions and feelings. For, in the second stage of our mental progress, *ideas* are formed and retained in the mind; for *memory* exists, *volitional power* is developed and exercised, and *emotional sensibility* is awakened and manifested.

Perception, through the inlets of the senses, speaks to us from *without*; and ideation, or the formation of ideas, is effected in response to impressions from *without*, by virtue of the primeval harmony which subsists

between the perceptive faculties of the mind and the external world or Nature. For, in perception, as the correlative of sensation, and indicative of its intellectual phase, sensory impressions are *idealised*—that is, translated or converted into intellectual phenomena, and become the pabulum of thought; and thus we see that, in the progress of mental development, to the sensational perceptive phenomena are superadded; these are *ideation* and *volition*, with their associates *memory* and *emotional sensibility*. The genesis of the *will* and of the *memory* is in the perceptive consciousness; for their manifestation is dependent solely upon the presence of ideas in the mind. There can, indeed, be no *volitional* or *determinate action*, any more than there can be any exhibition of the power or faculty of *memory*, without the existence and retention of ideas in the mind; and hence ideation, memory, and volition, are interwoven with each other, and are at the root; when, indeed, the perceptive consciousness is in abeyance, they are one and all suspended.

As the inseparable concomitants of memory, in the development of the perceptive consciousness, the phenomena of the associative principle are far too striking and too important to be overlooked. And although the *doctrine of the association of ideas* by the Hartlian school, and especially by the illustrious Priestley, was to the exclusion of other essential elements of the human mind, carried too far, it nevertheless involves an important principle of great activity and efficiency in our intellectual culture.

The influence of the will on the memory is all important; for, unless the attention of the mind, by an act of the will, be directed and fixed upon an object or event, the *idealised impression* may be so evanescent and transitory that, like the baseless fabric of a dream (in which volition is suspended), it may scarcely leave a trace behind it.

The will, indeed, is a mental element of vast importance; and the power of the mind by the will varying, it is true, in degree in different individuals, and at different times in the same individual, to *determine* and *control* the succession of our mental states, whether of feeling or of thought, is most important, in as much as the intellectual character of every mental process depends upon the manner of succession, and especially on the action of the will in determining the result. It has been well observed, that “the will, or intellectual force, is eminently capable of cultivation by steady intention of mind and habitual exercise; and thus rightly exercised, it becomes one of the highest perfections of our moral and intellectual being. By no quality is one man better distinguished from another than by the power of his will; by the mastery acquired over the subject and course of his thoughts; by the power of discerning what is desultory, frivolous, or degrading; and of adhering singly and steadily to those objects which enlarge and invigorate the mind in their pursuit.” (Sir H. Holland.)

It is true that the will can *originate* nothing; for it is limited in its power and in the sphere of its action to the *selection* and *intensification* of what is *already* and *actually* before the consciousness. In its evolution, it proceeds *pari passu* with that of the higher faculties of the mind, until they reach their dominant development in the highest reason and the freest will; and then it is that an act of the will, embodying the whole man emphatically, involves intelligence, emotion, impulse.

The perceptive consciousness is not limited in the sphere of its action to the mere cognition or ideation of external existences, their sensible qualities and physical attributes. It has a far more extended range; for, excepting the sensational intuitions, all our immediate or intuitive knowledge, of whatever kind, has its origin in perceptive experience—in the direct conflict of the

perceptive faculties of the mind with the external world or Nature. All our ideational activities, appertaining to man as an individual emotional and social, as well as a moral and religious being, are duly evolved and brought into play in the development of the perceptive consciousness; for, *before all teaching*, he has not only an intuitive aesthetic sense of the true, the beautiful, and the good—of sublimity in Nature and of harmony in sound,—but moral intuitions of right and wrong, and religious and emotional of wonder, awe, veneration, and reverence.

Long before he has attained to the utterance of articulate speech—nay, as soon as the perceptive consciousness has begun to dawn, and the power of recognition to be awakened—the child is able intuitively to interpret the tones, gestures, and expressions of emotion, and becomes sympathetically affected by them. In his mind, an intuitive apprehension of right and wrong is attached to certain actions, and evidently precedes any distinct apprehension of the language by which moral truths are conveyed. The blush upon the cheek, and the early sense of shame, come before there have been any trains of thought as to the consequences of misconduct or of crime. In the expressive language of Lord Bacon, “the light of Nature not only shines upon the human mind through the medium of the rational faculty, but by an internal instinct, according to the law of conscience, which is a sparkle of the purity of man’s first estate.” Equally and alike intuitive are his religious emotional feelings of awe, wonder, veneration, and reverence, early developed, and awakened by objects of sublimity, grandeur, vastness, and mystery.

Moreover, closely associated in the perceptive consciousness, with the propensities and affections, and with the moral and religious intuitions and feelings, are the emotional states. Like them, these are all of a composite nature, involving in their manifestation perceptive or ideational activities, as well as sensorial feelings. There are, indeed, certain elementary emotional sensibilities, readily roused into activity, through all the organs of sense, and which, in the absence of the ideational element, may be said to bear the same relation to the true emotions which the instincts do to the propensities and sentiments, as, for instance, joy and fear, etc.; for such is laughter, the expression of joyous emotion, when a mere consensuous act, provoked by titillation on the surface of the body; and such, too, are the trembling fear and shuddering dread from the lightning’s vivid flash, quickly followed by the crash or peal of the loud thunder. But still ideation is the connecting link inter-mediating between the extremes of mental action, emotion and volition—between our inherent elementary emotional sensibilities and impulses on the one hand, and the operations of thought and volitional power on the other; sometimes, indeed, in subordination to the one, and sometimes the other. For Laughter, holding both her sides, when an emotional act, is excited by ludicrous ideas in the mind.

Now, as sensation is the link in the chain of being between the conscious and unconscious processes, the vital and the mental forces, so is perception intermediate between sensation and intellection—the lowest and the highest phases of consciousness or mental development. The intuitions of the perceptive faculties, being often closely interwoven with feeling, and sometimes, especially in regard to our social and moral relations intensely felt, while on the other hand, they furnish the pabulum of thought. And though feeling has no place in the constitution of abstract ideas, or on the processes of logical reasoning, still we have both pleasurable and painful trains of thought and reflection.

[To be continued.]

## DOES THE PERICARDIUM BECOME INVARIABLY ADHERENT TO THE HEART AFTER ACUTE PERICARDITIS AND RECOVERY?

By WILLIAM HINDS, M.D., Professor of Botany at the Queen’s College, Birmingham; and Lecturer on Botanical Science at the Birmingham and Midland Institute.

THE question is difficult to deal with very positively and conclusively: first, because the cases which die, and in which we find the two surfaces glued together, do not reveal to us the possibility or impossibility of a continuance of life or even an apparent recovery; and secondly, because the recoveries, or “apparent” recoveries, as I shall be able to show, are made by patients who may often live long, and may never again pass into our hands—their histories being thus lost to view, and therefore to science.

The view generally adopted with respect to this question may be stated in the following words of an eminent writer:—

“The to-and-fro or rubbing sound is never of long duration, but soon terminates in one of two ways. Either the patient dies in a short time, the sound continuing to the last; and then the pericardium is found coated with rough lymph, but throughout the far greater part of its extent or altogether *unadherent*. Or the sound ceases, never to return, while the condition of the patient improves, or he even seems to himself and to others to recover his perfect health. In these cases, the sound ceases from a physical impossibility of its continuance; viz., from adhesion of the pericardium over the whole or the greater part of the surface of the heart. And in this category of apparent but unreal recoveries, I cannot doubt that many of Bouillaud’s cases of ‘pericarditis terminating in health’ ought to be included.”

With this principle deeply impressed on my mind, I had often been surprised to witness, in many cases which from time to time came under my notice, a recovery with which I now believe, and have a long time believed, that the principle above laid down is not consistent. I will give shortly one or two cases, as examples of the class indicated.

CASE. T. S., a gentleman, aged 27, proprietor of a vinegar brewery, was attacked on August 5th, 1857, with rigors and loss of appetite after exposure. He had also severe pain of the neck, and was unable to move his head. Pain across the chest was also complained of, and some cough. He was treated with expectorants and diuretics, and began to improve; and on the 8th, he was in business amongst the casks. In consequence, his symptoms became aggravated. He was seen on the 10th, and complained of severe pain over the *cardia* and about the chest. He was ordered to bed; and on examination, there was found great tenderness in the precordial region, and especially on pressure upwards beneath the left short ribs. The stethoscope revealed a very loud friction or to-and-fro sound; and in addition, a little *bruit* with the first sound of the heart. The case was treated by local bleeding, calomel and opium, and diuretics.

August 14th. The tenderness was less; the gums were slightly affected by the mercury; and the friction-sound was not quite so rough and loud. The treatment was continued.

August 17th. The tenderness on pressure upwards beneath the ribs was nearly gone. The friction-sound was still less distinct, and the normal sounds of the heart were heard more distinctly. The gums were very tender, and the mercurial fœtor was very perceptible in the breath.

August 18th. All friction-sound had ceased, and a