Instinctive Behaviour in General.

Instinct is a great matter. *Falstaff.*

The study of instinct may be approached from two points of view, the biological and the psychological. It will be considered here mainly from the former; but it seems practically impossible to keep the two aspects of the case permanently separated from each other. Drever, especially, makes the distinction between the two methods, and points out that the biological treatment of the subject deals only with behaviour, whereas the psychological province is in the experience which underlies the behaviour. He admitted, however, that the study of behaviour may be useful to verify psychological conclusions already reached, and as a secondary source of the data of psychology. He also points out that "to understand behaviour as we wish to understand it we must interpret it in psychological terms". But though psychological considerations cannot be left entirely on one side, no attempt will be made here to enter into the psychology of the intellectual processes, for the aim of this essay is to present a study in practical medicine, not in philosophy.

It is necessary to the purpose of tracing the influence of the instinctive factor in the etiology of functional nervous disease to have a clear
clear idea what is implied by the adjective 'instinctive', in order that we may be able to recognise such behaviour when it comes under observation.

There is no lack of definitions of instinct. What Falstaff meant, and what ordinary conversation understands by the word is, undoubtedly, knowledge that is not acquired by experience nor obtained by instruction. Drever (2) puts the same idea neatly as follows:-- "Apparent knowledge without experience; skill without learning; actions adapted to an end without prevision of the end; these are the characteristics of instinctive behaviour."

Romanes did not distinguish definitely between the psychological and biological points of view. His famous definition runs as follows:-- (3) "The name given to those faculties of mind which are concerned in consciously adapted action, prior to individual experience, without necessary knowledge of the relation between the means employed and the ends obtained; but similarly performed in similar and frequently recurring circumstances by all the individuals of the same species". Lloyd Morgan's definition seems a very complete one. (4) He says:-- "We are now in a position to define instinctive behaviour as comprising those complex groups of co-ordinated acts which are, on their first occurrence, independent of experience; which tend to the well being
being of the individual, and the preservation of the race; which are due to the co-operation of the external and internal stimuli; which are similarly performed by all the members of the same more or less restricted group of animals; but which are subject to variation and to subsequent modifications under the guidance of experience".

McDougall lays stress on the cognitive and affective elements in instinctive processes, hitherto somewhat neglected. He writes (5) "we may then define an instinct as an inherited or innate psychophysical disposition which determines its possessor to perceive, and pay attention to, objects of a certain class, to experience an emotional excitement of a particular quality on perceiving such an object, and to act in regard to it in a particular manner, or at least, to experience an impulse to such action".

The invoking of a 'disposition' has been criticised, but considering the practical scope of the "Social Psychology", probably unjustly.

Bearing all these definitions in mind it will still be found that it is not always easy to recognise instinctive behaviour at a glance. The springs of action are four: reflex, instinct, intelligence and reason. These four are in much the same state as morphological characters, inasmuch as they are easily recognised in pure or extreme examples of each, yet their lines of demarcation are somewhat hazy.
It has long been recognised, as the Peckhams (6) point out, that classification in morphology must be provisional and for the convenience of observers, who should know that between adjacent types there is a border zone where they are inextricably mixed. The same holds good in these four psychological classes.

As regards the first two, Stout (7) finds that "Reflex action is of a nature fundamentally different from instinctive conduct. The difference is that instinctive does, and reflex action does not, presuppose the cooperation of intelligent consciousness, including under this head interest, attention, variation of behaviour according as its results are satisfactory or unsatisfactory, and the power of learning by experience".

This difference may be theoretically sound, but the difficulty when we come to specific cases is to know where we are to presuppose these factors, and what our presuppositions may be worth. It would appear also to allow us to say that certain actions were not reflex, but would not help us in assigning them to instinct rather than to intelligence.

As an example of a case where we are not much helped by these criteria we may mention the complicated devices by which many insects provide for their young.

As Fabre says (8) "The hymenoptera become past masters in a host of industries for the sake of a family which their faceted eyes will never behold, and which nevertheless the maternal foresight knows quite well."
One becomes a manufacturer for cotton goods and mills cotton-wool bottles; another sets up as a basket maker and weaves hampers out of scraps of flowers; the third turns mason and builds rooms of cement and domes of road-metal; a fourth starts a pottery-works in which clay is kneaded into shapely vases and jars and bulging pots; yet another adopts the calling of pitman and digs mysterious, moist, warm passages underground. A thousand trades similar to ours, and often even unknown to our industrial system are employed in the preparation of the abode. Next comes the victuals of the expected nurslings: piles of honey, loaves of pollen, stores of preserved game cunningly paralysed. On such works as these, having the family for their exclusive object, the highest manifestations of the instinct are displayed under the impulse of maternity.

Now all these complicated procedures have reference to a result which will never be known to the insect, therefore no variation of behaviour according to results is possible; yet attention and interest are surely present. Are these activities then, reflexes or instincts?

Another example is in the case of the "Spinal" Crayfish. If one leg is seized, it is flexed and drawn up, and later, if the leg is not released, all the others are brought round it and push at the hand holding the limb. (9) Here we have variation of behaviour according to results, but we have surely no right to presuppose interest or attention.
If we could satisfy ourselves in any given case whether intelligent consciousness was present or absent the greater part of the difficulty of the subject would disappear. But as Jennings says - (10) "By observation we cannot tell whether the reacting organism is conscious, for this would require an objective criterion of the subjective - (an objective criterion of that which is not objective) - and this is impossible". Lloyd-Morgan also confesses that the boundary line is hard to draw. When trying to find a formula that shall differentiate instinct clearly from reflex he says: - "If then we say that reflex acts are local responses of the congenital type due to specialized stimuli, while instinctive activities are matters of more general behaviour usually involving a large measure of central (as opposed to local or ganglionic) co-ordination and due to the most widely-spread effects of stimuli in which both external and internal factors cooperate, we shall probably get as near as possible to the distinction of which we are in search. But it must be remembered that there are cases in which the distinction can hardly be maintained". A good specimen of these cases would seem to be supplied by what is known as the "Simultaneous Combination" of reflexes. When a given spot on the skin of "Spinal Animal" receives a number of stimuli, each one of which has its appropriate response, a certain one of these responses obtains ascendancy over the others, (monopolises the final common path), and not only so but also inhibits those responses which would
would oppose its action. The stimuli which in this way generally dominate the situation are those which tend to damage the receiving surface, though the relative intensity of the stimuli, state as to fatigue, and other considerations have their influence*. (12).

In this case of the Spinal Animal the measure of co-ordination and of cooperation between external and internal factors seems already fairly large, but when we consider similar phenomena in the conscious animal - we have a state of affairs more complicated still, and thus described by Head (13) "The simplest physical stimulus acting on the peripheral nervous system may produce different impulses which are incompatible from the point of view of sensation. These are sorted and regrouped; some are facilitated others are repressed, before the final sum is presented to consciousness. Many different impulses remain on the physiological level - never form the basis of a sensation - they are destined to control reflex activity or to co-ordinate movements of the body and limbs."

These acts of sorting, facilitating and repressing that are necessary before a reflex or sensation shows itself, what are they but the manifestation of instinctive behaviour on the part of the centres involved?

We may conclude therefore that there is no hard and fast line to be drawn between reflex and instinctive action.
It may even be that the two are related in development, as J. A. Thompson says:— (14) "It is conceivable that what in some cases required to begin with—it may have been for a million years—genuine behaviour, the controlled co-ordination of a chain of activities, so that they lead to an effective result, may in the course of time be short-circuited and sink to the plane of reflexes, leaving the organisms dis-embarassed and free for fresh adventures."

Intelligence as a factor in behaviour is easily distinguished theoretically from Instinct. The difference cannot be better expressed than in Lloyd Morgan's words (15):— "Whereas instinctive behaviour is prior to individual experience, intelligent behaviour is the product and outcome of such experience."

If we keep this definition in mind we shall find no difficulty in assigning particular acts to their proper class; but when we come to consider behaviour as a whole we shall find that it is often made up partly of acts determined by heredity, and therefore prior to experience, and partly of such acts modified by experience in their performance. It is not always possible to say with certainty where the one ends and the other begins. Darwin, in his observations on earthworms noted that they pull leaves into their burrows by seizing them invariably in the manner that is best calculated to facilitate their entry into the narrow opening. He summed up a large number of observations and experiments on this point as follows: (16) "As chance does not determine the manner in
which objects are drawn into the burrows, and as the existence of a specialized instinct for each particular case cannot be admitted, the first and most natural supposition is that worms employ all methods until they at last succeed; namely that worms although standing low in the scale of organisation possess some degree of intelligence. This will strike everyone as very improbable, but it may be doubted whether we know enough about the nervous system of the lower animals to justify our natural distrust of such a conclusion.”

If we apply Lloyd Morgan’s criterion to this case we have no possible hesitation in classifying the behaviour as purely instinctive. It is expressly stated that the selection of the correct point in the leaf is not the result of trial and error: the “knowledge” involved is therefore imborn. If the conduct were neither hereditary nor the result of trial and error it could only be attributed to a general familiarity with mechanical principles which the life of the earthworm offers the creature no opportunity of learning, even if it had the capacity.

Fabres’s description of the behaviour of the Necrophorus or burying beetle (17) presents conduct that is not so easily classified as the foregoing. The habit of this beetle is to scrape out earth from under the dead bodies of small animals until they are completely buried when they serve as a nidus for the insect’s eggs and larvae.

/ Fabre
Fabre placed a dead mouse on a brick buried flush with the surface of the surrounding soil. A little band of Necrophores began in their usual way to try and bury the carcase, but could make no progress on account of the unyielding nature of the substratum. After working in vain for some considerable time they came out from under the body and began to explore the surrounding earth. They did not do this very cleverly, apparently, since there was a lack of system and of depth in their exploratory excavations; and they soon went back under the mouse and recommenced their fruitless scraping. However, after two or three more journeys into the open they seem to have decided to move the corpse off the brick. This they attempted by all heaving the body according to each insect's private inclinations, with the result that no progress was made. At last they seemed to have hit on the plan of all working together and soon had the carrion on to soft earth and buried.

Another set of experiments consisted in tying a dead mole in various positions to sticks, so as to prevent it being buried. The beetles, after a short time of excavation, noticed that the body was not descending into the grave in the way it should, and they swarmed all over it to ascertain the cause. When the animal was held up by straw bonds encircling the body and holding it to a horizontally supported stick, they found the straws and cut them with their mandibles. When it was tied up by the hind legs they would try to cut through the limbs, and often succeeded in doing so.
When the bones were too tough they left the legs and cut the straw that held them. When the suspension was done with wire they got the body down by cutting through the legs if the bones were young and tender: but when both bones and suspenders were impenetrable the "undertakers" (croque-morts) left the affair altogether and went elsewhere.

With regard to these experiments Fabre gives the preliminary warning that to admit in the intellect of the insect the presence of a lucid knowledge of the connection between effect and cause, the end and the means, is to make a statement of serious import, which is very well suited to the philosophical brutalities of the age. He says of the experiment with the brick that the explorations were unintelligently carried out, and that the beetles took an excessively long time to hit on the correct method.

With regard to the second set of tests he complimented the buriers, but without exaggeration, for he says that in cutting the straw they only did what they are accustomed to do when they have to dig their pits among grass-roots: and that when they were defeated by the hard bones and wire they could have succeeded by a simple manoeuvre which would have dislodged the wire from its supporting twig. He appears on these counts to hold intelligence to be absent. In criticizing this opinion we must bear in mind Dr. Peckham's warning:-(18) "One must be
familiar with the normal conditions of the insects in question before he is able to note those slight changes in environment that offer some opportunity for an adaptation of means to ends, or before he is competent to devise experiments which will test their powers in this direction. While remembering all this and with every deference to the "Insects' Homer", we cannot help thinking that all who adopt Lloyd Morgan's criterion will agree that much of the Necrophorus' behaviour was the result of experience and therefore intelligent. Our judgment in this is fortified by Hobhouse's remark that "When Psychologists take occasional inconsistency as proving the utter absence of intelligence they are using an argument which would equally disprove the existence of intelligence in man". (19).

If we admit the presence of intelligence are we therefore bound to agree that the insect has a "lucid knowledge of the relations between cause and effect"? It would seem that it is not necessary, nor indeed possible, for we have no means of knowing. All that need be present is an acquired association in the animal's mind between two percepts. The case is in the same class as that of Lloyd Morgan's famous chicks, which avoided pecking at bright coloured objects, which they had learnt to associate with an evil taste. (20). The difference between Fabre's estimate, and that of other naturalists may be due to the fact that he does, and others do not, regard intelligence and reason as interchangeable terms.
However that may be, it is not easy in the case of this burying habit to say exactly where instinct ends and intelligence begins. If we say that the digging of the pit is instinctive, and that the heaving of the dead body off the brick on to soft ground is intelligent, what shall we say of the indeterminate movements that come between those two extremes, and accomplish nothing but the agitation of the corpse?

We seem to be quite justified in ascribing the digging to instinct, for it is performed by all animals of the species prior to experience of its results; and in ascribing to intelligence the cutting of the upper attachments, for the operation results from experience of cutting the grass-roots that obstruct the digging impulse. The whole act of burying the animal is therefore partly instinctive and partly intelligent, and in its entirety cannot be classified as one rather than the other.

It can sometimes be observed that what is a fixed and invariable instinctive act in one member of a species may become modified by intelligence in another member. For example - There is a Sphex which collects crickets for her burrow, but she does not take them straight into the hole on reaching home. She drops them at the entrance and runs forward into the nest, apparently to see if all is well inside. Then she comes out again and pulls the cricket head first into the burrow. Fabre took advantage of the wasp being inside to move the victim several inches from the hole.
The wasp came out, found the body, took it to the entrance, left it there a second time and went underground again by herself to explore the den. Fabre again and again repeated the trick, and the wasp went through the performance forty times in succession, which exhausted the patience of the philosopher and he tried no more.

The Peckhams (21) tried the same manoeuvre but their wasp realised the position after less than half a dozen repetitions, and took its cricket straight into the burrow without any preliminary inspection.

However much we may feel inclined on theoretical grounds to agree with Bergson's (21) opinion that instinct and intelligence are on utterly different evolutionary levels, yet in face of such observations as we have cited, I think it must be conceded that the two are closely associated in the domain of behaviour. In fact Lloyd Morgan, in the definitions of instinctive behaviour just quoted, lays it down as part of essence of such conduct that it shall be modifiable by experience; which is to say that it shall often be seen working in association with intelligence.

In ordinary conversation "intelligence" might perhaps be taken to include "reason"; but for the purposes of technical discussion of behaviour it is better to make a distinction between the two.

It is usual to limit the scope of reason to those actions which are prompted by a conscious
consideration of the past with reference to the future; while intelligence may be attributed to any activity which is the result of experience.

In man it is generally possible to differentiate between these two by introspection and analogy; but in animals, as we have already remarked, no such certainty is attainable.

An example of reasonable conduct is afforded by the man who digs an irrigation channel through his land. He has observed that his crops die in summer if not watered. He has also observed that if he digs a canal from a neighbouring reservoir through his land, water will flow over his fields if the reservoir is at a higher level than the fields. He therefore makes his irrigation system in anticipation of reaping crops to supply his needs.

For an illustration of intelligent action in the restricted sense, we may go to the learner at a game such as golf. In the course of the game he frequently has to project the ball to a distance of, say, fifty yards when approaching a hole. By dint simply of making a great many strokes he learns to associate a certain expenditure of strength with a fifty-yard "shot"; and if after much practice he frequently employs too much or too little strength he is said to be an unintelligent player. In this case no amount of conscious consideration of the past or anticipation of the future will help him the least. All that has to take place is a linkage between the two percepts, strength employed, and distance of the ball's flight.
And yet the knowledge of the amount of strength to be applied does not come within our definition of instinct; for it is by no means inborn, but is the result of much experience.

Examples of intelligent activities are very common in animal life. Young birds peck at all objects and learn to associate certain appearances with unpleasant taste and select their food accordingly. Animals shut up in cages learn by experience that the touches of certain latches open the door, i.e., they associate the pressure on the latch with opening of the door and freedom. (23) But it is doubtful whether rational behaviour is ever found except in man. At any rate it is not necessary, as far as we know at present, to assume that animals have the power of consciously reflecting on past experiences with a view to shaping their conduct towards a mentally conceived goal. The negative of this assumption is, of course, hard to demonstrate; but so long as animal behaviour can be explained without the assumption no disproof of it seems to be required. At the same time consideration of animal behaviour shows that it cannot be explained solely in terms of association of two or more percepts. Hobhouse (24) finds, for instance, that dogs are capable of (a) making class inferences. This he exemplifies by the fact, among others, that dogs which he observed were able to find their way out of strange houses in a few seconds, thus proving that they could deal with objects presenting a general / similarity
similarity to those already known to them. (b). They are capable of knowledge of the object as the centre of relations. To perception any object is the centre of many relations. Experiment shows that animals are able to avail themselves of any particular relation that serves the purpose of the moment, and to be guided by desire to find out what is out of the range of perception. (c). Animals as well as men are capable of knowing individuals and recognising them as such, and (d), some animals, especially monkeys, are able to apply their experience. While these observations show that association is insufficient to explain completely the behaviour observed, they do not seem to demand the acknowledgement of rational processes. Hobhouse asks for recognition of the fact that they imply the power to form practical judgements from concrete experience, without awareness of relations as such, or of order as such, or qualities as such. Granting the usefulness of this nomenclature or even its indispensability, do we not here seem to have arrived at a border country between reason and intelligence, (especially in observation (d) relating to the application of experience), where only by constant effort can we keep the two territories separate in our minds?

Our survey of this interesting subject has necessarily been brief and imperfect. Its purpose will, however, have been served if it has justified
the initial observations as to Instinctive Behaviour. Namely, that though we can define it with fair precision, yet it passes by imperceptible gradations downwards into Reflex Action, and upwards through Intelligent to Rational Conduct.
The Primary Instincts of Man.

When we use the adjective "primary" in connection with the instincts we imply that they are not always seen acting in an unmixed or pure condition; and this is certainly the case. The instincts interact on each other, and the cognition of any object frequently arouses several conflicting or cooperating emotions; so that the conduct that finally ensues must be something like the algebraic sum of several impulses. It becomes, therefore, important to have some rule for analysing these complicated activities, and for enabling us to describe the elements of which they are compounded. McDougall (25) gives the principles for the recognition of the primary instincts. The first is that they shall occur among the higher animals in a clearly observable form; the second is that they shall sometimes appear in man with morbidly exaggerated intensity, apart from such general hyperexcitability as is displayed in mania. These two principles work very well in practice and often enable us to reduce the confusions of human conduct into clearly recognizable constituents.

The principal instincts of man, thus isolated, are those of fright, repulsion, curiosity, pugnacity, self-abasement (or subjection), self-assertion, (or display), the parental instinct, the reproductive and gregarious instincts. Each of these instincts has its proper emotional or affective element, though the emotion of the last has no name in popular use.
The emotions of the others are respectively, (according to the same author), fear, disgust, wonder, anger, subjection or negative self-feeling, the tender emotion, and love in the restricted sense. Of these instincts the most important for our present purpose are those of self-assertion and self-abasement. The others, no doubt, play their part in the etiology of functional disorders, and we shall consider some of them later, but in everyday life these two, which we may perhaps group as the self-regarding instincts, seem to be predominant.

The Instinct of Self-Assertion, or Pride. (1)

As was observed long ago by the Autocrat of the Breakfast Table, the third vowel is the natural centre of everybody's circle of life. Five minutes conversation with some persons will give the physician knowledge of a sufficiently large sector to determine the whole circumference; while the arc of other lives is so large that it hardly differs from a straight line. The Autocrat considered that the largest intellects betrayed their circular nature the least, and the smallest ones the most clearly, and thereby invested his analogy with that justice, which has become proverbial, and notorious, as "poetic". As a matter of fact unless we are to consider nearly all the greatest soldiers, most poets, and artists generally, many great divines, and, also, several leaders of scientific progress — unless these are all to be classed as small intellects, we must
give up the idea that the underlying egotism of great men is less easily demonstrated than that of smaller natures.

The instinct of self-assertion or display is recognised on its comative side by conduct which is known to boys as "showing off", its affective or emotional aspect is known as positive self-feeling, or elation, and is pleasurable, and the instinct is evoked by success in the primary activities of life such as War and Sport, Love and Reproduction. It is classed among the primary instincts because it is clearly observable among the higher animals and frequently occurs in man in a morbidly intense form.

Everybody is familiar with the assertive display of birds, horses and dogs, — how their gait is altered, how their natural ornaments are displayed, and all other impulses, even that of hunger, neglected in order that the emotion of positive self-feeling may be expressed. We will soon consider its morbid exaggeration in man.

The chief uses of the instinct are three:

(a) It is an accompaniment, and assistant to the sex-instinct. The association between sex and display is so obvious as hardly to need mention. Clothes and courting are associated words all over the world.

(b) In the form of personal ambition it tends on the whole to improve the individual chances of survival.

(c) As national pride, though it sometimes brings a people to ruin, yet it generally stands for success in the international race. Without it there would be no continuity in plans for tribal improvement, and no cohesion
cohesion in efforts for the protection of the fatherland. It is only to be expected that an impulse of such importance should sometimes show itself in exaggerated morbid forms. These forms are familiar to all in such diseases as general paralysis of the insane, and in that psychosis of youth known as pseudolallia fantastica, in both of which conditions the "showing off" consists in boastful false accounts of the subject's physical or mental powers. Morbid exaggeration too, though less within the domain of disease, is often seen in the extravagant fashion in dress, or freakish ornamentation of the person so common in all races and times.

Queen Elizabeth's wardrobe, in 1600, consisted of 1075 dresses and mantles of different kinds without counting her coronation and parliamentary robes. Moreover the fashions of the period showed almost incredible folly in their vagaries. "The ruffs were one of the most monstrous fashions of the time. They were worn by men and women alike, and were made of the finest lawn or cambric. They were at least a quarter of a yard deep, and were made to stick out stiffly round the neck either by being starched or by being supported with an elaborate arrangement of wires. Stowe, a historian who lived at that time, says that he was held to be the greatest gallant or beau who had the deepest ruff and the longest rapier. At last Elizabeth had to place grave, selected citizens at every gate to cut the ruffs and break the swords of all passengers if the former exceeded a yard wanting..."
a mail, in depth, or the latter a full yard in
length". (26)

One of the greatest of Napoleon's generals,
Murat, was curiously attired during a formal entry
into Warsaw. "His charger's bit, and stirrups, were
of gold, his saddle-cloth a tiger's skin and he himself
was ablaze with gold and colour. He wore red leather
riding boots, white breeches, a tunic that showed
only a mass of gold embroidery, a diamond-hilted
sword of scimitar shape suspended by a jewelled
baldric, a pelisse and shako of costly furs, the
latter with ostrich and egret plumes held by a
diamond clasp". (27). To prove that this was an ab-
normal extravagance it is recorded that Napoleon
refused to see him while thus dressed "like a circus
rider" and made him change into a more soldierly kit.
The study and homage devoted to "keeping up appearances"
that makes slaves and malcontents of so many otherwise
blameless souls is due to morbid exaggeration of this
instinct. The highest aspirations and the most
fundamental conditions of happiness are ruthlessly
sacrificed to it among civilised people. This has
never been more trenchantly exposed than by Thackeray
in his 'Book of Snobs'. The sordid pre-occupations and
pitifully-comic tribulations of the Pompo family
illustrate it well; and he justly classes such miseries
together with the Chinese habit of foot-compression.
"You stuff", he says, "the little rosy feet of a Chinese
young lady of fashion into a slipper that is about
the size of a salt cruet and keep the little toes
there imprisoned, and twisted up so long that the
/dwarfishness
dwarfishness becomes irremediable. Later the foot could not expand to the natural size were you to give it a washing-tub for a shoe, and for all her life she has little feet and is a cripple”. Nor did he overlook the horrible restrictions on marriage that were the bane of middle-class existence then as now. "And here's the wreck of two lives, mused the present snobographer, after taking leave of Jack Spigott. Pretty Mary Lovelace's rudder lost, and she cast away, and handsome Jack Spigott stranded on the shore like a drunken Trimculo. What was it that insulted Nature, (to use no higher name), and perverted her kindly intentions towards them? What cursed frost was it that nipped the love that both were bearing, and condemned the girl to sour sterility, and the lad to selfish bachelorhood? It was the infernal Snob tyrant who governs us all, who says, "Thou shalt not love without a lady's maid; thou shalt not marry without a carriage and horses; thou shalt have no wife in thy heart and no children on thy knee without a page in buttons, and a French bonne. Thou shalt go to the devil unless thou hast a brougham... Wither poor girl, in your garret; rot, poor bachelor, in your club".

The perverted emotion of positive self-feeling in this mean style has formed the motive of great fiction no less than the emotion of love! Meredith's Evan Harrington and Balzac's Le Père Goriot being good examples. Under forms equally distorted, but perhaps less mean it is known as ambition, and has inspired Shakespeare's characters of Macbeth and Coriolanus.
And the instinct of display rules Mark Antony even in the face of death; for in the same breath that he calls for Eros’s sword-thrust he apostrophises Cleopatra’s spirit with this bombast:

"Stay for me!

Where souls do couch on flowers we'll hand in hand,
And with our sprightly port make the ghosts gaze.
Dido and her Aeneas shall want troops.
And all the grove be ours."

It is therefore plain that this instinct is of fundamental importance in human life, sometimes proving itself the rival even of love and hunger; that it is closely linked with the preservation of the individual and the race; and that it is liable to aberrations which may influence human conduct in a variety of unsuspected ways.

The Instinct of Self-Abasement with its emotion of negative self-feeling or subjection shows itself in crouching, cringing, or slinking attitudes of body or (in the civilised) of mind. The pain may be either physical, such as that experienced in surgical operations, corporal punishments or accidental injuries, or mental such as is produced by failure in the primitive human occupations of love and reproduction, sport and war: and the fear may be that crude terror experienced in the shadow of death, or that vague uneasiness felt by a man in the presence of those who are stronger than himself. Its object from the point of view of the community is the subordination of the private personality to the general good which shows itself as respect for public opinion, and which is so necessary to the cohesion of society.

/ Cassic's
Cassio's despair (in the play of Othello), when he thought his reputation lost in a drunken brawl, shows how strong a force this regard for public opinion may be. Its object, as far as the individual is concerned, is the propitiation of a superior power; and this easily passes into the attempt to gain sympathy or pity. The conative side of the instinct is seen in man in the bowing and scraping, doffing of hats, curtseys, exordiums and perorations of letters etc., all of which originate in the fear of, or desire to propitiate, a superior personality. Similar states of mind occur as the result of receiving an injury. The writer has known an Asiatic fall on his knees, and salaam repeatedly on being accidentally shot by a soldier on the range: And the following note appeared recently in a newspaper:—"Thank you, my lord, and good luck to you!" said a man sentenced to six months' hard labour for housebreaking.

Everybody, moreover, must be familiar with the change that occurs in a clever, but lazy, school-boy from conceited idleness to humble and efficient industry, as the result of a good caning.

The instinct is easily recognised in some higher animals, especially in dogs. As McDougall excellently describes it:—(2f) "The nature of the instinct is sometimes very completely expressed in the behaviour of a young dog on the approach of a larger, older dog; he crouches or crawls with his legs so bent that his belly scrapes the ground, his back hollowed, his tail tucked away, his head sunk.
and turned a little to one side, and so approaches the imposing stranger with every mark of submission."

To the other test of a primary instinct - that of occurring in morbidly exaggerated form in man - this instinct exactly conforms. Exaggerations of humility leading the patient to believe he has committed the unpardonable sin, etc., are too well known to need further reference; but, apart from insanity, exaggerations amounting to aberrations of the instinct are frequently met with. Henry II in his fear of the Pope after the murder of Thomas à Beckett is said to have walked bare-footed to Canterbury Cathedral, and to have lain all night without food, and to have caused himself to be scourged on the bare back by all the Bishops present. S. Julien l'Hospitalier (29) forsook a gilded palace of pleasure to live alone in a mud hut on the shores of a wintry firth, where he slept on dried leaves, and ate no meat, where mosquitos made the brief summer intolerable, and dreadful frosts killed all but the strongest in winter: and, these hardships being insufficient to appease the instinct of subjection, he finally stripped, and lay skin to skin with a leper and so lost his life. In the East excess of negative self-feeling induced by religious exercises is common. Juggernaut is, by this time, a household name in Europe, and other forms of self-immolation are numerous in India. But it should be noted that though such exhibitions begin as negative self-feeling, yet by the time they reach such extremes as to compel the sufferer to commit suicide in public, they have probably undergone some transformations.
Moderate excitation of the instinct seems to give pleasure, especially to women. There can be no doubt that the maiden who proclaims herself as less than dust beneath the chariot wheels of her beloved, experiences no small satisfaction from so doing. The congregations also of certain churches or conventicles seem to derive satisfaction from abasing and vilifying themselves, just as the Arab does from his prostrations at sunset. But if the stimulus to this instinct exceeds moderate limits then the emotion of negative self-feeling which is aroused becomes unpleasant in its intensity and ultimately may be quite intolerable. The way of escape from this which the sufferer frequently adopts is to indulge in acts of self-display which arouse the emotion of positive self-feeling, which neutralises the painful self-abasement that has hitherto existed.

It is probable that this was the origin of rending of garments, putting dust on the head, etc., which are still seen in the East. I would suggest also that funeral pomps were instituted to assuage the negative self-feeling aroused by the death of prominent tribesmen; and there can be little doubt that the Indian, who is swung, by hooks passed through his flesh, above the heads of an admiring crowd, finds in that admiration ample redress for the depression that his pangs must cause him.
= HYSTERIA =

I have endeavoured in the preceding remarks to indicate some of the springs of action in animals and in man; and we have noticed that it is by no means easy to draw the lines between reflex, instinctive, intelligent and rational actions. The role of the instincts of self-display and of self-abasement (the self-regarding instincts) has also been emphasized in regard to human conduct. Upon these considerations it seems possible to develop a satisfactory theory of "hysteria" in certain of its aspects.

Some of the phenomena to be explained are:-

(a) Sensory, such as localised anaesthetic areas of the body, paraesthesiae, defects of special senses;
(b) Motor, such as hemi- or mono-plegia, aphonia and dysarthria, contractures, spastic phenomena, tremblings; epileptiform attacks; (c) Disturbances of reflex actions such as that of micturition; (d) Digestive - such as gastric pain, loss of appetite, borborygmi, diarrhoea; (e) Respiratory, such as asthma, "hay-fever", sneezing, coughing and hiccough; (f) Circulatory, - such as palpitations, syncope, pseudo-angina and vasomotor disturbances. That these manifold symptoms shall be considered hysterical it is essential that they shall be devoid of any basis of structural change in the organs concerned; that they shall be removable, at any rate temporarily, by some form or other of persuasion; and that they shall not be produced by the conscious, purposive action of the patient.

/ The
The first of these criteria is obviously not easy to establish in all cases for anatomical reasons. Even the most skilful physician may have been puzzled at times to say whether an early case of disseminated sclerosis, for example, was organic or functional; and the problem is further complicated by the frequent addition of hysterical phenomena to structural disease. Fortunately, however, many of the manifestations of hysteria are incompatible with a diagnosis of lesions of the great systems - as "stocking anaesthesia" is with any possible spinal lesion.

The second diagnostic method is the most reliable and is specially favoured by Babinski (30) who has proposed calling hysteria pithiatism in consequence of its being amenable to persuasion. If symptoms like paralysis can be seen to disappear under any form of persuasion from gentle conversation to the brutal application of painful stimuli, then it is of course quite certain that the disease cannot be due to gross structural change.

The third criterion is the most difficult of all to apply for the reason that the conscious and unconscious activities of any organism are exceedingly difficult to separate from each other. The fact that several names: - unconscious, subconscious, co-conscious, (31) unwitting, (31), are in use shows that either the ideas or terminology of the subject are not yet completely clear. Nevertheless, in spite of this we have, when confronted by a case of supposed hysteria, to make as sure as we can that the patient is not carrying out a pre-arranged and calculated plan for outwitting the doctor to gain his own ends.
The only things to depend on are a very careful physical examination which may disclose contradictory symptoms, and the employment of such common sense and knowledge of human nature as we may be able to command. In the cases to be quoted here it should be taken as stated that the diagnosis was arrived at by the application of these principles as far as circumstances allowed.

The following belongs to a common class of case. A girl of about 18 years of age was seized at night with dyspnoea. Her parents were greatly alarmed and thought she was going to die. I saw her soon after the onset of the trouble. The room was full of anxious relatives, and the patient was sitting up in bed breathing rapidly, and with slight laryngeal noises. She seemed in terror of suffocation and moved about restlessly. Her complexion was rosy. The respiration resembled that of a runner rather than that of an asthmatic. No trouble could be discovered in the upper air passages. A complete physical examination of the chest did not disclose any disease. The treatment adopted was to empty the room of everybody except one old woman. The patient was then reassured and induced to lie still, and in a short time she was asleep for the night, breathing normally. Enquiry elicited that she had quarrelled with her sweetheart on the day preceding the attack and had, of course, been brooding over the event when the illness began. The points about this case were the patient's great distress, real fear (as far as could be judged) and the relief that was afforded by a thorough physical examination.
and a few reassuring words, together with the banishment of spectators from the apartment.

Another case, also of a common type except for the age of the patient, was as follows. A man between 60 and 70 years old sent an urgent message for assistance on account of "strangulated hernia". I found him lying on the floor, wearing a suspensory bandage and a double inguinal truss. He seemed to be terrified and in pain, and stated that in addition to the strangulation he suffered from varicocele. A complete examination revealed no sign of any kind of disease. It was with great difficulty that he could be induced to believe that he was not ill, but eventually he accepted the new idea. His history was that he had been afflicted with varicocele and hernia, which "often became strangulated" ever since the death of his son in action about a year previously.

A third case is that of a schoolboy who, after a "ragging" episode of which he was the victim, exhibited from time to time attacks of spasmodic rigidity of the limbs and body during which he talked a good deal, giving vent to nonsensical "patter" such as is heard in music hall "turns". The seizures varied in duration from a few minutes to several hours and were not remembered by the patient. Removal from school combined with open-air employment rapidly effected a cure; but he had later a slight relapse following an unfortunate love affair.

These cases illustrate very well the occurrence of hysterical symptoms preceded by injury to the patient's "amour-propre", in other words by a stimulus
to the instinct of self-abasement arousing an emotion which became intolerable. The girl had been depressed by her lover's hard and perhaps unjust remarks; the old man, his personal ambition long dead, had been baulked in his second ambitions entertained on behalf of his son; the schoolboy had to face the gibes of his companions and was made to feel acutely that he was an inferior person in the estimation of the savage little world of school. All three suffered the same emotion of subjection; and for all three the busy coming and going of doctors, the hushed voices of the household and the anxious enquiries of friends afforded the same consolation by rousing and satisfying the instinct of self-assertion. In the case of the girl the emotion of subjection or negative self-feeling was evoked by failure in love, or in other words by a blow to the reproductive instinct; in the case of the old man it was evoked by a blow to the parental instinct; and in the case of the boy by fear.

That such injuries to self-esteem can produce disordered conduct is, of course, no new idea. In 1887 Bristow quoted Sir Thomas Watson as saying when lecturing on hysteria: "Behind the moody, reserved and tricky behaviour there often lies some mental or emotional cause - some hope deferred or disappointed - which being ascertained and capable of satisfaction and satisfied, the patient may be restored to her customary health." (33).

Simple physical pain is not so often an excitant of hysterical manifestations as is 'mental trauma'.

/Possibly
Possibly this is because physical pain does not as a rule last so long or act so continuously. Nevertheless cases with this origia are often observed. Examples are the following: (a) A middle-aged lady of highly sensitive temperament knocked her shin violently, by accident, against some hard object. A bruise and small abrasion resulted. Following this the leg became paralysed, and the patient could only get about on crutches or in a wheeled chair. The leg wasted considerably, and, though not anaesthetic, resembled a paralysed limb. She came under my care two or three months after the injury. A careful examination did not reveal any disease, and under suitable moral treatment she rapidly recovered and took to playing golf. (b) A young girl had to undergo a slight operation for the removal of a sebaceous cyst. This was done under imperfect analgesia. She began to suffer shortly afterwards from anorexia nervosa which persisted for some years to the wonder and distress of her household. (c) The cases sometimes seen in war and especially described by Pitres and Laffaille (34) of paralysis of the hand following an uncomplicated flesh wound of the arm. All these cases can be explained in the same way as the previous ones if we remember that bodily pain is one of the excitants of the instinct of self-abasement.

Occasionally the instinct of self-assertion, without any traceable previous depression, is responsible for hysterical symptoms; but such symptoms are merely due to an unnaturally strong desire to be in the "centre of the picture" and have not, as a rule, the emotional force
force that accompanies the phenomena arising from
an intolerable feeling of self-abasement; and hysteria
which cannot be traced to an antecedent depression
is not of a very intractable or severe type. It
often occurs in children, who dearly love to be
the focus of attention of their elders. Hector Cameron
has especially drawn attention to this type (35) and
mentions a boy who called out the word "Stomachs" for
many days with almost insane persistence merely to
keep alive the excited interest of his parents. The
following case is perhaps more definitely hysterical
in type. The parents of a little boy were very anxious
that he should grow more quickly, and consequently
meal times became given over to exhortations to him
to eat. He soon grew aware of the fact that when his
appetite was poor he was a person of great importance
in the household, and the final result was that he
became the victim of a very marked anorexia nervosa
which persisted till he went to a boarding school.
Nobody in this institution cared much whether he had
an appetite or not, and a permanent cure was soon
established without any special treatment.

Of the primitive human preoccupations in
which failure is apt to produce hysterical symptoms,
none is more important than the business of reproduction.
The very word hysteria indicates the frequency with
which disorders of reproduction are accompanied by
disturbance of the functions of other systems of the
body. The explanation of this probably lies in two
facts: one, the importance and imperiousness of the
instinct and the other the close association between it
and the instincts of self-display and self-abasement.
A pompous, assertive manner is characteristic of the primitive male lover, and a submissive, self-effacing demeanor is characteristic of the female. It is here suggested that as the instinct of subjection is more highly developed in the woman than in the man, so the painful excess of its emotion, negative self-feeling, will more frequently occur; and consequently the phenomena of hysteria will be mainly found in the female in ordinary life.

It is not surprising that until recently the reproductive instinct should have been held to be associated with the majority of hysterical cases seen, for it and the self-regarding instincts are the only ones that hold extensive sway among civilised populations; and the self-regarding instincts have been inexplicably neglected by physicians. But with the advent of the war another equally powerful impulse found extended scope: viz.—the instinct of flight or self-preservation with its affect or emotion of fear. After hostilities had begun it was promptly recognized that fear was a first-class agent in the production of functional disease.

One of the first cases that came under my care was the following:—An officer of robust build was subjected to the usual stresses undergone in the forward area. He bore it patiently for a time and then began to exhibit a condition of spasmodic torticollis. This was worst when he was talking to anybody, and though it was quiescent when he was alone, it started again the moment anybody came into the room. Treatment in the zone of war proving useless he was sent to the
base and to England. At home he gradually became cured under the influence of pleasant surroundings and was eventually sent back to the front. After a short stay amongst the scenes of battle the disease reappeared the same as before and he was sent home again, and it was unfortunately impossible to trace his later history. Many similar cases came under my care. The most common symptoms were paralyses, tics, spasms, aphasia, dysarthria, etc., which necessitated the prompt despatch of the sufferer to the base. Sometimes the symptoms came on directly the first shell burst, sometimes at the end of a long exposure to danger and hardship. An interesting feature, often reported, and to which Babinski attached much importance (36) is that the symptoms frequently come on after an interval of "incubation". I found that this was true as a rule when the disability prevented locomotion, but not necessarily in cases such as mutism where the patient's powers of getting about were unaffected. Two good illustrations are afforded by the following notes: Second-Lieutenant Y, aged 22, one month in France, all the time in the line. After being with a working-party which was employed in a dangerous place he returned to a dug-out and was all right when he arrived. He slept till morning when he discovered he could not use his left arm and leg. He told the doctor he could not move and was sent to hospital on a stretcher. In hospital he stated that a year ago he had been in hospital for a month with "nerves" following a bomb explosion (accidental). He could give no details of his 'nerves' except that he slept badly and was shaky
in his legs. On examination the left arm and leg were flaccid and no voluntary movements could be carried out with them. No anaesthesia present. Tendon reflexes normal. Orbicularis oris and platysma on left side were twitching continually. After a few days' rest in hospital (during which the twitching of face and neck ceased) he was anaesthetized with ether which was only pushed far enough to produce excitability and struggling. He yelled words of command at the top of his voice and struggled violently with his unparalysed limbs. He was allowed to come out of the anaesthetic and told to move his arm and leg, but he would not do so until I re-applied the mask, when he began to move them after a few inhalations. He was made to walk immediately after this and in two days was perfectly well and taking long country walks.

The second case is that of Lieutenant G, aged 34. In front line for 3 months. Went into an exceptionally bad place two days before admission to hospital. Saw the infantry on his left falling back and was very scared. Kept his machine gun in a shell hole all day and was shelled the whole time so that he had more than once to move to another hole as the ones he was in were blown in. This state of affairs continued through the night. In the end he became so dazed that he had not the sense to move even when a safer place was available. Was relieved at 3 a.m. after having 11 casualties out of the 25 men in his squad. Three were killed. When relieved he walked back through heavily shelled areas. On reaching reserve trenches his C.O. ordered him to the transport.
lines to get a good breakfast. He remembers nothing after having breakfast. Does not remember being admitted to hospital. State on admission:- Right arm and leg powerless. Irregular patches of analgesia to pin-prick in paralysed limbs - quite deep stabs produced no sign of pain. Tendon reflexes of affected limbs much diminished. No other abnormal physical signs. Mentally very irritable. Recovery occurred in a couple of days under persuasion.

On first considering this class of cases they seemed to me to be attributable to the same instincts as the hysterical phenomena of civil life, - an intolerable excitation of the instinct of self-abasement followed by conduct which would minister to the instinct of self-display and produce its emotion of positive self-feeling. It seemed that in the awakening of terror by sights and sounds that one's comrades were able to face better than oneself there was ample cause for the production of the deepest degrees of negative self-feeling. But further observation suggested that though this might be true in some cases, in many the explanation was not applicable. In the first place, long association with officers collected in a "shell-shock" centre led irresistibly to the belief that not a few of them differed from their comrades who remained in the trenches in being to a great extent impervious to shame. The fact that they could not face gunfire did not seem to them to be extraordinary or a cause of depression any more than a dislike for milk or eggs (for example) seems shameful to those who have the dislike. / Secondly,
Secondly, if they did feel ashamed their amour-propre could not receive any satisfaction when they "went sick". The regimental commanders considered such officers a nuisance and a danger and did not scruple to tell them so; the men serving under them, while not despising honest fear, openly sneered at an officer who went sick with nervous troubles; and when the "shell-shocked" got into hospital he found himself one of a crowd and of no particular interest to anybody. In short, it became in time a blot on a man's record if he had shell-shock. I was therefore driven to the conclusion that the functional nervous diseases seen in war were in most cases developed directly in satisfaction of the instinct of flight. The appearance of aphonia or paralysis, for example, ensured that the sufferer would be rapidly evacuated from the firing-line to the comparative safety of a hospital. The fact that disorders of locomotion did not come on until the danger was passed pointed to the utilitarian nature of the symptoms, for if a man became unable to move when in the danger zone his danger would be greatly increased, but if the symptoms developed later they would save him from a repetition of the risks. It is not suggested that these men consciously simulated disease in order to escape danger; for when soldiers set out to render themselves ill with a forethought purpose of being evacuated they wound their hands or feet, put irritating substances in their eyes or inject caustics into their muscles, etc. What is proposed is that the 'hysterical' phenomena arising in the firing-line constitute an unreasoned obedience
obedience to the imperious instinct of flight, whereas self-inflicted wounds and conditions such as dermatitis artefacta illustrate the same instinct employing reason for its satisfaction. With the former may be classed Fabre's insects preparing palaces and larders for progeny they will never see, or the young human female beautifying herself and seeking the society of men before she understands the full meaning of sex; whereas the latter is equivalent to the conduct of the man who dams the stream in the knowledge of the coming drought of summer.

We have already seen how infinitely resourceful the living organism is in satisfying the impulses of blind instinct, and we have also seen how hard it is to say exactly where that blindness begins to be illuminated by the first glimmer of intelligence and reason. It is surely no more and no less wonderful that functional disorders should arise in man under the influence of an instinct that that a beetle should sham death when frightened or a bird pretend to be wounded under the influence of parental instinct. Whatever the explanation of the instinctive reactions of the lower animals may be, that also is the explanation of hysteria in man, and is permeated with the same difficulties of allotting the proper values to conscious and unconscious conation in any given case.

It has been objected, as an example of these difficulties, that such a condition as cutaneous anaesthesia cannot be considered as under the control of the mind: yet Hurst (37) mentions a case where a man who was
anaesthetic in his feet when awake, could, when asleep, be awakened by a touch on the anaesthetic area. More formidable objections can be put forward in regard to such phenomena as palpitation of the heart, borborygmi, dermographia and similar vasomotor troubles; and it seems difficult to believe that such symptoms can be the attempt of the subject to satisfy an instinct. In this connection we should begin by remembering that the diagnosis of hysteria has, in the past, been sometimes rather light-heartedly made, and too great reliance has been placed on the stigmata. In fact, Babinski, after an exhaustive research into such cases, disbelieves entirely in the hysterical origin of trophic and circulatory disturbances. As he quaintly expresses it, the deductions from observations made on these conditions have been "vaines, entachées de nullité". (36). But if this opinion be held to represent merely the extreme of the reaction against the old school of the Salpêtrière, the occurrence of such symptoms need not be held as inexplicable on the theory of instinctive response. Considering, for example, the almost uncanny gift of the omentum of inserting itself into dangerous lacunae in the abdomen to keep out the more vital viscera, or its power of enveloping and limiting the extension of infective foci; or, again, considering the hypertrophy of the kidney or testicle whose fellow has been removed, or the complicated adjustments occurring in the repair of bone, or the increase of red blood cells that occurs when oxygen is lessened in the air breathed, or the efforts of the tissues to encyst
encyst or extrude a foreign body, or the extraordinary complication of reactions required to vomit an irritant from the stomach, - considering all these efforts of the unconscious tissues in defence of the life of the body we are surely not justified in denying to the lower centres of the brain the power of modifying vasomotor, trophic or peristaltic conditions in furtherance of the purposes of a sufficiently powerful instinct, working as all instincts do, mainly below the level of conscious thought.

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NOTE ON TREATMENT AS AFFECTED BY BIOLOGICAL CONSIDERATIONS.

The treatment of hysteria has been successfully carried out in a great variety of ways. Janet, divides the available methods into groups: (a) Moral influence and the utilization of automatism, (b) Psychological Economies, (c) Psychological Acquisitions. Under the first of these comes religious influences such as the cure at Lourdes, "Christian Science" and similar methods, suggestion and hypnotism. Under the second, rest-cures, isolation-cures and psycho-analytic methods. Under the third, the methods of re-education, stimulation and physiological adjustment.

Each of these methods has had its exponents who have practised their particular favourite to the exclusion of all others. The wisest physicians have made use of them all according to the requirements of circumstances and each individual case, and have frequently combined such as are not incompatible with each other. Though many teachers claim that their method produces a complete and permanent cure, it is doubtful if any treatment can remedy what used to be called the hysterical diathesis. The symptoms can be abolished and the patient brought to a healthier frame of mind, on her guard against the onslaughts of the "unconscious", but when unfavourable conditions recur it is very likely that she will again fall a victim, even if to a less degree than formerly.

Patients
Patients who have undergone a very long and expensive cure are less likely to return to the same physician when they relapse than are those who have been cured "cito, tuto, et jucunde"; hence the difficulty of judging the results of the more elaborate treatments.

If it is agreed that the origin of the symptoms is the exaggeration of an instinct, or the impulse of some thwarted instinct satisfying itself as best it can, the first step in treatment will be to ascertain what that instinct is. It may be positive self-feeling or negative self-feeling, or one of these combined with the sexual, or possibly the sexual alone, or flight.

In the case of the last the treatment is, of course, simple and consists either in removing the cause of fear or in training the patient to tolerate it. If the symptoms persist after the cause of fear has been removed, they are due to the super-added influence of the instinct of display and must be treated accordingly. When there is reason to believe that the trouble is due to exaggerated positive self-feeling alone as in the case of the child quoted who shouted offensive words for days on end, the cure can be easily attained by stimulating, unsympathetic means such as a cold douche, electricity or a spanking. For example: Pte. X of the R.A.M.C., being stationed during the war in a safe place, suddenly became mute after reading an account of some "interesting" nervous cases. He came under the care of an impetuous Celtic officer, who, being overworked and irascible, seized him by the throat...
and exclaimed, "If you don't speak, you ------; I'll squeeze the life out of you". The cure was instantaneous and, as far as could be ascertained, permanent. But the best treatment for this class is undoubtedly isolation. It acts by removing all possibility of self-display, and when used in this particular type of case has achieved a very great reputation. It is less certain in its action, though often useful, when negative self-feeling is present; and it is quite out of place when a permanent and incurable cause of depression exists. In such cases it is likely to exaggerate the depression.

When an injury to self-esteem and the presence of negative self-feeling are at the root of a hysterical trouble the treatment is more difficult than in the foregoing class; but good results can be obtained if the self-abasement is caused by curable pain, or by failure in some social activity, such as often occurs in schools. In the case of pain it must, of course, be removed when possible; or if the pain is already past, as will often be the case, the origin of the trouble can be explained to the patient, and persuasion and encouragement will bring about the disappearance of the nervous phenomena. If maladaptation to the social surroundings is causing the hysteria, by far the best course is to change the environment before the abnormal nervous condition becomes habitual owing to the excitation of the instinct of self-display, in which case the symptoms may persist even in a new school or a new neighbourhood.
If injury to self-esteem is allied to injury to the reproductive instinct, as is frequently the case owing to the fact that the self-regarding instincts have one of their chief uses as adjuvants to sexual selection, the treatment will be further increased in difficulty. Fortunately injuries to the reproductive system are often imaginary rather than real, and by convincing the patient of this a cure can be effected. For example, a young man, recently married, asked for operation for left inguinal hernia and undescended testicle. As the testicle was atrophied and useless the surgeon removed it at the operation. A short time after leaving hospital the man came back complaining of excruciating pain in the left iliac fossa and inguinal region. In the course of conversation it was discovered that he was afraid his virility would be impaired by the loss of the testicle. The pain disappeared when he was convinced that no appreciable impairment had occurred.

Young women who have been jilted or who have quarrelled with their lovers frequently exhibit states of aphonia, asthma, paresis, etc., which disappear when the quarrel is settled or another lover appears. These cases are so frequent as to be a commonplace of practice. They illustrate the milder hystero-genic effects of the instincts of reproduction and self-regard combined.

The cure of hysteria, and even, it is alleged, of insanity, has been very often effected by surgical operations for the rectification of some visceral...
displacement or minor gynecological condition harmless in itself. (51) (52). There are three main types of such cases. Firstly, the symptoms may be merely a form of self-display not preceded by any cause of depression. Hysterical symptoms of this origin (as just stated) will not survive any unpleasant, stimulating treatment. The hardships of the operation therefore bring the patient to reason. Secondly the knowledge or discomfort of the displaced organ may be a constant source of negative self-feeling to the patient and the operation acts by making her "as good as other people". Thirdly the patient may be suffering from some chronic cause of negative self-feeling such as an unhappy marriage, premature widowhood or disappointed hopes of any kind. For her the operation with its pomp and circumstance, of which she is the centre, produces such elation of spirit that its unpleasant features are disregarded and she is (temporarily, at least) cured of her hysterical troubles. This type often comes back again and again to the surgeon for operation and thrives on the abnormal stimulation of the nursing-home. It must, however, be remembered that operations have a twofold action on the patient's mind; one stimulative and the other depressant. It is not easy to predict which of these is going to gain the ascendance in any case, and it consequently follows that an operation which has been confidently recommended on account of previous successes may only make a patient more hysterical than before.

/ Generally
Generally speaking only the slighter operations should be allowed in hysteria, when choice is possible, as they are less likely to cause depression.

There is another kind of case whose nervous symptoms are neither cured nor aggravated by an operation but date from it. Such persons have the normal dislike of illness and operations, but yet on account of disease have to submit to some mutilation such as the removal of the reproductive organs. In them the pathogenic influences of pain, fear, wounded self-esteem and loss of reproductive hope are combined, often with terrible effect. The object to be kept in mind in treating such cases is the diversion of the attention from the painful idea to others which are beneficial in their influence. Constant employment should be secured if possible and this should be of a nature that will administer to the patient's self-esteem. A woman may find alleviation in works of charity, in such occupations as amateur acting, singing in public, or even sport; a man may be interested in politics, military exercises, money-making, or writing for the press, etc. In any case the pursuit should be one in which the patient can excel and stand out from his neighbours. The art of the physician consists in stimulating an already existing interest and in enlisting the help of the patient's friends in building up the sufferer's positive self-feeling, since he cannot restore the power of reproduction. A certain number of his patients will be too badly equipped by their previous habits of life ever to start afresh; and a certain
number will have the temperament known to the French in war-time as "défaitiste": some will have taken to drugs or alcohol. The best physician will be he who rescues the most of these. Two things which the treatment must not be allowed to do are to induce romantic relations between doctor and patient when of different sexes; nor must it minister to the former's self-esteem instead of to the patients. For these reasons, and because sex and self-feeling are so closely allied, it would probably be an advantage if "neurotics" could always be treated by practitioners and nurses of the same sex as themselves. This may perhaps become customary in the future.
THE RELATION OF THE FOREGOING VIEWS TO THE CURRENT THEORIES OF HYSTERIA.

The most popular theories of hysteria at the present time seem to be those (1) of Babinski, (2) of Janet, and (3) the Breuer-Freud-Jung theories. Of these the Babinski theory is the most easily grasped, and is attractive for its logical, simple and clear-cut nature. It is summarized by its author in his Exposé des Travaux Scientifiques, published in 1913, and has been applied to the conditions of the war in the little book entitled Hystérie, Psychiatrie, etc., written in collaboration with Froment. According to this theory, "Hysteria is a pathological state manifesting itself by disorders which it is possible to reproduce by suggestion, in certain persons, with complete exactitude, and which can be made to disappear under the influence of persuasion (contra-suggestion) alone". (39). The distinguished author goes on to deny that the stigmata exist if their presence is not suggested
by the physician; and by numerous and careful observations he has shown that when such stigmata are sought in such a way that the patient receives no suggestion from the examination they are never found. As noted above he has made a great many investigations into such conditions as "hysterical" trophic and vaso-motor disturbances, alterations of reflexes, etcetera, and concludes from these investigations that they are always due to organic disease or simulation. By way of proving that suggestion is not only a cause of hysteria but actually the sime qua non, he had many observations made on persons in states of intense emotion such as occurred in the Messina earthquake and in the mortuaries of Paris when the bodies of the dead were recognized by their relatives. As a result of these enquiries he ascertained that emotions alone never produce the symptoms of hysteria at the time they are experienced most acutely, and he concluded that "when sincere and profound emotion shakes the human soul there is no room for hysteria", but that the symptoms arise only by the intervention of suggested ideas in affective states of less intensity. There is no authority who has given so clear and consistent a picture of the disease as Babinski; and if the acceptance of his teaching means the circumscription of the scope of hysteria within narrower bounds, and the changing of its name to "pithiatism", that is in all probability nothing but an advantage.

/Nobody
Nobody with experience of functional nervous disorders is inclined to dispute the great influence of suggestion in determining their form. Epidemics of "tarantella dancing", of singultus, of fantastic immorality among women, of mutism in armies, etc., are all too well known, and are due to the power of suggestion on unstable intellects, just as the globus hystericus probably owes its origin to the difficulty in swallowing during weeping, and monoplegias are often the sequel to trivial injuries to the limb. But the question is whether the attribution of these things to suggestion is as far as we can go in explanation of them. If a man invests money in certain popular stocks we shall often be perfectly right if we say that he does so under the influence of suggestion, inasmuch as all his friends are buying the same things and suggesting the same course to him; but we can go at least a stage further back and attribute his action to the influence of the desire to live if he be a poor man, or to the parental instinct if he does it for the good of his children, or to the instinct of acquisition if he is a rich man already. So also we are perfectly justified in maintaining suggestation as the chief cause of hysteria; but the object of this thesis is to push the explanation a stage further back and to found it on the primitive instincts, especially those known as the self-regarding, and that of flight.

Janet's theory is rather more complicated and philosophical than Babinski's. He considers that hysteria belongs to the considerable group of diseases
diseases of the mind which arise from weakness and cerebral exhaustion, and of which the physical signs are somewhat vague and consist chiefly in a lack of general nutrition. The symptoms are mainly defects in morale accompanied by weakening of the power of mental synthesis, and an inertia of mind together with a narrowing of the field of consciousness showing itself in a special manner, viz:—
a certain number of the psychic elements (sensations and images) fail to be perceived and seem to be kept outside the personal consciousness— the result of this is a tendency to complete and permanent schism of the personality into independent groups which may appear by turn in the focus of consciousness or even co-exist there. This imperfect synthesis of the elements favours the growth of certain "parasitic ideas" which develop completely free from the personal consciousness and only show their presence by a variety of disorders which appear as if they were entirely physical in their nature. (40).
In short, the automatic association of ideas is one thing, whereas the synthesis which constitutes the personal perception at each moment of our life, and the very idea of self, is another. The latter can be destroyed while the former continues to exist. (41).
Probably the only reason why this theory has not by now found its way into every text-book on medicine is that the notion of the doubling of a personality is slightly too speculative to appeal to the busy student or practitioner. It seems to cover the ground as well as any theory of so complex a phenomenon
can be expected to do, and is applied by its author to an enormous number of observations made at the bedside. Against it is that it is founded to a great extent on the results of interrogating patients. A woman says she has no recollection of certain behaviour and it is concluded that the elements of the mental state underlying that behaviour have not been synthetized. She says she has no knowledge of what is done (for example) to her right arm, or that objects in certain parts of her field of vision are invisible, or that food never excites her appetite, and we deduce that her consciousness is narrowed and that some of its contents have been separated. But why should we attach so much importance to these statements? The word of the neurotic person is surely a sandy foundation to build upon. It is quite true that nobody accepts such statements at their face value unless corroborated by the results of physical examination; but when the data obtainable are carefully examined this corroboration is generally found to be more apparent than real; for hysterical blindness is never so complete that the patient hurts himself in moving about, "astasia-abasia" does not result in serious falls, and an anaesthetic limb does not sustain any injuries more serious than those seen in artificial dermatitis. It seems unlikely, if hysteria were "a form of mental disaggregation characterised by the tendency to permanent and complete doubling of the personality" (42) that the affected members would be protected from injury by the action of the main personality. However
However, if a splitting of the personality is to be considered as the explanation of hysteria, can it not equally well be held to be at the bottom of all instinctive acts? It frequently happens that a man driven by fear, hunger or love becomes to all appearance a different person and may have only an indistinct recollection of the deeds done under the excitement of the moment. The queen-bee in her nuptial flight is a totally different character from the inert, parasitic mother of the hive; the lapwing, which is among the most timid of birds, becomes tame and even aggressive when her parental instinct is aroused, and the stag not only changes his temper but his very form (by the growth of antlers) in order to follow the reproductive impulse. It would therefore appear that instinctive behaviour should come under Janet's description of hysteria. The reader, then, who feels inclined to agree with the theory advanced in these pages need not be deterred from doing so by the fact that he is an adherent of Janet; for the present hypothesis would from a sort of connecting link between the speculative and abstract requirements of the disaggregation theory and the proximate, practical explanation of Babinski.
In trying to state the relationship of any theory to that known as the Freudian one is met by the difficulty that the latter is in a state of flux or evolution, and that what appeared fundamental yesterday may be greatly modified tomorrow. This of course is to be expected in the advance of new teaching but it inevitably adds to the difficulty of the medical profession in comprehending it and assessing its value. Another stumbling-block to enquirers is the profuse, (one might almost say reckless), employment of metaphor and analogy in the works of Freud. Notions of mental trauma, of psychological catharsis, of resistances, of censors, of foreign bodies in consciousness, of layers of the unconscious, of repression, of displacement and diffusion of an affect, of bringing the unconscious idea into the light of day, of sublimation and other such phrases arouse great uneasiness and distrust in many people who realise the numerous and subtle fallacies that accompany the use in science of the devices proper to poetry. Havelock Ellis has tried to justify this wealth of figurative language by assuming that the theme and material do not lend themselves to strictly scientific nor yet to strictly metaphysical treatment, but require an artist's outlook and an artist's methods. (43). If this is so it explains a great deal of the opposition to the new doctrines shown by physicians accustomed to more exact studies.

It is, moreover, difficult to test the psychoanalytic system in practice, for to do so necessitates /mastering
mastering firstly a very recondite code for the symbolic interpretation of dreams, and, secondly, the technique of very tedious "association methods" which require a high degree of skill and training for their proper use. Dreams are stated to have a latent as well as a manifest meaning and always to illustrate a concealed wish. According to the code, to ask the way in a dream may signify Rome, for all roads lead to Rome; and the meeting of an acquaintance called Zucker is a veiled way of alluding to Carlsbad whither patients go with Zucker-Krankheit. (44). To hurl oneself into the water is an inversion for coming out of it, of which the latent meaning is to be born. (45). To change one's residence is equivalent to undressing, (46); while not only all cylindrical and all round or oval objects, but also a hat, a cravat, a church, an apron, a forest, a mountain, a box, a snake when occurring in dreams signify the reproductive organs of one or other sex. Water, stairs, inclines, and many other things bear the latent meaning of copulation. (47). Numerals even, when dreamt of or mentioned by chance in conversation, have a latent meaning which is far removed from that which is usually accepted. (48).

The drawbacks to discovering the patient's wishes by this method of dream-analysis are obvious enough, and are aggravated by the fact that different investigators will interpret the same dream in different senses. There are similar disadvantages in the use of the association-methods. One of these, favoured by Freud, consists in inducing the patient
to discourse with absolute freedom on any subject that presents itself to his consciousness. He must learn not to impose any check upon himself but to mention everything that enters his mind. From the content of these thoughts, together with the order and manner of their appearance, the analyst arrives at conclusions concerning the complex of memory and emotion which is at the root of the trouble. The Zurich school employs another method, which consists in reading out test collections of words to the patient and noting what associated ideas they bring to his mind, and how long the reaction takes to occur. The aim of the method is the same as that of free-association, namely, the exposure of the pathogenic complex. It is claimed that when the complex has been uncovered or brought to light its energy is diffused through the mind and so dissipated, and the patient is permanently cured. (49). The process of analysis may occupy six months or more.

The truth of the psycho-analytic postulates is held to be demonstrated by the success that attends the curative system, and since the application of this system involves so many serious difficulties it is not easy to estimate how much of the theory is sufficiently established to warrant comparison with its rivals; so that it may be unfair to attempt any survey of it from the standpoint of biology. Yet the fact that Freud's hypothesis is founded on the instinct of sex indicates that the two theories start from common ground. They separate afterwards mainly because the psycho-analysts have tended to
narrow their outlook until they regard sex as the dominant human impulse, whereas the biologist takes a wider and more comprehensive view of the springs of action, and relegates the sexual to its proper place among the other human instincts.

Jung, by abjuring some of the excesses emanating from Vienna, has greatly strengthened the influence of analytical psychology. His conception of the "libido" as not exclusively sexual desire but practically the entire conative function of the mind (50) brings him within measurable distance of the central position of the biological school.
SUMMARY

The springs of action are obscure and not to be discovered at a glance. The impulses that move animals are in the main identical with those that sway human behaviour, and are studied by biologists under the headings of reflex action, instinct, intelligence and reason. Of these reason takes but an infinitesimal part in animal's conduct, and a small but important one in that of man. If we take instinct as the central phenomenon and try to divide it from reflex action on the one side and intelligence and reason on the other, we find that though pure types of each are recognized yet there are no lines of demarcation where we can say definitely that one ends and the other begins. In this respect the study of instinct is in the same ease as that of morphology of species: but morphology has the advantage inasmuch as pure types of structure are much more common than unmixed motives of conduct. It is for this reason that the disorder of function known as hysteria which the biological theory claims to be due to the derangement or excess of instinctive action, is so difficult to differentiate from the disorder of reflex action which constitutes disease (54) and from the working of intellect which constitutes malingering.

Various instincts have been described by McDougall and other writers as being observable in human conduct. Of these the only one that has attracted much attention hitherto among physicians
has been the sexual or reproductive instinct. The object of this essay is to draw attention to the importance of other instincts, notably of flight and the self-regarding instincts, both as motives of human conduct in general and as causative factors of hysteria. An attempt is made to show that the reproductive and self-regarding instincts act very generally in combination (as parts of what McDougall calls the self-regarding sentiment) and that it is when they are so combined that they are capable of producing the greatest harm as agents of functional disease.

When the biological is compared with the theories propounded by Babinski, Janet and Freud respectively it is found to be in general agreement with their basic ideas, and perhaps to form some sort of link between them.
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17. Fabre - Merveilles de l'Instinct chez les Insectes, 1919, Ch. V and VI.
26. Creighton - Life of Sir Walter Raleigh, p. 34.
29. Flaubert - St. Julien l'Hospitalier.
33. Bristow - Theory and Practice of Medicine, 1887. p.119.
42. Janet - L'État Mental, p.447.
43. Havelock Ellis - Essays in War Time - Psycho-analysis, 1919.
45. Ibid. p.243.
46. Ibid. p.321.
47. Ibid. Ch.V.
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50. Jung - Collected Papers on Analytical Psychology
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