

CHAPTER XXX

IDENTIFICATION, INFANTILISM, AND UN-SANITY VERSUS SANITY

Common sense, do what it will, cannot avoid being surprised occasionally. The object of science is to spare it this emotion and create mental habits which shall be in such close accord with the habits of the world as to secure that nothing shall be unexpected. (457)

BERTRAND RUSSELL

Medicine is to-day an Art or Calling, to whose exercise certain Sciences are no doubt ancillary; but she has forfeited pretension to be deemed a Science, *because* her Professors and Doctors decline to define fundamentals or to state first principles, and refuse to consider, in express terms, the relations between Things, Thoughts and Words involved in their communications to others.

(122)

F.G. CROOKSHANK

Unless physiology like any other of the sciences basic to medicine will teach less fact and more method, it might as well be deleted from the catalogue.

Can anything be done to help the situation ? Not, I think, without large vision. The student of medicine needs not more external but more internal discipline.*

MARTIN H. FISCHER

I wonder how soon we shall be far enough along to have the physician ask: How much and what, if anything, is *structural*? how much *functional*, *somatic* or *metabolic*? how much *constitutional*, *psychogenic* and *social*?**

ADOLF MEYER

Section A. General.

The name of Freud is usually associated with the term 'the unconscious'. This term appears as a general *descriptive* term standing for a great many psycho-logical semantic processes. In 1933 the work of Freud is generally accepted as important and very suggestive, although further experiments by many research workers and practitioners have shown that the freudian formulations have not the exclusiveness formerly assumed for them.

It is useless to deny that the term 'unconscious' is fundamental and necessary. The use of the term is best shown in the study of hypnotic phenomena. Some patients do certain things under hypnotic influence, and then seemingly lose all memory traces of such doings upon emerging from hypnosis. Careful experiments showed that after prolonged efforts these recollections could be made accessible to the patients' waking consciousness. The difficulty in recalling was not ordinary 'forgetting'. What is 'forgotten' can also be spontaneously 'recollected'. Here the situation seemed different, in that these lost 'memories' required considerable work and effort for their reconstruction. The psycho-logical

* Teaching of Physiology. *Jour. Asso. Med. Colleges.* Apr. 1929.

** The "Complaint" as the Center of Genetic-Dynamic and Nosological Teaching In Psychiatry *New Eng. Jour. of Med.* Aug. 23, 1928.

state in such cases of perfected 'forgetting' was called 'unconscious', which, as a descriptive term, is very satisfactory.

The origin of the freudian theory of the unconscious was strictly scientific. The theory was a new generalization in a new structurally appropriate language to account for *experimental facts*. Subsequently, a large number of other experimental facts showed that the work of Freud was sound as far as it went. Different workers, from different sets of facts, amplified or reshaped the freudian theories. At present, there are several schools that differ widely in language, all of them based on the fundamental system-function of Freud, however.

In reading the literature of the subject, one finds most diversified material. Seemingly, there are facts which prove 'beyond doubt' each and every theory, no matter how widely they differ among themselves. It is also easy to find experimental facts which can be accounted for by several different theories.

Such a situation appears unsatisfactory. This lack of generality conceals a very important and workable semantic mechanism, which, under *A* identification, 'allness', and elementalism, becomes pathological, resulting in arrested or regressive symptoms. Once we pass to a \bar{A} system free from the above harmful semantic factors of delusional evaluation, the difficulties do not arise. The more my enquiry progressed, the more it became obvious that the underlying mechanism appears similar in all psychoanalytical theories. It seems that the general problem may be formulated as the need to discover methods for non-delusional evaluation affecting our *s.r.*, and so be able to make the 'unconscious' 'conscious'.

The term 'consciousness' is an incomplete symbol, as it lacks content. If we use the term 'consciousness of abstracting', we ascribe content and also gain empirical means to bring under educational control a vast array of important psycho-logical processes. The *negative* term 'unconscious' does *not* imply specific content, and the main difficulty in its practical application is to find its content, or to ascribe content to it. Once this is achieved, the 'unconscious' becomes 'conscious'. A patient whose unconscious semantic difficulty is made conscious either improves or is entirely relieved. For a general theory, we must find general structural means of ascribing semantic content to the 'unconscious'. Different schools have elaborated different means of discovering this desired content. All schools agree that the behaviour difficulties are due to experiences hidden in the 'unconscious' and that bringing them to 'consciousness' seems the main goal. The diverse schools have an unduly bitter attitude toward one another, and have not attempted to analyse the problems at hand from a more general, more workable *non-el* structural,

semantic, system-function, and linguistic point of view. Whether or not the term 'consciousness' has any content besides 'consciousness of abstracting' may be disregarded for the moment. At any rate, the term 'consciousness of abstracting' gives very vital and workable psychophysiological means of analysis, of an impersonal, and general structural, and semantic character. Enquiry into the clinical cases and literature shows that pathological cases, amenable to treatment, appear improved by a similar evaluational treatment; namely, the correction in some form or another of the semantic disturbance of the lack of 'consciousness of abstracting'.

'Mental' illnesses (infantilism included) appear as semantic arrested development or a regression to lower levels, to those of the primitive man, the infant, the animal. The animal *is not* conscious of abstracting; man can become so. Here we find the precise mechanism of a decisive nature which not only supplies us with *preventive* measures, but which should also become of therapeutic value.

All life exhibits conservative characteristics acquired during the long periods of its development. In the facts of heredity and embryology, we have an excellent evidence of this. In its development, the germ cell of an animal or man repeats in a very abbreviated way the structures of forms from which it descended. The ever-changing environmental conditions, although they affect each organism to a large extent, produce extremely few hereditary changes, which again may be considered an indication of the conservative characteristics of life.

As we have already explained, life, abstracting, and 'intelligence' started together, and are consequences of the physico-chemical colloidal structure of the protoplasm. Psychiatry also assumes that 'the unconscious', 'tendencies', and 'impulses' originated with life itself. From this point of view the past piled up structurally upon the past until the highly complex organism called Smith made its appearance. In this process of evolution the 'instincts' and 'impulses' have had an important role, not only conservative, but also compensatory and protective. In man, *s.r* should be based on proper *evaluation* and so play both a stimulating and *protective* role. Under *A* conditions of delusional evaluation, the protective role appears practically non-existent; the human organism, under modern conditions, becomes over-stimulated, resulting often in pathological conditions. Consciousness of abstracting, or the elimination of delusional evaluation, abolishes man-made, artificial, and harmful irritants.

I shall borrow from Jelliffe an excellent diagram to illustrate the evolution of the periods of growth and shall follow closely his exposition.¹

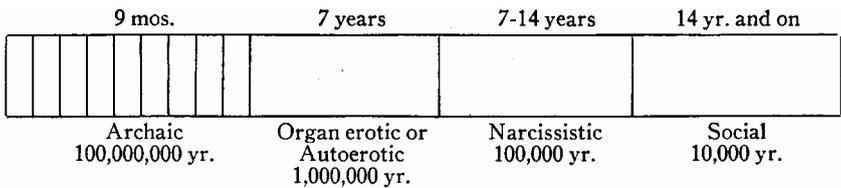


FIG. 1

Some such classification of the periods of growth has been forced upon psychiatrists by the study of 'mental' ills, and is justified by embryology and an endless chain of empirical observations.

The first period represents the archaic period and is of the greatest antiquity. In it the past is roughly recapitulated from, let us say, the beginning of unicellular life to the anthropoid ape. At the fertilization of the egg the hereditary constitution is established, and during the gestation period all prenatal influences are laid down. The life of the baby before birth may be described as a vegetative existence of full indolence with all needs supplied by the mother's body.

At birth, the first 'struggle for existence' begins, the struggle for air, as symbolized by the first cry. At this epoch the baby already appears as a self-running organism with some *s.r.* His vegetative nervous system is integrated and functioning. He begins to 'feel'. Pleasure and pain begin to be significant semantic factors. This period is called the organ erotic or autoerotic, since, as with animals, its main interests are '*sense*' gratifications. Many millions of 'sense' receptors suddenly have thrust upon them from the environment a mass of energy with which the organism has to deal somehow. At first there is a rivalry between different 'senses'. Later, co-ordination appears. Each group of receptors establishes its own semantic values for itself, depending upon its own cell growth. This period may be divided, schematically, from birth to seven years, and corresponds roughly to the evolution from the higher animals to primitive man. This period is extremely important from a semantic and educational point of view. At this stage in the human child the nervous system is not fully developed; and different environmental influences (language, doctrines included) may twist this development, so that irreparable harm can easily be done.

The narcissistic period is named after the Greek mythical figure, Narcissus, who, seeing his reflection in a pool of water, became so engrossed in self-adoration that he rejected the attentions of Venus and was killed. In another version of the myth his punishment was loss of sight. This period covers, more or less, from seven years to fourteen years. As the name indicates, it represents a semantic period of self-love.

The child has not entered, as yet, into a social stage of development. He remains egotistical, egoistical, self-centred, and *asocial*.

At about fourteen, the social semantic period begins, which leads, when 'normal', to the adult socialized individual.

We should realize that these semantic stages are 'normal' when they are lived through within the age limits indicated here. Even if children show some characteristics which are not desirable (organ erotic or autoerotic, narcissistic), this, in itself, does not constitute a danger, provided they outgrow these undesirable manifestations. The serious dangers, and even tragedies, begin when some of the infantile or narcissistic semantic characteristics are carried over into the life of the grown-ups.

Not only 'intellectual' growth but also 'emotional' development may be arrested on some earlier lower level. In such cases we speak of idiots, imbeciles, and morons on the 'mental' levels; and of moral imbecility, infantilism, narcissism, and, in general, of 'mental' illness on the 'emotional' levels.

Besides arrested growth, or under-development in some respect, cases of so-called *regression* are frequently encountered. Regression follows the general scheme as outlined in Fig. 1, but in a reversed order. The following diagram, Fig. 2, is also taken from Jelliffe, with slight modifications.

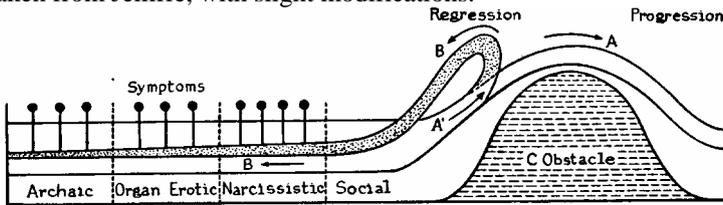


FIG. 2

As processes, life, development, or regression are best represented as 'vector quantities' which have direction and magnitude. In one type of cases of regression the progressive tendency or energy is strong; yet the obstacle is also very great, so that the progressive tendencies may not be strong enough to carry over the obstacle or to conquer it. Again, the progressive tendency or energy may be weak, and the obstacle correspondingly slight, yet strong enough to start the regressive movement.

In the healthy individual the progressive tendency is not easily diverted from its forward course. He conquers his obstacles (C) and goes on (arrow A). Weaker individuals (A') may surmount their obstacles with more difficulty or may start regression on smaller ob-

stacles, as indicated by arrows (B). In such cases they may regress to different levels, developing a neurosis or a psychosis, in accordance with the degree of regression. It is extremely instructive to study these different phases in regression and to watch how the symptoms arrange themselves in a perfectly orderly manner. In some instances the regression goes so far as to bring the patients to the foetal level. Such a patient sits in a dark corner in the foetal position with the head covered with a rag. His 'mentality' and semantic responses are similar to those of the foetus, practically none.

Regressions to the archaic level are usually hopeless of improvement, so that I shall not analyse them in this work. We are mostly interested in *under-development*, or in regression not further than to the autoerotic or the narcissistic semantic levels, in which treatment in many instances yields curative results.

Jelliffe gives among others a very instructive diagram as a method of showing how the personal make-up of an individual can be plotted (psychogram). These diagrams afford excellent graphic means for orientation. One of them I reproduce on the opposite page (Fig. 3).²

The circular form of the diagram is particularly appropriate, as it shows clearly how the horizons, activities, and interests widen from the archaic (animal ?) through the child and savage, to the adult socialized individual. The dips in the eye, stomach, and bladder sectors correspond to definite symptoms. In the eye sector the dip goes to the narcissistic semantic level. Whenever this patient is riding in an automobile and another car is coming close, so that a collision seems possible, the patient experiences a compulsory shutting of the eyes, a typical narcissistic semantic symptom which symbolizes that something which one cannot see cannot happen. The patient did not regress to the organ erotic level and become actually blind or deaf (psychic or rather *semantic* blindness or deafness); so the dips are not plotted to the organ erotic level. In the bladder and nutritive sectors we see that the curve sinks as low as the organ erotic level. These dips correspond to striking semantic symptoms. When the patient drives in her car and is held by the traffic, she has an involuntary passage of urine. The dip in the nutritive sector corresponds to the symptom that after eating certain foods the patient is able to bring them back into her mouth (selective rumination). Analysis by Doctor Jelliffe has revealed that in the case of the passage of urine when the patient is held up in traffic, her unconscious organ erotic semantic fantasy triumphs over the need for self-control, and she asserts her mastery through the early and necessary mastery acquired over the control of the bladder. Since she is prevented from doing one

The patient also exhibits other neurotic semantic symptoms. She is too impatient to read and does not remember what she has read. She can never remain quiet. She is very keen-sighted to find fault in others, very acute to hear the last verbal equivocations, and very neat and clean with reference to her bodily secretions. Here we see clearly the semantic mechanism of infantilism and the contradictions between the conscious performance and the unconscious fantasies.

In an hypothetically healthy individual, his make-up could be represented graphically by a circle on the social level of adjustment. He would have outgrown the passing semantic stages of the archaic, organ erotic, and narcissistic periods.

Failure in semantic adaptation to 'reality' might be represented by dips in the curve to such a level as the individual fixation or regression has put him. By such means we have an excellent method to represent clearly the weak spots and to show the focal semantic points of conflict in evaluation where energy is diverted to useless or harmful fantasy ends.

When the dips or deviations are few and slight, we call them idiosyncrasies; for instance, such a habit as the narcissistic tactile fantasy of toying with a button, a moustache, or eyebrow. When the number of failures is larger and the semantic symptoms go to lower levels of development, we speak of hysteria, . When the level of regression is still lower (organ erotic or archaic), we are usually entitled to speak of a psychosis.³

We have already emphasized over and over again that the organism works as-a-whole, and that, therefore, any *el* splittings cannot lead to satisfactory results. The verbal division of 'body' and 'mind' remains verbal, and also involves a language whose structure does not correspond to the structure and functioning of the organism. A language is like a map; it *is not* the territory represented, but it may be a good map or a bad map. If the map shows a different structure from the territory represented—for instance, shows the cities in a wrong *order*, or some places east of others while in the actual territory they are west.,—then the map is worse than useless, as it misinforms and leads astray. One who made use of it could never be certain of reaching his destination. The use of *el* language to represent events which operate as-a-whole is, at least, equally misleading and semantically dangerous.

With this in mind, let us briefly analyse the 'obstacle' in Fig. 2. As we deal with 'obstacles' in a life sense, we can generalize the obstacle to some semantic factors involving meanings and evaluations which may arrest the development as well as result in regression.

From the *non-el* point of view every obstacle and difficulty involves semantic evaluation. Any and all reactions to lower order abstractions involve the cyclic chain of higher order abstractions, no matter how imperfectly. In ordinary language, a physical occurrence with which we become acquainted through lower nerve centres involves our 'mental' *attitudes*, doctrines, , in general, *s.r* influenced by the activities of the higher centres. From this *non-el* point of view, *surprise*, fear, fright, , enter, and usually do the harm. Physical pain seldom, if ever, leads to semantic disturbances, but fear, fright, , and surprise usually do. Anticipation of danger, or proper evaluation of a situation, has a *protective* effect, as it usually tends to diminish or abolish the fear, fright, , or *surprise*. The outside world is full of devastating energies, and an organism may only be called adapted to life when it not only receives stimuli but also has protective means against stimuli. Now such anticipation or expectation makes an organism *prepared*, and the difference between a prepared and an unprepared organism in the face of danger or pain may turn the scale of the outcome.

Section B. Consciousness of abstracting.

It is obvious that in the human organism the field for stimulations is vastly greater than in animals. We are subjected not only to all external stimuli but also to a large number of permanently operating *internal* semantic stimuli, against which we have had, as yet, very little protective psychophysiological means. Such structurally powerful semantic stimuli are found in our doctrines, metaphysics, language, attitudes, . These do not belong to the objective external world, and so the animals do not have them in a like degree. As our enquiry has shown, in practically all 'mental' ills, a confusion of orders of abstractions appears as a factor. When we confuse the orders of abstractions and ascribe objective reality to terms and symbols, or confuse conclusions and inferences with descriptions, , a great deal of semantic suffering is produced.

Obviously, in such a delusional world, different from the actualities, we are not prepared for *actualities*, and then always something unexpected or 'frightful' may happen. The organism cannot adjust itself to such fictions; it is not prepared to face ∞ -valued *m.o* realities and must suffer from constant surprises and painful semantic shocks, which do the harm.

As we have already seen, the general preventive psychophysiological discipline in all such cases of confusion of orders of abstractions is found in 'consciousness of abstracting'. When conscious of abstracting we cannot identify the symbol with the thing, . In the case just described,

the difficulties of the patient were precisely in intensified *mis-evaluation*—the confusion of the symbol on the infantile semantic level with *m.o* reality—and this persisted, in spite of later serious inconvenience and difficulties when the symbol did not any longer produce the desired submission of others and became in itself a nuisance.

We could analyse from this semantic point of view all psychiatry, and we would find that the intensified mis-evaluation or confusion of orders of abstractions is always very prominent in ‘mental’ illnesses. This characteristic is very general, and the suffering these confusions produce is very acute. The general protective psychophysiological measure, however, is very simple; namely, ‘consciousness of abstracting’.

A fundamental difference between ‘man’ and ‘animal’ is found in the fact that a man can be conscious of abstracting, and an animal cannot. This last statement could be reformulated: ‘that animals are ‘unconscious of abstracting’’. Now consciousness of abstracting is not inborn as a rule, but becomes a *s.r* acquired only by education or through very long, and usually painful, experience in evaluation. If we are *unconscious* of abstracting, we obviously copy animals in our ‘mental’ processes and attitudes and cannot completely adapt ourselves to the structurally more complex human world (with higher order abstractions), so that some arrested or regressive processes are bound to result. In such a more *complex* world we need *protection* against semantic over-stimulations, which the animals in their simpler world do not need. If, therefore, we copy animals in our ‘mental’ processes, we could, perhaps, live in their simpler world, but cannot adapt ourselves easily to a structurally more complex human world.

We see here the general semantic mechanism of human adaptation. Our human world is more complex; the number of stimuli is enormously increased. Against this excessive stimulation we need protection, which is found in the consciousness of abstracting. One adjusts oneself by increasing the field of ‘consciousness’, and by giving it properly evaluated content as against the vast ‘unconscious’ which covers the animal’s life and our own past. In ‘mental’ ills we find the arrested or regressive stages, with a vast and harmful unconscious. ‘Mental’ therapy always has the semantic aim and method; namely, to discover the unconscious immaterial and make it conscious, and so make proper evaluation possible.

It is quite remarkable that ‘mental’ therapy, which actually is a form of semantic, *non-el* re-education, is only successful when it succeeds in making the patient not only ‘rationalize’ his difficulties but also makes him ‘emotionally’ revive—live through again, so to say, and evaluate anew—his past experiences. This process can be compared with a glass of water

in which some chalky sediment lies on the bottom. In semantic difficulties the different 'hurts', may be compared to the water *and* the sediment. 'Rationalization', alone, is like throwing away the clean water and letting the sediment remain. No improvement follows; the semantic sediment of earlier evaluation is still there and does its work. But if we stir up the water *and* the chalk, then we can throw out both and a clearing up will follow. The *non-el* 'living through' of the past experiences is equivalent to this semantic stirring-up of meanings before eliminating the immature evaluations.

This semantic mechanism is well recognized, yet puzzling. It shows that it is more difficult to influence the affective than to affect the 'rationalization'. One may 'rationalize' perfectly well; yet his lower centres will not be affected sufficiently. It is possible that the confusion of orders of abstractions or identification is, in the main, responsible for it. With the use of the Structural Differential and with training in the orders of abstractions and in *silence* on the objective levels, we gain seemingly extremely powerful psychophysiological means of an entirely general character to influence directly the *affective* responses, in which we are aided by the utilization of all available nerve centres. It also shows once more how persistent is the working of the organism-as-a-whole. *The harm was done by organism-as-a-whole methods (affecting higher and lower centres); the protective semantic agencies should employ similar means.*

In the older 'mental' therapy we tried to bring the unconscious or buried material into the conscious, but each psychiatrist proceeded by a *private* method, and according to a special theory. Such procedure is obviously not general enough for simple *preventive* training on a large scale. The present system offers such general and effective semantic psychophysiological means. By making ourselves conscious of abstracting we prevent the animalistic unconsciousness of abstracting, and so prevent arrested development or regression. We bring into consciousness some of the most fundamental human characteristics, of which animals are unconscious, and so prevent arrestment or regression to lower levels. The method is entirely general and simple, based on the elimination of identification, introducing natural and so adaptive evaluation which should not stir up resistance in the child.

In the freudian theory the famous Oedipus complex purported to explain the often unconscious hostility of the son toward the father and his excessive attachment to the mother. The researches of the anthropologist Malinowski show that in primitive matriarchal societies the biological father is not recognized as such and is only a kind of friend

and nurse to his son. The other functions which the father has in patriarchal societies are here performed by the mother's brother. The taboos which apply to the mother in patriarchal societies apply to the sister in such matriarchal societies.

The results are quite interesting. Malinowski found that seemingly similar unconscious semantic mechanisms are at work. But the hostility is toward the uncle, and the excessive attachment is directed toward the sister.

Malinowski concludes that the freudian mechanisms are thus proven. According to the present theory these facts are very important and show clearly that 'sex', as such, has nothing or very little to do with these 'complexes', but that the active unconscious agents appear as semantic and *doctrinal*. Doctrines and their meanings to the individual, their applications, identifications, , make the father in one case, and the uncle in the other, the dreaded, , member of the family. Because of lack of consciousness of abstracting the child reacts to such application of doctrines with some 'complex', or semantic state, based on identification, non-mature evaluation, involving non-mature *non-el* meanings, in spite of *el* theories and languages.

Similarly, some spanking or other pain in childhood may later result in a neurosis. A successful analysis can usually trace neuroses back to some such experiences. What did the harm? Was it the burning *physical* feeling? Obviously not; for any child has had in its childhood many more painful experiences, and yet no semantic harm has followed. So we must look in another direction, and the elimination of identification or of the confusion of order of abstractions at once offers a solution. The 'spanking' had many factors; some of them were 'physical', some 'mental'. If we consider among the 'mental' factors the objectifications of 'authority', 'hell', 'sin', and other terms of evaluation, these result in fright and other semantic shocks, which ultimately lead to the neurosis. We know from our own experience how little affected we are by an accidental hit. Such a purely physical experience which does not give a semantic shock cannot produce a neurosis.

It is not difficult to see that an investigation of 'hurts', 'emotional shocks', 'fear', 'fright', 'surprise'. , must lead to a more general enquiry into the structure of 'human knowledge', meanings, evaluation, *s.r.* , which must include the structure of science and mathematics.

In the disregard of the stratification of human knowledge, or in identification or the confusion of orders of abstractions, we find an ever-present and abundant semantic source of human suffering, which

increases unnecessarily the internal stimulations and so disturbs the efficient working of the organism-as-a-whole.

Psychiatrists in purely pathological fields have also discovered different sources of human difficulties. They discovered that the 'unconscious' seems quite a dangerous affair, and that 'mental' ills exhibit symptoms of an arrested or regressive process.

This present investigation, as well as the psychopathological ones here referred to, although conducted on entirely different grounds, one more general than the other, has discovered very similar mechanisms; namely, the benefit in enlarging the field of 'consciousness', by bringing into 'consciousness' important factors of the 'unconscious' and thereby counteracting the semantic possibility for arrested development or regression.

With such divergence, both in methods and in material used, the similarity of results indicates strongly the soundness of the conclusions. Generality offers, also, a criterion of practical simplicity and workability; and on these grounds the more general semantic *A* discipline commends itself.

Because of this generality the present theory has not only a simple but also an *impersonal* character which makes it available as a preventive measure in elementary education. With the older theories we deal in practice with personal responses to meanings; in our case we deal with the *s.r* in *general* and with their psychophysiological mechanism in particular.

The present enquiry started with the search for a sharp difference between Fido and Smith. This was found in the fact that Smith functions as a 'time-binder', while Fido does not. Further investigation into the mechanism of the time-binding function revealed that its most important characteristic is found in its peculiar stratification into many orders of abstractions. The realization of this stratification eliminates identification and leads to the 'consciousness of abstracting', thus ascribing a permanent, *strictly human* content to 'consciousness', and so automatically eliminating such animalistic, and, therefore, arresting or regressive, 'unconsciousness'. It is found, also, that in the consciousness of abstracting we find a general and simple psychophysiological semantic method for the elimination of the majority of human difficulties. In the training in this consciousness of abstracting we find a workable physiological tool with which to integrate the functioning of the human nervous system. We use organism-as-a-whole methods and achieve organism-as-a-whole results. We find in the language of 'semantic reactions', 'non-elementalistic meanings', ., psychophysiological means to integrate the

'emotional' with the 'intellectual', which was hampered, to say the least, by the old *el* languages and methods and systems. The organism by structural necessity acts as-a-whole, but the old elementalism with its psychophysiological effects prepared the semantic background for split personalities, which a *non-el* system helps to re-integrate. We find a rather astonishing result; namely, that the structure of human achievements corresponds to the principle of stratification with the resulting consciousness of abstracting, usually limited to the special field. The majority of individual and group difficulties are found, also, to be due to the very general disregard of this principle.

By the scientific data of 1933 it seems well established that the enlargement of the field of 'consciousness' is extremely desirable. With this aim, a more general enquiry into the character of the 'unconscious' may also be worth while. Let us investigate the structure of science (1933), and see if some 'unconscious' factors cannot be found there. We find a curious fact, that mathematicians, in addition to their other activities, make a business of unravelling hidden unconscious assumptions. Their enquiries have led to a thorough investigation of the structure of their language in two directions: one, investigation of the underlying assumptions; the other, working out the 'implications'.

Let us give a simple structural example of this. Two assumptions are said to be equivalent when each of them can be deduced from the other without the help of additional new assumptions. For instance: (a) The fifth postulate of Euclid—'If a straight line falling on two straight lines make the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet on that side on which are the angles less than the two right angles', (b) 'Two straight lines parallel to a third are parallel to each other', (c) 'Through a point outside a straight line one and only one parallel to it can be drawn'. Each assumption silently, unconsciously, presupposes the other, so that they can be deduced from each other. They actually are different forms of the same propositional function.

Another case is equivalence *relatively* to a fundamental set of assumptions A, B, C, . . . M. It might happen that, in diminishing the fundamental set, two assumptions which were formerly equivalent cease to be so. For instance, the following assumptions are mutually equivalent and also equivalent to the fifth postulate of Euclid. (a) 'The internal angles, which two parallels make with a transversal on the same side, are supplementary.' (Ptolemy.) (b) 'Two parallel straight lines are equidistant.' (c) 'If a straight line intersects one of two 'parallels, it also intersects the other.' (Proclus.) (d) 'A triangle being given, another

triangle can be constructed similar to the given one and of any size whatever.' (Wallis.) (e) 'Through three points, not lying on a straight line, a sphere can always be drawn.' (W. Bolyai), .

But the following two assumptions are only equivalent to the *E* fifth postulate if we retain the postulate of Archimedes* : (a) 'The locus of the points which are equidistant from a straight line is a straight line'; (b) 'The sum of the angles of a triangle is equal to two right angles.' (Saccheri.)⁴

The crucial point of this discussion is that all that has been said here is *not obvious* even to the attentive and intelligent reader, nor to many mathematicians. It took nearly two thousand years and some of the efforts of the best scientists of the world to discover these *connections and implications*. The above examples illustrate a *general* underlying structure of all our languages. They have inherent interconnection, underlying assumptions and implications, the analysis of which, outside of mathematics, is seldom, if ever, carried far enough. Now these structural assumptions and implications are inside of our skin when we accept a language—*any* language. If unravelled, they become conscious; if not, they remain *unconscious*. In the present work we have already had an opportunity to become acquainted with unconscious implications which are concealed in the structure of any language. We saw that we must start with undefined terms, which represent structural assumptions and postulates, as we have no means to explain them or define them at a given date. We found that these *undefined* terms represented our unconscious metaphysics, and that the way to make this unconscious metaphysics conscious was to start explicitly with undefined terms, produce a system of postulates. , a procedure which is completely fulfilled only in mathematics.

It should be noticed (as this is very important) that the undefined terms, being undefined, are overloaded with '*emotional*' values. As the higher nervous centres cannot handle them, the lower nerve centres work upon them overtime. If we do not analyse our languages into their undefined terms and structural postulates, our strongest 'emotional' and semantic components, which made these languages, remain hidden and unconscious.

* The Postulate of Archimedes is stated by Gilbert thus: Let A_1 be any point upon a straight line between the arbitrarily chosen points A and B . Take the points A_2, A_3, \dots so that A_1 lies between A and A_2 , A_2 between A_1 and A_3 . ; moreover, let the segments $AA_1, A_1A_2, A_2A_3, \dots$ be all equal. Then, among this series of points, there always exists a certain point A_n , such that B lies between A and A_n .

This hypothesis is used by Saccheri in its intuitive form; namely, a segment, which passes continuously from the length a to the length b , different from a , takes, during its variation, every length intermediate between a and b .⁵

Here we are face to face for the first 'time' with a wider, more general, and impersonal 'unconscious', which underlies the structure of any language, and so is operative in every one who uses a language. We may call this general form the scientific, or public, or linguistic, or semantic, or by preference, as a term, the *structural unconscious*. It embodies the underlying *structural* assumptions and implications which are silently hidden behind our languages and their *structures*. These assumptions, may be called 'unconscious', because they are *totally unknown and unsuspected*, unless uncovered after painful research.

Any form of representation has its own structural assumptions at its basis, and when we accept a language we unconsciously accept sets of silent structural assumptions of which we become semantic victims. For a long while, the white race has been the victim of the unconscious assumptions and metaphysics which underlie the A , E , and N systems. It has needed a structural revision of these systems, culminating in \bar{E} , \bar{N} , and, finally, \bar{A} systems. These non-systems are characterized not by the introduction of new assumptions, but by making the older unjustified, primitive, unconscious structural assumptions conscious, and so helping us in eliminating the semantically undesirable reactions. We have already seen how fallacies and taboos (1933) can be and were manufactured unconsciously by semantic processes; these start with more general, more natural, and more fundamental structural errors, such as the primitive 'identification', for instance, which are due to pre-human ways of 'thinking' and which result in semantic difficulties and regression even today.

Let us assume, as an illustration, that the fifth postulate of Euclid is a false assumption, seriously detrimental to human life and comparable to some of the false doctrines that underlie the morbid symptoms with which psychiatrists deal every day. Let us assume, further, that a doctor, ignorant of the structure of 'human knowledge', *s.r.*, and the equivalence of assumptions, succeeds, after painful and laborious efforts, in eliminating from a patient this special vicious assumption. Yet, because of his oversight, he pays no attention to another assumption equivalent to the first, and does not eliminate it. In such a case, rationalization about the first false doctrine would probably make the treatment a failure, as the other unconscious and equivalent doctrine would, in virtue of the extremely formal, one-, and two-valued character of the unconscious, perform its task and make the treatment ineffective. The tangle of equivalent structural assumptions in daily life is still unanalysed. For instance, it is extremely difficult to attempt to impart 'proper evaluation' without eliminating identification, .

The higher and lower order abstractions seem structurally and neurologically, as well as functionally, interconnected in a cyclic chain, and so can never be entirely divided. A language—any language—involves undefined terms which, with the structure of the given language, express the silent and unconscious metaphysics underlying it. A language, for its maximum serviceability, must, at least, have the structure of the events it attempts to describe; and so science must first discover the structure of events, for only then can we shape our languages and give them the necessary structure. Any advance in our knowledge of nature is strictly connected with new languages of similar structure which reflect-the structure of the world. This last ‘knowledge’ at each date represents again ‘modern metaphysics’. In all such enquiries we have to struggle with the older, mostly primitive structural metaphysics and unconscious linguistic semantic consequences. Enquiry into these subjects must throw new light on the unconscious processes, and so diminish the vast field of the unconscious.

The structural unconscious seems to be more general, more fundamental than the special, or individual, psychiatric one, because analysis shows that the latter follows from the former. As the reader may recall, life, ‘intelligence’, and abstracting in different orders started together. Without abstracting, recognition, and, therefore, selection would not be possible. The world of the animal, as well as of man, represents nothing else than the structural results of abstracting, without which life itself would be totally impossible. Man alone has the power of extending the orders of abstractions indefinitely. When Smith has produced an abstraction of some order, perhaps by making a statement, he has the potential capacity of analysing and contemplating this statement, which has become a fact on record, and so he can abstract to a still higher order. , without known limits. It is this capacity which crowds the world of Smith with endless ‘facts’ belonging to very different orders of abstractions. The animal’s capacity for abstracting ceases on some level, and is never extended without a change in the nervous structure. So the animal’s world is comparatively simple, the world structure of man being, by comparison, indescribably more complex. Man’s problems of adjustment, therefore, also become more complex. Human medicine is much more complex than veterinary science, although the higher animals differ very little in their gross anatomical structure from humans. The structural *m.o* facts, which resulted from abstracting in different orders, differ in number as well as in complexity. The human capacity for expanding indefinitely the orders of abstractions brings about this peculiar stratification of ‘human knowledge’.

It appears as a product of evolution just as stratified as rocks appear. This stratification appears as a crucial, structural *m.o* fact, though generally disregarded, except partially in mathematics and psychiatry. Its realization necessitates the elimination of the 'is' of identity and results in the consciousness of abstracting, so fundamental for sanity.

Section C. Infantilism.

As has already been mentioned, the main symptoms of physical and 'mental' illnesses are few and simple. This would suggest the possibility of simple and more general theories relating to the fundamental symptoms. The colloidal structure of protoplasm accounts for this peculiar simplicity and for the small number of the fundamental symptoms. In the 'mental' field these fundamental symptoms are accounted for by a simple structural, functional principle of 'copying animals' in our nervous processes, which must be harmful, and which is characterized by the lack of consciousness of abstracting, implying colloidal disturbances. Psychogalvanic experiments show clearly that every 'emotion' or 'thought' is always connected with some electrical currents, and that electricity seems fundamental for colloidal behaviour, and, therefore, for physical symptoms and the behaviour of the organism.

In the colloidal processes we find the bridge between the 'physical' and the 'mental', and the mutual link seems mainly electricity. It is more than mere coincidence that all illnesses, 'physical' or 'mental', have only a few fundamental symptoms; and we should no longer be surprised to find that physical ills result in 'mental' symptoms, and that 'mental' ills may also involve 'physical' symptoms.

If a simple symptom is completely *general*, it indicates that it is structurally fundamental, and we shall be repaid if we devote special attention to it. As a rule, in 'mental' ills we observe a striking appearance of symptoms which have a sinister parallel with the behaviour of infants. Arrested development or regression in grown-ups also exhibits these infantile characteristics. In other words, whenever infantile characteristics appear in grown-ups it indicates that the 'adult' has not grown up fully in some semantic respects, or has already started on the way of regression, implying some colloidal or *m.o* structural injury.

When we speak of 'infantilism' in 'adults', we include symptoms which belong to the period of childhood in its organ erotic or autoerotic and narcissistic stages. It should be recalled that in children these semantic phases are natural; they become pathological only when the individual does not outgrow them and exhibits them as a grown-up. The term 'infantilism' is a rather sinister one, and should never be applied to

children. Children behave like children, and that ends the subject. But children have fewer responsibilities, their sex impulses are undeveloped. , and so their behaviour cannot be equally dangerous to themselves and others. But not so with grown-ups. They have responsibilities, duties, often strong sex impulses. , which make out of the infantile 'adult' an individual dangerous to himself and others. The term 'social' period, or 'socialized' individual, is sometimes wrongly interpreted. The fact that human achievements and capacities are accumulative and depend on achievements of others makes us, by necessity, a social time-binding class of life, which again involves more complex modes of adjustment. Whether we approve or disapprove the existing legal and police regulations has nothing to do with the fact that in a social class of life some restrictions are necessary. Our present commercial 'civilization' can be characterized as of an infantile type, governed mostly by structurally primitive mythologies and language very often involving primitive *s.r.* One need but read the speeches of different merchants, presidents, and kings to be thoroughly convinced of this. The rules and regulations are naturally antiquated, and belong to the period to which the underlying metaphysics and language belong. The 'adult' or scientific semantic stage of civilization would be precisely the 'social' stage of complete evaluation of our privileges and *duties*.

In speaking about infantilism, it should be remembered that the child has an advantage over the imbeciles, idiots, and 'mentally' ill who have stopped development or have regressed to the age of the infant or the child. The 'normal' child profits by experience and outgrows the semantic characteristics that are natural to a given age. In cases of arrested development or regression, the undesirable infantile characteristics persist in the grown-ups and are a source of endless difficulties and suffering to them and their associates. Thus, in our childhood we all have had experiences similar to that of the patient of Dr. Jelliffe, and are no worse off because of them. But, if the reader should imagine himself in the position of the patient with those infantile characteristics, he would realize that an enormous amount of suffering, fear, shame, bewilderment. , results for the patient. The worst feature in such cases is found in the fact that an infantile type usually cannot 'outgrow' or alter such characteristics by himself, and needs very wise and patient outside help in re-training, or medical assistance, if he is ever to overcome earlier inappropriate *s.r.* But if we *start* the education of an infant with appropriate *s.r.*, such a procedure must play a most important preventive evaluational role.

We should remember that the nervous system of the human child is not finished at birth. The extension, the growth, and the multiplication of the appendages of the neurones, go on after birth. The nervous system of an adult shows striking differences in the length and complexity of the nerve cells over that of the infant. The researches of Hammarberg showed, in all the cases of idiocy he investigated, an arrest of development in a more or less large part of the cortex, at a stage corresponding to either an embryological period, or to the period of early infancy. Only a small number of cells had reached their full development during the growth of the cortex. The psycho-logical defects were in direct proportion to the defects of the development of the cells, and were the greater the earlier the period of arrest of development.⁶ In extreme congenital imbecility the cortex is poorly organized, is thin and deficient in nerve cells. Bolton's second layer of pyramidal cells matures last; and its development in different mammals corresponds to the degree of their 'intelligence'. In humans, its degree of deficiency corresponds to the degree of 'mental' arrest or regression. In organic 'mental' diseases very diffuse cortical lesions, when present, impair 'intelligence'. Affective disturbances depend upon even smaller brain lesions, particularly when the thalamic regions are affected.⁷ In general, lesions in the basal ganglia diminish the energy of the impulsive life (sleeping sickness). Lesions at the base of the frontal lobe, and some brain tumours, lead to euphoric excitement, which gives a feeble, stupid expression, facetiousness, and a tendency to teasing. Other lesions in the basal ganglia lead to a labile affectivity. All destructions of parts of the brain usually lead to irritability and moodiness. In different focal lesions of the brain the disturbances lead to anger and rage.⁸

Among other results of organic brain diseases we find semantic disturbances, absence of critical faculty, and a disturbance of judgement; complicated situations can no longer be grasped, the *evaluation of relations* is impaired, . In cases of labile affectivity the special 'emotion' dominates the patient completely. Trifles make him either very happy or desperate. Because of the *decrease in association* or deficiency in the process of relating, the patient often appears indifferent, although the defect is not primarily in the affective field. Similar difficulties in association or relating make many patients appear egotistic in their *s.r* and behaviour. Since the patients have lost their insight in, and evaluation of, different life situations, their actions appear un-ethical. Tenderness, consideration, tact, aesthetic sensibility, sense of duty, sense of right, feeling of shame, , may all disappear at any moment, though they would otherwise naturally be present. Any kind of impulse may be translated

into action without restraint.⁹ Hemorrhages in the thalamic region often result in marked lability of affects. Diffuse nutritional disturbances of the cortex usually give similar symptoms, as in organic brain diseases, .¹⁰

It should be remembered that in the human nervous system the co-ordinated working of the higher and lower centres is a necessity for the optimum working of the whole. In cats and dogs deprived of the association areas of the cortex, the difference is not so marked. They still behave in a co-ordinated way, provided the thalamic regions are intact. Even in a child without a cortex, we find facial grimaces if we give him something bitter, but higher adjustments are impossible.¹¹ The general 'inhibitory' and regulative action of the higher centres increases with the differentiation of the nervous system; and in man this becomes of paramount importance. This has been shown empirically. For instance, in man and dogs strong negative action on the flow of gastric juices may be 'psychic' in origin. This negative action is weak in the guinea pig, although it is discovered on decerebration. With the tortoise, also, there is some acceleration of the movements of the stomach after decerebration, but in a frog we do not find any negative influence at all.¹²

The facts given above were established through anatomical and physiological structural examinations. If the functioning of the nervous system is examined from the point of view of colloidal chemistry, the gross non-surgical lesions become interpretable as the result of changes in colloidal behaviour. Thus Doctors Wilder D. Bancroft, J. Holmes Richter, H. Beckett Lang, John A. Paterson, Walter Freeman, and others demonstrated that it is possible to find a correlation between the functional psychoses and the state of dispersion of the nerve colloids. For instance, in dementia praecox the nervous system appears in a state of colloidal over-dispersion; and in manic depressive psychoses, in a state of decreased dispersion.¹³ It is interesting to note that in infants the colloids appear more dispersed than in grown-ups and probably similar conditions will be found in cases of infantilism. The above-mentioned scientists have found, also, that the colloidal behaviour of the nervous system can be altered by special chemical treatment with drugs, carbon dioxide, oxygen. , with specific reactions on the psycho-logical level. As *s.r* involve electrical occurrences fundamental in colloidal behaviour, similar symptoms on psycho-logical levels may imply corresponding sub-microscopic colloidal states. Taking into consideration the structural characteristics of colloidal behaviour and the elaboration of technical means, we may discover that semantic re-education must involve differences in electrical potentials. , and result in differences in colloidal be-

haviour in different regions of the nervous system. Experiments should be made in combining chemical means, which effects are not lasting, but which might facilitate the semantic approach, with semantic re-education, which results, once achieved, often become lasting. Colloidal and psychogalvanic investigations of a given patient before and after the semantic re-education should also be made.

Let me emphasize once more that from the colloidal point of view free from identification, the 'body-mind' problem ceases to be a puzzle, as we have a well-established electrodynamic, structural colloidal background which can account perfectly for the experimental facts of 'mind'. The subtleties of the sub-microscopic structure involve an endless array of possibilities. At present we lack detailed knowledge of this structure; for the colloidal developments are very recent, and in this special field very little experimentation has been done.

If we accept the *non-el* point of view, and all known evidence seems to demand it, we must conclude that if different macroscopic, microscopic, and sub-microscopic lesions of the nervous system *result* in quite definite psycho-logical symptoms, which on the semantic levels appear as a lack of *evaluation of relations*; then, vice versa, the use of linguistic systems, which systematically train the immature nervous system of the child and of the grown-ups in delusional evaluation, must result in *at least* colloidal disturbances of the nervous system. These functional colloidal disturbances become superimposed upon the inborn eventual deficiencies of the nervous system, and the end-results may be quite out of proportion to the seemingly slight induced discrepancy. The actual behaviour, adjustment, sanity, . may be considerably impaired.

Before birth, the child can be considered as in ideal conditions. He floats comfortably in a fluid of a temperature equal to his own. All his wants are satisfied, as everything is supplied to him by the maternal body. At birth, the child must begin to breathe, and a little later he must take food, digest, . External influences begin to impinge on him, and he must begin to adjust himself. Very soon the average infant finds that he can get what he wants, within certain limits, by certain movements or by crying. For the infant, a cry or a word becomes semantic magic. In Pavlov's language, a word governs a conditional reflex. In psychiatry, a definite series of such conditional *s.r* of animalistic low order of conditionality is called a 'complex'. In Pavlov's experiments a dog is shown food and a bell rung simultaneously. At the sight of food, saliva and gastric juice flow. Associations soon *relate* the ringing of the bell and the food, and, later, simply the ringing of the bell will produce the flow. In another animal some other signal, a whistle, for instance, would

produce similar effects. In different people, through experience, associations, relations, meanings, and *s.r* are built around some symbol. Obviously, in grown-up humans the identification of the symbol with the thing must be pathological. But in infancy the confusion of orders of abstractions must be considered as an entirely natural semantic period. The infant 'knows' nothing about science and events. Objects and 'sense perceptions' 'are' the only 'reality' he knows and cares about; so he does not and cannot discriminate between events and objects. By necessity, he identifies unknowingly two entirely different levels. As his symbol usually means a satisfaction of his wants, naturally he identifies the symbols with the objects and events. At this stage, also, he cannot know that the orders of his abstractions can be extended indefinitely, or that his most important terms have the multiordinal character. It is important to notice that objectification, and, in general, identification or confusion of orders of abstractions, are semantically *natural* for the infant. The more the child comes in touch with 'reality', the more he learns, and in a 'normal' child the 'pleasure principle', which was established as a method of adjustment on the infantile level, is slowly displaced by the 'reality principle', which then becomes the semantic method of adjustment of the complete adult. Science alone gives us full knowledge of current 'reality'. But science represents a social achievement, and, therefore, a complete adult, in growing up to the social level, must become aware of the latest stages of *m.o* reality. These are given by the current scientific methods and structural notions about this world, and gradually become incorporated in the structure of the language we use, always deeply affecting our *s.r*.

It is important that in the twentieth century we should realize that the work of Einstein and the four-dimensional space-time continuum establishes a language of different structure, closer to the facts we know in 1933, and that it gives us a new semantic method of adjustment to a new 'reality' (see Part IX).

The semantic stages of the development of the child must naturally pass through the stages outlined above. When he begins to differentiate himself from the environment, he is self-centred and concentrated on his 'sensations' (autoerotic). Later he projects his own sensations on the outside events; he *personifies*. This semantic trait is often found in incomplete adults, when in anger they break dishes or furniture.

The child is interested, first, in himself (autoerotic); then in children like himself (homosexual). Slowly his interests turn away to persons less similar to himself, to the opposite sex, and so he enters the semantic period of the race development.

Similar semantic processes are to be seen in the racial developments as given by anthropology, and are reflected in the structure of the languages. In the archaic period of one-valued 'pre-logical thinking', which is found among primitive peoples, the 'consciousness of abstracting' is practically nil. The effect produced by something upon an individual inside his skin is projected outside his skin, thus acquiring a demonic semantic character. The 'idea' of an action or object is identified with the action or the object itself. Identification and confusion of orders of abstractions have full sway.

The paralogical stage is a little more advanced. In it the identification is based on *similarities*, and differences are neglected (not consciously, of course). Levy-Bruhl describes this primitive semantic period by formulating the 'law of participation', by which all things which have *similar* characteristics '*are the same*'.¹⁴ A primitive syllogism runs somewhat as follows: 'Certain Indians run fast, stags run fast; therefore, some Indians *are* stags'. This semantic process was entirely natural at an early stage and laid a foundation for the *building of language* and higher order abstractions. We proceeded by similarities, much too often considered as *identities*, with the result that differences were neglected. But in actual life, without some primitive metaphysics, we do not find identities, and differences become as important as similarities. The former primitive emphasis on identity, later enlarged to similarities, must, at some stage of human development, become semantically disastrous and the optimum adjustment an impossibility.

In building a \bar{A} -system, we have to stress *differences*, build a 'non-system' on 'non-allness', and reject identity. The older semantic inclinations and infantile or primitive tendencies were a necessary step in human evolution. For sanity, we must outgrow these infantile semantic fixations. Similarly, for civilization, we must grow out from primitive structural fixations, primitive metaphysics, taboos, and other primitive *s.r.* These primitive habits, languages, and structural metaphysics and reactions have been extremely ingrained in us through the ages, and it requires effort and new semantic *training* to overcome them.

In the 'mentally' ill we find sinister and very close parallels to the behaviour of the primitive man and the infant, not only in the 'mental' and 'emotional' responses, but even in physical behaviour, postures, drawings, and other modes of expression. These parallels are today recognized by practically all scientific workers and are analysed in many excellent volumes.

We should notice that in this maze of observational material. one general rule holds; namely, 'consciousness of abstracting' offers a *full*

semantic solution. In it we find not only a complete foundation for a theory of sanity, but also the semantic, psychophysiological mechanism for the passing from the infantile, or primitive-man, level to the higher level of complete adulthood and civilized social man.

The following drawing is taken from Bleuler's *Textbook of Psychiatry* (p. 402) and was made by a very ill patient (chronic catatonic) who could formerly draw well; yet this drawing is obviously *childish*. The literature of psychiatry abounds in such productions, and they confirm fully the processes as described in psychiatry.

Adult infantilism becomes usually a potent wrecker of individual lives, and, when viewed from a social, national, or international point of view, accounts, also, for the majority of our semantic difficulties in the social, economic, and political fields.

Although we treat infantile, arrested, and regressive symptoms together, it is important to realize that most of these characteristics are *normal* with the primitive man, and the infant, provided the child outgrows them. The difference between arrested

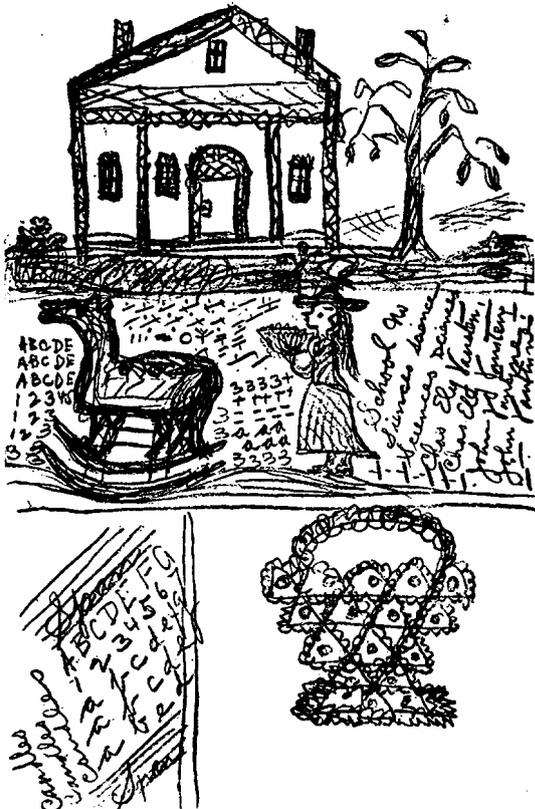


FIG. 4

development and regression seems somewhat like that between a poor man and one who has lost his fortune. In the first case, the functioning of the nervous system is unsatisfactory through some deficiency; in the second, the potentialities for efficient working were there, but some semantic obstacle originated the regression, or else some degenerative neural process set in.

In the field of higher abstractions the train of 'ideas' of children imbeciles, and idiots is restricted. Uncommon 'ideas' are left out, and only those which originated in immediate 'sense perception' are easily grasped. Until lately, even in science, such an attitude was noticeable, as for instance, in gross empiricism, or in the case of the physicist already mentioned who was willing to 'fight' to prove that he 'saw' the 'electron',. He did not realize that inferential entities are just as good abstractions as those he 'sees'. The attitude of the 'practical man' who pooh-poohs science and the 'highbrows' may serve also as an example.

Children, idiots, and imbeciles cannot comprehend anything complicated; they see some elements, but miss the relative wholes. We have elaborated a racial language of 'senses' and elementalism. Similarly, in schizophrenics the relative whole is disregarded, while, on the other hand, a single semantically effective characteristic is sufficient to connect the most heterogeneous abstractions in an unnatural whole. Word-relations have a predominance over actualities (identification). Thus, a patient looks anxiously at a moving door and exclaims 'Da fressen mich die Thuren'* and refuses to pass through the door-way. Here we see the identification of words with objects carried to the limit. In general, the *s.r* of the schizophrenic seem such that he identifies intensely his higher abstractions with the lower.¹⁵

Much excellent material on infantilism can be found in Dr. Joseph Collins' *The Doctor Looks at Love and Life*, particularly in his chapter on Adult Infantilism, from which much of the following material is taken, and which I acknowledge gratefully.

Children and idiots live in the present only and do not concern themselves with the past and the future beyond their immediate gratification. Infantile types also want all the 'sense' enjoyment of the moment, never enquiring about the sufferings of others or of the consequences for themselves in the future. Indeed, their attitude is often hostile toward those who take into consideration a larger field. 'Après nous le déluge' represents their royal semantic motto. On national and commercial grounds, they devastate their natural resources, since they are interested only in some immediate and selfish advantage. They love praise and hate blame, not realizing that a *critical* attitude gives the foundation for proper evaluation and becomes a semantic characteristic of maturity and that, generally, it is *more beneficial* in the *long run*. They thrive and thrill on commendations and compliments, and shiver and shrink at disapproval. Such characteristics are found even in whole nations. They

* Animal = Thier, Door = Thur, so that the unconscious play upon words gives the meaning: 'Doors devour me', for 'Animals devour me'.

are self-satisfied, and keep aloof from others in international affairs, not realizing that this is impossible, and that the attempt is ultimately harmful to them. They assume, as an excuse, the superiority of their institutions, and the 'righteousness' of their own conduct.

Children and superior idiots appreciate resemblances more readily than differences. Simple generalizations are possible, but often they are hasty and faulty. A child's pride and self-respect are hurt if he is considered different from other children, or is dressed differently. Originality and individuality are tabooed among children. Because of semantic undevelopment, differences become a disturbing factor to them; they want everything standardized. On national grounds, the adult infants standardize all they can and have even a kind of hostility to anything which has an individual flavour. For instance, those who wear straw hats after an arbitrary date are attacked on the streets. Not wanting to 'think', or to bother about differences, they fancy that they can regulate life by legislation and they keep busy manufacturing 'laws', which are very often impracticable and self-contradictory. When they pass several thousand 'laws a year, these become a maze and a joke. The ultimate semantic result of such over-legislation is a complete lack of justice or of any respect for 'law'. Not being able to 'think' for themselves, they leave that bothersome function to politicians, priests, newspapermen, . Under such conditions life is impossible without expensive lawyers.

Not having the critical semantic capacity for proper evaluation, their likes and dislikes are very intense. They cannot differentiate the essential from the unimportant. The immediate 'sense' perception or 'emotion' unduly influences their actions. Impulses to copy others dominate them. They are often prejudiced. This results in weak judgement, over-suggestiveness, 'emotional' outbreaks, exaggerated sensibility, variability of affective states, and, finally, in an attitude toward life devoid of proper evaluation. Their moods are changeable; their attention readily gained and as readily diverted. They become easily intimidated and frightened, and easily influenced by others.

The above semantic characteristics are sponsored by commercialism, and build up the kind of methods, advertisements, and business policies which we see about us. This also introduces a semantic factor of disintegration into human relationships, as it leads to methods of trickery, to 'putting something over' on the other fellow, and appeals to self-indulgence, . When such commercial tactics are national, their sinister educational effect is pronounced. Children, from the age when they begin to read, are impressed by such practices as *normal* and take them as

semantic standards for their own further orientations. Unfortunately, even psychiatrists have not, as yet, analysed the semantic influence of such advertisements on the building and preserving of infantile characteristics.

Children lack moderation and a semantic sense of proper evaluation. Tolerance is not one of their characteristics. To them persons and 'ideas' are evaluated in extremes, either good, 'wonderful', or bad, 'terrible'. Their *s.r* appear dogmatic and stubborn, as in all the unexperienced. They talk too much or are silent; they praise too much or blame too much; they work too hard or play too hard, and know no middle ground. The whole life of a nation may be coloured by such semantic attitudes. Nations become boastful of their own possessions and achievements, and happily borrow and forget the achievements of others. They pride themselves on having the largest airships, the largest cities, the highest buildings, the longest bridges, . They know no moderation in food or drink; they eat or drink too much or become total 'prohibitionists'. They exhibit quick friendships and quick dislikes. They are solemn in their games, like children who are playing father and mother, and make out of games a national event. The childish pleasure of defeating an adversary accounts for national crazes, like racing, boxing, football, baseball, and similar sports, which often overshadow in public attention all really important issues.

Children and many idiots are incapable of any choice which involves meanings and evaluation. When confronted with a situation in which they have to choose between two alternatives, they have difficulties, and often want both. Similarly with 'ideas'; they often keep sets of entirely self-contradictory 'ideas'. Even scientists of an infantile type do so, and then publish 'manifestos' in which they try to justify such behaviour and semantic attitudes. Merchants train salesmen especially to induce customers with such infantile *s.r* to buy what they do not need. This attitude is often extended to marriage. Any man and woman may marry simply because they come across each other; then, when they meet somebody else, they soon change the object of their sentiments.

All classes of feeble-minded and children show marked credulity; they like fairy tales and fantastic stories. Free inventions, by a process of objectification, are taken as experience. Children and schizophrenics *pun and play on words*. They build up languages of their own. Perseveration and stereotypy in speech are also found among them. National commercialism utilizes this principle in advertisements and tries to run a country by verbal slogans and play on words.

Many children and feeble-minded show distinct acquisitiveness. Like some animals, they show a tendency for collection of objects, and value their collections highly. It is a well-known childish game to claim the best morsel of some food because one has put one's hand on it first. Acquisitiveness is made a national slogan and proclaimed a highest aim, which, of course, becomes a semantic source of endless wars and miseries. Infantile legalistic 'putting hands first', on a piece of paper as a title to land, or some such similar form of a 'claim', becomes a source of ridiculous fortunes for the few and of unbearable life-conditions for the many.

Children are gregarious and afraid to be alone. Similar tendencies are carried on by Rotary and other clubs and lodges. Infantile grown-ups are too empty in their heads to desire to be alone. Children seldom stick to anything for long. They hunt for new excitements, and the old toys are often soon forgotten. Similarly, grown-up infants hunt for new excitements, for new toys, whether they be a house or an automobile, a wife or a lover.

In children and the feeble-minded, we seldom find such feelings as shame, aesthetic sentiments, or appreciation of beauty. They like things bizarre, grotesque, glittering, and enormous, things which attract and hold their attention. Similar characteristics are found in incomplete adults. Children and the feeble-minded are usually untidy and noisy. Visiting a public park, or witnessing a 'celebration', will show an observer clearly how infantile grown-ups behave.

Children like to domineer over their younger brothers and sisters and to play the leading part in a game. Similar semantic characteristics are carried into adult life, sometimes taking the form of sadism. We often see infantile docility or resentment, as expressed in sentimental approval or bitter disillusionment, both generally unjustified.

Self-respect is little developed in the idiot, but plays an important semantic role in the life of imbeciles and children. The infantile adult also shows an exaggerated self-respect. Bus conductors and university professors label themselves with a title—even if it is only 'Mr.' John Smith, as if being called simply 'John Smith' would be offensive to him. An adult evaluates a man by what he has in his head or character, but the infantile type largely judges him by the *symbols* (money) which he has, or the kind of hat or clothes he wears. Since commercialism cannot sell brains, but can sell trousers or a dress, it establishes semantic standards whereby a man is evaluated by his clothes and hats.

In speaking of exaggerated self-regard based on improper self-evaluation, we touch the problems of infantile self-love and self-impor-

tance. Infantile grown-ups carry these even further, and are unable to make dependable attachments to other persons. The love of parents toward their child is largely because it is *their* child; and infantile A 'loves' B, only because B 'adores' A and gives up his individuality. The moment something changes in B, all the 'love' A had disappears. The unbelievable bitterness which appears in divorce-court scenes shows clearly the value of infantile 'love'. Such 'love' is often based on purely egoistic grounds. They 'love' what they represent to themselves, what they once represented, what they would like to represent. Infantile parents see all kinds of perfections in their babies, although a sober outsider does not share these opinions. An infantile mother treats her child like a doll, plays and is thrilled with it, but soon gets tired as the responsibilities become irksome. An infantile father sees in the child, first, a toy, and, later, a nuisance.

Infantile adults have little regard for, or endurance of, life responsibilities. They tire quickly, are easily discouraged and frightened. They are thus irresponsible, unreliable, and a source of suffering for those connected with, or dependent on, them. This permanent suspense for others produces, perhaps, one of the most serious sources of worries and unhappiness. Since it is persistent, it gives continual, painful nervous shocks, the cumulative effect of which is bound to be harmful.

The infantile individual himself cannot fail to notice that something is wrong, for life makes him quickly aware of it. But, in his self-love, exaggerated self-esteem, he overlooks his own shortcomings, and blames everybody and everything but himself. In the face of 'injustice', he becomes discouraged, timid, or bitter and pessimistic. He is unable to discharge his duties, and becomes a disappointment as a father, husband, friend, and, ultimately, as a human being and citizen. Bitterness, disappointment, and painful semantic shocks pile up on all sides under such conditions.

One of the important characteristics of infantilism of all degrees takes the form of exhibitionism, an impulse for showing off, even by crude display of himself, his body, . This tendency is very common, and leads to many results of a very undesirable social character. Infantile men and women are primarily in love with *themselves* and care only how pretty they are. They spend large portions of their income and life on dresses and grooming, which, of course, have no social value. Such types live in an infantile world and are socially useless, often parasitic on the social body. Often those who support them ruin their lives to satisfy these infantile semantic characteristics.

Infantile exhibitionism leads, also, very often to a selection of a career. Most diplomats, politicians, professional military men, preachers, actors, boxers, wrestlers, athletes, many lawyers and public speakers, to list only the more important professions, select their professions because of this infantile tendency. We should notice that in this list we find the most important professions which, as yet, have shaped our destinies. Royalty, hereditary potentates, and many plutocrats live under such infantile fairy-tale conditions that they necessarily become semantically twisted.

This pathological tendency probably accounts for our so-called civilization being at an infantile asocial level, based, as it is, on selfishness, 'sense' gratification, might, brutal competition, acquisitiveness, . We should notice that whole 'philosophies', such as theism, the older ontology, teleology, materialism, solipsism, the Anglo-Saxon philosophy of selfishness, and different military and commercial philosophies, clearly display these infantile characteristics. Commercialism, the 'law of supply and demand', as a by-product, also follows from infantile world-outlooks. Those who are interested in problems of politics, economics, sociology, war, and peace, should investigate their problems from this semantic point of view. As Burrow well said, the problems of war are more the problems of psychiatry than of diplomacy.¹⁶

Many women at present are still infantile, very little developed as human beings; they are themselves exhibitionists and also *sponsor exhibitionism*. It should not surprise us to find that these characteristics, the lavishing of 'love' on shiny buttons and on regiments marching to their destruction, have favoured wars. During the Russian revolution of 1905, the czar's soldiers were on the streets. But women did not 'love' them then. Little children spat on them from behind corners. The result was that very soon the soldiers *refused to carry on this unapproved service*. I know many cases connected with the World War, where, in spite of unspeakable horrors, many regretted the ending of the war because of the infantile approval shown by their women for their 'glory' and the infantile thrill the soldiers themselves experienced because of the shiny buttons, martial music, and parades. In the old system, militarism, religionism, legalism, and commercialism are strictly interconnected by similar *s.r.* Eliminate any one of them for good, and the others would become obsolete or would disintegrate. Our infantile women, no doubt, have sponsored through the ages these infantile social cancers.

The future war will, perhaps, automatically bring these problems to the foreground. It will be an extremely devastating (and less picturesque) aerial war, in which women and children will not be spared.

Then, perhaps, some of these infantile women will begin to *face m.o reality*, and so will help to start a new era of human adulthood. Men will always depend in their standards on the wishes of women.

In infantile nations we witness, also, a great deal of exhibitionism, a craze for athletics, clothes, sumptuousness, noisy behaviour, parades, uniforms, 'military academies', military drills, . 'Serious', yet infantile, 'business men' love to parade on the streets dressed up like little boys or circus performers, give themselves some 'mysterious' high-sounding and empty high titles, play with swords which they do not know how to handle, . In international affairs, of course, a nation of a more pronounced infantile semantic tendency will seek to keep away from adult international associations. The attitude of the United States towards the League of Nations and that of Great Britain towards the project of a confederated Europe suggest themselves at once in this connection.

Infantilism has another serious and detrimental connection with race problems; namely, through the sex glands or gonads in their effect upon 'love' and other activities. We should realize and emphasize that the sex glands do not function only as 'sex' glands in the common meaning of the word, but even more as *internal secretion glands* with an enormous bearing on all life and 'mental' processes; a *Ā*, *non-el* orientation should never forget that.

The various consequences of castration are well known, and need not be repeated here. But the interrelation of the gonads with the thymus and with thyroid glands is of interest to us. The term gonad means reproductive gland, which produces the egg cells or the sperms. The thymus is a term applied to a light pink gland situated in the superior and anterior part of the thorax. It extends up into the roots of the neck and comes close to the thyroid gland. The thyroid gland is a term applied to a deep red glandular mass consisting of two lobes which lie, one on each side of the upper part of the trachea and lower part of the larynx. In women and children the thymus is relatively larger than in the adult male.

In humans the thymus grows up to the second year of life and then rapidly diminishes, so that only traces of it are found at puberty. In certain cases of *arrested development* or of general weakness in young people the thymus has been found to be persistent. Castration at an early age leads to the persistence of the thymus gland. Normally, the gland atrophies before the gonads come to maturity and begin to function. In some of the lower mammals the gland does not disappear as early as it does in humans. The thymus of the calf is popularly called the 'chest sweetbread'.¹⁷

Atrophy of the thyroid in the adult is usually followed by blunting of 'mental' capacity. Speech is slow, and cerebration delayed. If the secretions are lacking in childhood we have what is known as cretinism. Excessive activity of the thyroid produces a condition known as exophthalmic goitre. In many females at each menstruation the thyroid is perceptibly enlarged. Extirpation of the thyroid before puberty brings about, among others, signs of cretinism, failure of development of the ovaries. . so that puberty is delayed partially or completely.¹⁸

Even these few particulars are sufficient to make us understand that when we begin to deal with 'infantilism', 'arrested development', or 'regression', or 'adulthood', we deal with fundamental *non-el* semantic life-problems which are connected structurally with the organism-as-a-whole. Bleuler describes disturbances of affectivity thus: 'The so-called psychopaths are really nearly all exclusively or mainly *thymopaths*. Furthermore, since affectivity dominates all other functions, it assumes a prominent role in psychopathology generally, even in slight deviations, not only on account of its own morbid manifestations, but even more because in disturbances in any sphere, it is the affective mechanisms that first create the manifest symptoms. What we call psychogenic is mostly thymogenic. The influence of the affects on the associations produces delusions, systematic splittings of personality, and hysteroid twilight states; repressed pain is the source of most neurotic symptoms, while displacements and irradiations produce compulsive ideas, obsessive acts, and similar mechanisms.'¹⁹

The thymus appears not only as a childhood gland, but the adult gonads begin to function when the thymus ceases to function. When the thymus persists, we often find arrested development and psychopathological disturbances connected with infantilism. It should be remembered that in the organism not all 'cause and effect' sequences appear as *one-to-one*, but mostly as *many-to-one* relations. Therefore, no standard mechanism can be readily assigned to a semantic disturbance. But there are enough structural, functional, and colloidal mechanisms known to account for most disturbances, although the precise working is not known, 1933, in most cases.

Psychopathology and experience show that the 'self-love', 'self-sufficiency'. . of infantilism are usually accompanied by marked sex disturbances, which, from a racial point of view, are just as important as the semantic disturbances.

Infantile types often have 'charming' qualities. The women 'are sweet', 'nice'; the men seem 'good mixers' and 'popular'. The opposite sex often likes these characteristics. In men a feeling of sympathy

is aroused for the 'helpless little girl', or else pedophilic tendencies are released. (Pedophilia is used as the name of a 'mental' disturbance or desire for relations with children, often found among senile dementia and imbeciles.) In women, often a feeling of motherhood leads them to like infantile males. The charm of the child lies, to a great extent, in his narcissism, his self-sufficiency, and inaccessibility. Certain animals, such as cats and larger beasts of prey, fascinate us, as they do not concern themselves with us and are inaccessible. But this 'charm' has another and very tragic side. Such infantile types cannot stand responsibilities; their affections are shallow and unreliable; they know how to take, but do not know how to give. In life, such connections lead invariably to great unhappiness, and often to disasters. The children produced by such infantile types are usually completely ruined by the lack of parental understanding or lack of care. Instead of liking such types, men and women of semantic maturity should either avoid them or suggest psychiatric consultation.

Infantile types invariably show some sex disturbances, which also add greatly to family and social difficulties. The men are often impotent; the women, frigid. Onanistic and homosexual habits or tendencies persist, although such an adult infant is married and has an opportunity for normal life. A very important \bar{A} , *non-el* fact should be noticed. Since the organism works as-a-whole, 'mental' components should be considered in connection with sex life. An infantile type appears still in an organ erotic stage. He wants only sense gratification. From a theory of sanity point of view, *prostitution appears as a substitute for onanism*. In adult infants, we very often find either impotence, frigidity, onanism, homosexuality, as simple forms of arrested development or regression, or more extreme forms, like many cases of prostitution. Infantiles not only indulge in promiscuity, but build up fanciful rationalizations and represent their own infantile tendencies by 'theories' as 'normal' conduct. Many criminals, professional 'vamps', and professed 'heart-breakers' belong to this type. It is interesting to note that many 'mental' illnesses are connected with different onanistic rationalizations. Often excessive cleanliness, continual washing of hands, appears. If a schizophrenic onanist has a melancholic make-up, he rationalizes his problems that he is 'rotting because of his sins'. If he has a manic make-up, he feels that he 'is a saviour of mankind'.²⁰

In all such cases family life is very unhappy, and the future of the children bred under such conditions is usually gloomy. Children need healthy family and semantic conditions to develop into healthy individuals.

The majority of professional criminals and prostitutes have an infantile make-up. No matter how cunning, they usually show little foresight. They appear egotistic, boastful, exhibitionistic, . Gangsters love pomp; their funerals are, as a rule, very expensive,—they want, even after death, to ‘show off’. Criminals seldom become good fathers or mothers. They treat each other brutally and are generally promiscuous. Ethically, they behave usually as ‘moral imbeciles’, not realizing fully what they do. I am not advocating the abolishment of the death penalty on sentimental grounds, but an *enlightened* society should abolish any *penalty* on sick individuals. The ‘mentally’ ill criminal type should be either taken care of or else eliminated with some scientific benefit, but *not* as a *penalty*. Professional criminals can hardly ever become ‘morally reformed’ or useful members of society, unless the application of medical science can alter their pathological *s.r.* Without scientific attendance, they would practically always remain socially dangerous individuals. If we want to grow out of the present infantilism, experimentation on humans should be encouraged. Modern experimentation on animals is very humane, and suffering is eliminated. Criminals who are condemned to death should be given to science for experimenting. They would not suffer. Ultimately, they would probably die, but the benefits to the rest of mankind through scientific discoveries would be very important. Under present conditions, we ‘take revenge on’, ‘punish’ ., mostly *sick* individuals, with seriously brutalizing semantic effects on the rest of us. There is not the slightest doubt that experimentation confined solely to animals, no matter how useful, will not solve many problems of Smith. Experimentation on humans is essential, and must be permitted. Most of the notorious criminals who go to the gallows appear at least infantile. How instructive it would be to make experiments on such individuals in respect to their thymus, . The list of experiments which science ought to make is very long, but material is lacking for such experimentation. Let me repeat that modern science can conduct its experiments without suffering to the individual, in spite of the fact that some of these experiments would be dangerous and might easily end in the painless death of the subject. The killing off of criminals (sick individuals) as a ‘revenge’ or ‘punishment’ or ‘justice’ is really too antiquated and too barbaric and *wasteful* for an enlightened society. If society wants to *eliminate* them, society can do it; but, at least, let us do it without such brutalizing morbidity, and with as great benefit to knowledge as possible.

The elimination of infantilism must be considered more than a personal issue with individuals; it becomes an *international semantic*

problem; and such an international body as the League of Nations might originate a new era by starting a fundamental enquiry into this subject.

Infantilism in its national aspects is not equally distributed. Some countries are more infantile than others. In some countries even the university students show marked under-development for their age. Burrow reports that a questionnaire among students of a prominent university in the United States of America shows a surprisingly large percentage of onanism and homosexuality.²¹

We should notice that not even all scientists are free from infantilism. Many of them are childlike in that they do not really care for science, or civilization, or society, but are *asocial* and merely like to play with their toys. As an excuse (rationalization of tendencies and 'emotions'), they usually profess 'science for science' sake', not realizing that a complete adult must become a *socialized* individual and cannot keep aloof from general human interests, and that science represents a *public*, time-binding activity and concern, not the private pleasure or benefit of some one person.

Section D. Constructive suggestions.

As we have already seen, a young child cannot be 'conscious of abstracting', but he can acquire it gradually with experience. Racial, ordered experience is called science. Every one of us has the tendencies, and, to some extent, the capacities, for developing science. The main aim of such racial, ordered experience is to save effort and unnecessary experiences, so that a child may start where the father leaves off (time-binding). The problems of consciousness of abstracting should be formulated by science and made available for semantic training. This would fulfill the main requirements of science, to save experience and effort, and to predict the future, to help in the mastery over external and internal 'nature', and so to produce semantic and physical adjustment.

If we teach and train the children in the consciousness of abstracting, we save them an enormous amount of the effort which would be necessary to acquire it eventually by themselves, and we also eliminate a great deal of unnecessary sufferings and disappointments. There is no danger of taking 'the joy out of life'; the opposite is true. With the consciousness of abstracting, the joy of living is considerably increased. We have no more 'frights', bewilderingments, or similar undesirable semantic experiences. We grow up to full adulthood; and when the body is matured for the taking up of life and its responsibilities, we accomplish that, and find joy in it, as our 'mind' and 'emotions' have also matured. Such a consciousness of abstracting leads to an integrated, semantically

balanced and adapted adult personality. Joys, pleasures, and 'emotions' are not abolished, as this cannot be done, given the structure of our nervous system and 'mental' health, but they are 'sublimated' to higher adult human semantic levels. Life becomes fuller, and the individual ceases to act as a nuisance and a danger to himself and others.

In the racial aspects, if the development of the individual became normal, we should grow beyond infantile organ erotic fixations and *el* languages and infantile systems in all fields. A \bar{A} -system, in accordance with science 1933 (E , \bar{N} systems), would be the human link supplying scientific standards of evaluation to the affairs of Smith.

With the older infantilism and the practically general lack of full consciousness of abstracting, the fears, frights, painful 'emotional' shocks under which mankind lived were bound to have a marked, lasting, and sinister semantic and neurological effect upon the race. The race has never had an opportunity to develop in an adult way. What will be the results for the race of such a transformation it is impossible, at present, to foresee; but one thing is certain, that the results are bound to be very far-reaching.

To afford a better appreciation of what the consciousness of abstracting can accomplish, two more points should be explained. Most young fish do not know their parents, and, from the beginning, their life is independent of parental influences. The human child is helpless, and, for a comparatively long period, is under parental influence. His *s.r* are consequently moulded, 'mentally', 'emotionally', by the doctrines, taboos, structure of language, ., of the parents, . When we speak of a human child, we should never consider him in a fictitious isolation, which has nothing to do with *m.o* reality. *Both* parents and child should be made 'conscious of abstracting'. Only under such semantic conditions can the full benefit be reached. If parents are conscious of abstracting, and realize that their child represents, also, an abstracting in higher orders organism, which consciously or unconsciously registers in one form or another all happenings, the majority of the present unfortunate conditions, 'complexes'. , could not possibly arise.

An important, yet usually disregarded, characteristic should be mentioned here. It is known that *repeated* 'emotional shocks' in childhood do harm. As the experiments of Watson show, the child is usually born without 'fears' and without 'frights'. Now 'fears' and 'frights' are not *simply additive* (a linear function) but follow some other more complex function of higher degree. If we denote the constitutional potentialities of the child by f , and the given event by x , the result of the impact of x on the life of the child would be a reaction $f(x)=F_1$. This F_1 desig-

nates what his make-up would make out of, or abstract from, x . When another event y happens, the reaction of the child is no longer $f(y)$, because this new event is usually taken by the child in the light of the former experience $f(x)=F_1$. Thus, the effect on the child would be different; namely, $F_1(y)=F_2$. If a new event z should happen, the child would react in his 'feelings', as $F_2(z)=F_3$. We see, then, that 'hurts' and, in general, $s.r$ are *not simply additive* but may follow some other higher degree function. This process appears general, perhaps necessary, and yet it involves many dangers which can be completely eliminated *only* by the acquired consciousness of abstracting.

In practice, when we train a child in the consciousness of abstracting, we begin to check this devastating semantic process of piling up 'hurts' on 'hurts'. Let us assume that before we begin to train the child, the child has already had painful experiences. His memories are still fresh, still fluid; he has little difficulty in dwelling on them. With the consciousness of abstracting, and so proper evaluation, dawning upon him, further 'hurts' would 'hurt' less and less until the hurting process would stop altogether. In case some semantic harm had been done to the child before he became conscious of abstracting, the memories would be still fresh and he could apply his newly acquired semantic evaluational immunity to the harmful 'hurts'. New 'hurts' in practice are usually related or similar to the old ones; they would 'revive' the older hurts. Accordingly, he could not only 'live through' the older experiences but at once revise them, and after re-evaluation eliminate the harmful effects.

Semantic 'emotional pains' absorb nervous energy and prevent a full development of our capacities. Directly the consciousness of abstracting is acquired, the vast field of 'unconsciousness' is diminished, and the nervous energy which was engaged in fighting semantic phantoms is released. We should expect keener and sustained attention, strengthened interest, and other creative manifestations. Consciousness of abstracting, as it leads to proper evaluation, not only eliminates many unnecessary sufferings and semantic disturbances, but, by doing so, actually releases stores of energy for useful and creative purposes.

The human brain has vast areas which, at present, have no definitely known functions. Perhaps, with the older *lack* of consciousness of abstracting, the flow of nervous energy was misdirected or absorbed by the older ways of 'feeling' and 'thinking' in the lower centres. Thus, the available energy left was not sufficient to utilize the higher centres to the full extent.

Personal semantic difficulties always seem very personal, and no outsider can ever fully grasp the situation. One of the benefits of the

present method of training in sanity consists in the fact that we do *not* dwell upon the personal affairs of the individual, but that we give, instead, a general structural semantic *method*, by the aid of which every one can solve his problems by *himself*

We have established sharp differences between 'man' and 'animal'. These differences must be considered of higher order, as the terms 'man' and 'animal' are applied to abstractions of higher orders. We found that 'man' through ignorance and inappropriate *s.r* can copy animals in his nervous reactions. Such copying appears either as arrested development or as regression. In dealing with the terms 'conscious' and 'unconscious', we discovered a general and human content for *human* 'consciousness'; namely, the 'consciousness of abstracting'. The ascribing of a *general content* abolishes a vast field of 'unconsciousness', and so tends to prevent arrested development, infantilism, regression. , whenever this is possible. The problem of making the *structure* of language similar at a given date to the structure of the events it symbolizes, is introduced. The conquests of science become incorporated into daily life by the use of the new *language*. The *structure* common to both science and language appears to be the intimate bond between science and *human* life. The masses gain simple structural and semantic means for adjustment.

A theory of sanity must draw attention to problems involving 'truth', 'falsehood', 'repressions', . Since the main usefulness of the theory is to help in attaining the most efficient working of the nervous system by the elimination of disturbing semantic factors, 'attitudes', doctrines. , we must investigate the effect false (or repressed) statements may have on the working of the nervous system.

For instance, if we *see* that A, B, and C are given in the order A, B, C, such lower abstractions start cycles of nervous currents, which correspond to the *seen* order. If we *see* the order A, B, C, and *say untruthfully* that the order appears as C, B, A, this *statement* results, also, from some cyclic nerve currents. Obviously, we have *some conflict and disturbance in the working of the system*. If we make a mistake, the situation is different. Let us say that many observers definitely establish the given order as A, B, C. A new observer *sees by mistake* the order as C, B, A. His nervous currents correspond to his error, and when he makes a *truthful statement* that he has seen C, B, A, this statement also is connected with the appropriate nerve currents and there is *no conflict* or disturbance between the corresponding nerve currents. The seen and reported correspond to each other.

It is easy to conclude that mistakes and deliberate falsehoods have a different mechanism. A mistake, which leads to a subjectively true but objectively false statement, has no nervously disturbing factors. Deliberate false statements about facts involve semantic conflicts and disturbances in the functioning of the nervous system. Similarly, with 'repressed' material, permanently conflicting nervous currents are present. The nervous energy is spent on conflicts and struggles, while all of it is needed for constructive purposes.

In scientific work we have similar problems. We gather different abstractions of lower orders and then make higher abstractions about them. When these two different orders of abstractions fit nicely structurally, we are satisfied and enjoy the resultant harmony. If they conflict we feel restless. Often scientists spend years, or even a lifetime, formulating higher order abstractions which do not conflict structurally with the lower abstractions. Then they feel satisfied. Scientists know well the feelings of 'mental' pain and discomfort. Creative work is carried out because of such discomfort. Those who are *not creative* do not experience this, but they also do not produce important work.

The problems of structure, of correct symbolism, of evaluation, of the production of higher order abstractions which are structurally similar to the lower order abstractions, must have a neurological significance, and should be investigated from this point of view. Scientists should try to eliminate these unnecessary conflicts. Those who feel no conflicts may, nevertheless, be so involved in it that they have no free nervous energy left to overcome it. Some such attempt is being made empirically in semantic therapy. The psychiatrist tries to discover and eliminate the semantic conflict, thus freeing nervous energy which may then be spent on useful work.

In racial and national levels, systems of politics, economics, which are *based on falsehoods and repression of truth*, must unbalance the working of the nervous systems of the people. Since they are the result of the infantile *s.r* of the race, they propagate the arrested or regressive development in the part of the race whose *s.r* they influence. As usual, the vicious circle is working here also. A \bar{A} -system throws an entirely new light on the significance of science in *human* life. Radios, with their attendant possibilities of hearing jazz or a delusional 'revivalist', and the invention of bigger and better means for killing people, do not represent the main *practical* importance of science. *Generalized* science means scientific method and the discovery of the structure of events, to which the structure of our language must be adjusted if this daily tool of everybody is not to play dangerous semantic tricks.

A 'science of man' must follow science (1933) in its structure and method. Only by accepting the current 'scientific metaphysics' as given by science at a given date *is sanity possible*. The passing from an infantile 'civilization' to an *adult civilization* of fuller human life and happiness will come with the development of a scientific civilization which has scientific standards of evaluation. But the passing will not be so easy. As we have already seen, science contains affective factors, and many scientists still appear infantile. In order to enter upon an adult civilization, we must first have non-infantile leaders, who must be produced by appropriate training. This involves much research work along the lines sketched in the present work, and the establishment of chairs of general semantics and psychophysiology in universities. Educational methods must be radically revised, and experimentation encouraged in the widest sense.

In 1933 we know positively that in the physico-chemical and colloidal structures we find conditions of practically endless possibilities corresponding to the very large numbers of semantic states and reactions. Medical practice shows experimentally that a great many physical symptoms involving some colloidal states are produced by semantic disturbances; because, once these disturbances are eliminated, the physical symptoms vanish. The enormous numbers of observed and possible different *s.r* could not be accounted for by the older, still prevailing, *el, A*, and two-, or three-valued outlook, and the cumbersome, extremely limited, and necessarily slow chemical 'passing of different substances' through the nervous system.

It is true that every student of medical science is acquainted with colloidal behaviour, but this knowledge has been neither emphasized nor consistently applied, because colloidal behaviour represents physico-chemical processes involving electromagnetic, high pressure, manifestations which cannot be dealt with at all by *el, A* means. Thus, a physician who is not trained in \bar{A} general semantics, cannot 'think' in colloidal and physico-chemical terms, which in 1933 are the only modern ways of dealing with the organism-as-a-whole. This is much more serious than the layman or even the physicians realize, and accounts for the fact that, in spite of different special achievements and different discoveries, the practice of medicine is becoming more and more unsatisfactory. It also explains why the average physician cannot grasp the importance of psychiatry for general medicine, and why some psychiatrists indulge in very unscientific and doubtful metaphysics. Thus, a general physician who 'thinks' uniquely in seriously antiquated chemical and physiological terms, deals with a non-existent, fictitiously isolated *A* and *el* 'body',

and cannot grasp the necessity for a *non-el*, \bar{A} , and a physico-chemical, colloidal outlook, which integrates 'body' and 'mind'. The majority of psychiatrists in their turn, and for similar reasons, often have a highly metaphysical outlook, repulsive to the general physician. They do not seem to realize that they have at their disposal colloidal and physiological mechanisms as well as physico-mathematical formulations based on four-dimensional order, and that they, therefore, do not need any doubtful metaphysics. With \bar{A} modern semantics, the only possible scientific outlook (1933) must be colloidal, physico-chemical and physico-mathematical, in which the long sought for *non-el* solution of the 'body-mind' is found. The difficulties I am dealing with are general and depend on fundamental principles, the disregard of which introduces semantic blocking factors, at present imposed on the medical students, and from which only a few exceptional, scientifically inclined individuals are capable of breaking away. From the present point of view the older reflexology is also unsatisfactory and requires a \bar{A} reformulation.

The present system, although far from complete, already suggests many most important structural issues which should be *verified empirically*. Experiments *alone* can decide which verbal structures are similar to empirical structures, and experimentation should be encouraged in the widest sense. Some further theoretical work should also be done. Clinical literature describes many new and unexpected facts. These facts should be described anew in the new language, to see what relations survive the transformation of forms of representation. Thus, if it is found that *all* 'mental' ills in *all* different formulations indicate *improper evaluation*, we should be justified in concluding that *evaluation* represents an invariant general characteristic of the activities of the human organism-as-a-whole, and, consequently, must be of extraordinary importance for adjustment and sanity. When we reach this conclusion, we should investigate the *mechanism of evaluation*, starting with the simplest issues; namely, investigating those factors which make proper *evaluation impossible*. We should discover that identification in *all cases* makes proper evaluation impossible, and should then conclude that identification must be entirely eliminated before we can go one step further. In fact, once we have reached these rather obvious results, the rest of the \bar{A} -system follows. But this would not be enough; we must verify the conclusions *empirically*, and this suggests directly that a definite series of experiments should be undertaken.

In hospitals for 'mentally' ill two equally large groups of accessible patients exhibiting similar clinical symptoms should be selected, and isolated. A physician who himself has undergone a \bar{A} training should

attempt to re-train the *s.r* of one group. The other group should not be re-trained, but treated in the average passive and standard way,—it would be the control group. One physician should be in charge of both wards and keep a detailed record of the cases and treatment. It is to be expected that at the end of the year, in the ward trained in the \bar{A} standards of evaluation, a larger number of unexpected and spontaneous recoveries would happen than in the untrained ward. It would be extremely instructive to have more than two groups, and to attempt a different group method, following some other medical school based on another system-function. The passive attitude toward the patients should be changed, as under the older methods physicians in ‘mental’ hospitals are more glorified keepers than medical men. This is what theory suggests. Experiments alone can show if these conclusions are correct. In special individual cases, the theory has already been confirmed, but it should be tried as a group method, and, if successful, only then would ‘mental’ hospitals become hospitals, and not mere places of detention.

A few words concerning psychotherapy will not be amiss. In a time-binding class of life, we must take into account the historical four-dimensional experiences of the race, which, even in individual cases, have sound neurological foundations, as it is known that the nervous reactions are influenced by past experiences. History teaches us that the work of some men has influenced great masses of mankind for many years, and that the works of others have had but little general, lasting effect. The considerations of doctrinal functions and system-functions explain this fact quite simply. The older an individual or a race grows, the more structural observations they gather, and the more they notice the structural dissimilarity of their forms of representation with the first order facts they encounter. As adjustment is generally useful, individuals, as well as groups, and particularly scientists, always attempt to discover more structural data about the world and themselves. This process requires, among others, the comparison of the structure of the forms of representation with the structure of the world and ourselves. All so-called ‘progress’, ‘civilization’, and science depend on this.

In this particular field, achievements are of two kinds:

- 1) Some individuals produce a *new* system-function, with a *new* structure, more similar to the world. , (see Chapter XI). In the great majority of cases, the new system-function is *not* formulated *explicitly*, but is hidden implicitly behind some explicit particular and individual interpretation or particular system of the discoverer. The production of a new system-function is usually a most important event and is independent of the special value given to the variables in this function by the

originator. In such cases, the given originator has many followers, and there is a possibility of many doctrines or systems which have *one* doctrinal function or system-function. The content of the doctrines may be changed, but they all have *one structure*. The importance of the new doctrine or system was not in its particular interpretation, or in the assigning of a particular value to the variables, but in the underlying doctrinal function or system-function, *which alone has explicit structure*, and is given by the postulates which establish the function.

2) Some individuals do *not* produce explicitly or implicitly new doctrinal function or system-functions, with new structure, but simply assign a new and individual value to the variables in the *one* doctrinal function or system-function produced by others. These workers very often bitterly defend the private individual value they have assigned to a variable, and are often entirely innocent of the serious debt they owe to the originator of the new function which they utilize. But these works never mark a milestone in the progress of mankind and are usually soon forgotten.

Because of the disregard of the considerations explained here, the proper evaluation of different doctrines and systems is very difficult, and even in scientific circles the lack of orientation in this field is astonishing. It seems that it is not enough to produce a 'new theory' to have made an important contribution to knowledge; but it is essential to produce a new doctrinal function or system-function, because this only has a structural significance. This point of view, perhaps, solves the tremendous and, as yet, unsolved difficulties we have in reducing doctrines to sets of postulates, which is admittedly desirable, and yet so hard to produce. Thus, to find the doctrinal function or system-function which underlies a theory, *we must strip it of all accidental values privately ascribed to the variables, and formulate only the invariant relations which are posited between the variables*. The finding of this function is also equivalent to finding the *structure* of a given theory.

We may consider that the psychoanalytical and psychotherapeutic movement originated with the work of Freud. The epoch-making value of his work consists in the fact that, underlying his special theory, there can be discovered a new system-function. All other schools simply ascribe a different value to the variables, but do not produce, structurally, new system-functions; they represent different systems which have one freudian system-function.

It is here impossible to analyse this problem systematically or in detail, but a few structural hints may be useful.

First, we must discriminate permanently between the freudian particular system, which represents a particular interpretation of the freudian *system-function* without specific interpretations: say 'complex x ', on semantic levels, which corresponds, let us say, to 'cluster X ' on colloidal levels. Second, we must realize that the freudian system-function (not system) was scientific at the date of its production, but to be scientific 1933 it must be revised and reformulated, taking into consideration the newer physico-mathematical, physico-chemical, colloidal, \bar{A} , points of view. The struggle for a special 'complex A ' or invention of a new 'complex B ' is useless because in 1933 the colloidal, structural 'cluster X ' which underlies the semantic 'complex x ', which alone can legitimately be considered in a system-function, includes all of the 'complexes' in literary existence, and there are no assignable limits to their numbers. If we analyse in such ∞ -valued terms as, for instance, 'cluster X ', we evade an enormous amount of unnecessary and confusing metaphysics, and become scientific in the 1933 sense. From a modern, \bar{A} system-function point of view, which means, when we recognize the necessity of ∞ -valued semantics, structure. ., necessitating the reduction of a system to a postulate base, we readily see that the freudian *system-function* (not system) is a necessary and natural passing step between the A and \bar{A} systems.

The postulates which are discovered in the freudian system-function can be divided into two main groups:

1) The observations of human behaviour and, in my language, of *s.r.*, have to be formulated in a special language to fit the more structurally fundamental parts of the system.

2) The fundamental and revolutionary new postulates were, at the date of their introduction, quite scientific. In 1933 these postulates have to be reformulated and made to comply to modern physico-mathematical, physico-chemical, and general semantic \bar{A} standards.

A satisfactory analysis of the above problems would require a special volume; therefore, I shall entirely disregard No. 1, and from No. 2 shall only suggest a few most important and new postulates. These can be expressed, roughly, as follows: (a) The postulation of an *active* 'dynamic' unconscious. This postulate departs widely from the older notions, although the word 'dynamic' is used in this connection in the vernacular, but not strictly scientific, sense. The methods of translating the dynamic into static and vice versa, are disregarded, owing to the innocence of modern science and the assumption by physicians, in general, of the permanent validity of A principles. (b) Once the *active* unconscious is postulated, some determinism follows according to

the date. Freud, at his date, accepted the (in 1933 antiquated) two-valued determinism. Unfortunately, the great majority of physicians and the medical education still follow the antiquated notions. (c) As the past is taken into account and man is treated as a process in which the past experiences play an important role, we might say that the outlook is four-dimensional, but this statement is not entirely justified, because the notion of a consistent four-dimensional orientation carries us much further than physicians, who neglect physico-mathematical aspects, can possibly produce.

In a \bar{A} -system, the fundamental postulates of the system-function which underlies all psychotherapy have been accepted, although they have been vastly enlarged to comply with the known facts and scientific requirements of 1933. It is important to investigate independently, systematically, and in detail, the corresponding system-functions and to find to what extent they mutually intertranslate, but such an investigation cannot be carried out successfully if we confuse, through the habits of speech, the two different terminologies.

It seems that the older psychotherapeutic schools have been formulated as systems, and that the system-function, which underlies them, has not been explicitly stated, greatly hampering future creative work.

The special benefit of a generalized theory is in its fundamental simplicity and entirely general linguistic applicability, which, for prevention, plays a decisive role. Accidentally, we acquire psychophysiological means to influence the so difficult 'narcissistic' cases.

The present author has attempted to indicate the most important structural and semantic factors which would facilitate the future workers in the impending, necessary revision and co-ordination.