

On the Structure of the Unconscious

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The concept of the unconscious plays a fundamental part in many psychological systems, although as its very name indicates it is defined more by what it is *not* than by what it is. And yet, the unconscious as a systematic concept is not synonymous with the non-conscious. Rather does the existence of an unconscious presuppose the existence, potential or actual, of a conscious. The movements of a stone are not called unconscious, whereas those of an amoeba might be. The unconscious then is something which is not yet or no more conscious, but which may become conscious. Why do we call this something unconscious? Because we think of it as part of mind, not of matter. It is a current view to consider consciousness as the main characteristic of the mind. Therefore, when one found it necessary to go beyond consciousness in the description and explanation of mind, one imagined the non-conscious parts of mind to be fundamentally alike to the conscious ones, fundamentally alike, that is, in all its aspects or properties with the exception of [43] being conscious. Consequently the so-called elements of mind were thought to exist in two forms, the conscious and the unconscious.

As by the very definition unconscious mental events cannot be directly observed, their introduction into the system must rest on indirect evidence. In other words we are dealing not with descriptive but with explanatory terms. Let us make a cursory survey of the facts which they are intended to explain. Mental life appears to a certain degree consistent, later stages depending upon earlier ones. But there is no closed chain of conscious events. Were mind identical with consciousness, no mental continuity would exist. Furthermore, continuity where it occurs would be unintelligible, because it is as a rule impossible to explain the state of the mind at a given moment from a knowledge of the conscious state at the preceding moment. Therefore the gaps had to be filled with other mental states, the unconscious ones.

Two groups of data have influenced the selection of these unconscious events. For the traditional school of associationism the facts of memory were in the centre of interest, for the psychoanalytic school the facts of conative or, to use McDougall's term, hormic behavior.

1. I see a certain person today; tomorrow I shall be able to think of him, to have an image of him. Clearly there must be a causal connection between the two events, and inasmuch as a causal connection implies temporal continuity, the idea of that person [44] was supposed to have existed even while it was not conscious. Thus the *unconscious ideas* were introduced, and the process of becoming conscious and unconscious, of ideas rising above or falling below the threshold of consciousness. According to this view the unconscious is typically substantial and static. A mental event appears very much like a thing which can be in different places, comparable to a submarine which can float on the surface of the sea or dive below it, always remaining the same submarine.

This type of psychology may appear utterly antiquated. More modern psychology uses, so it seems, quite different principles in explaining the adduced facts. It has relinquished the attempt to give a psychological explanation in favor of a physiological theory. I am not quite sure that this is universally true. It seems to me that at least in the psychoanalytic systems, which certainly are centered round the unconscious wish rather than the unconscious idea, similar concepts are still alive.¹ And that the more orthodox psychology though repudiating the *unconscious* ideas has retained much of their import by the introduction of the

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¹ Cf. W. H. R. Rivers, *Instinct and the Unconscious*, Cambridge, 1920, p. 36.

unnoticed though conscious ideas. But even if the statement were true, the usual physiological hypotheses are in substance not so different from the theory of the unconscious so far discussed. If a sensation leaves behind a physiological trace which bears a univocal relation to this idea, so that [45] each trace can only re-arouse one idea - though with different degrees of clearness, completeness, etc. - then the principle of explanation is the same: some substance survives, only is this substance now unconscious in the strict sense of non-conscious. This difference, however, is important only if the difference between mind and matter is a difference of *material*. But would the behavior of playing-cards in a pack which is being shuffled become more "mental," if each individual card had its consciousness, or would the behavior of a champion chess player appear less mental, if we could explain it in purely physiological terms? If we introduce the concept of the unconscious to explain the effects of memory, does not everything depend upon the dynamic rather than the material aspect of this unconscious? *How* it works seems ever so much more important than *what* works,² and therefore this modern substitute for the unconscious is not necessarily an advance over the older doctrine.

2. The unconscious ideas or their physiological substitutes serve to explain the what of experience, why it is such and no other, whereas the unconscious wish, the pivotal concept of the psychoanalytical schools is used to explain also the *that* of experience and of behavior in general. The data on which these systems are built are so familiar as to require no special mention. The approach, however, is dynamic. Instincts are thought of as springs of action, they are [46] supposed to set the organism going. Just so, desires, conscious and repressed, are forces coercing the organism into all sorts of actions.

Here then we are dealing with an essentially different concept. No longer is the unconscious conceived as a sum of static elements, but as sources of energy capable of doing work, comparable to steam compressed in a receptacle and breaking through wherever there is a leakage.

In what sense is the term unconscious applied to these mental realities?³ Again, unconscious is not intended to mean the same as non-conscious; again, the unconscious is thought to resemble the conscious. The unconscious wish is just like a conscious wish except that it is not conscious. This betrays the same bias; the mind is specifically conscious, therefore everything mental must be thought of in terms of consciousness, even if it be not conscious itself.⁴ [47]

To summarize: for traditional psychology the unconscious, if accepted, was a storehouse of static ideas coupled together in a very complex way, for the psychoanalyst a storehouse of reactions and tendencies and of such ideas as are associated therewith.⁵

These concepts of the unconscious were the outcome of the prevailing views of the conscious. These views have undergone radical changes since the beginning of this century and particularly during the last fifteen years. The new insight into the nature or structure of the conscious cannot but involve a reinterpretation of those facts which have served as a basis for the formation of the concept of the unconscious. It is our main task to point out some of the main features of this reinterpretation. For that purpose we shall call unconscious all those organic factors in behavior which are not conscious.

² Cf. M. Wertheimer, "Über Gestalttheorie," *Symposium*, I: 19-20 (1925) of the separate edition.

³ Mr. C. D. Broad in his very elaborate and elegant discussion has pointed out several different senses and has shown that in no one does it correspond to the unconscious ideas. These unconscious wishes are for Mr. Broad not literally unconscious, being either literally conscious or strictly non-conscious. But Mr. Broad defends a certain concept of the literally unconscious which, though it does great credit to his logical acumen, does not possess any explanatory significance. Cf. *The Mind, and its Place in Nature*, New York, 1925, chapter VIII.

⁴ When Freud asserts " that the psychic processes are in themselves unconscious, and that those which are conscious are merely isolated acts and parts of the total psychic life," and when he warns against the customary identification of the psychic and the conscious, he still seems to me to succumb to the same prejudice; the unconscious as he constructs it is but a replica of consciousness. Cf. *A General Introduction to Psychoanalysis*, transl. by Stanley Hall, New York, 1920, p. 7.

⁵ Thus Rivers op. cit., p. 36ff.

At the outset we must draw a fundamental distinction: in each reaction we have to distinguish the actual process from the conditions upon which it depends. The process may be an explicit or implicit movement, a gland secretion, a perception, an image, a thought, an emotion. The conditions are partly external, imposed by the environment, partly internal, contained in the reacting organism. For our purposes we may leave the external conditions aside and concentrate on the internal ones. For the outer conditions are neither conscious nor unconscious.

The internal conditions may be processes themselves. [48] My reaction to music, e.g., will be different when I am writing an important letter from what it would be, if I were dancing. Thus the processes of writing and dancing are conditions of my reactions. But it is equally clear that not all internal conditions are processes. Alterations of the optic sector in the nervous system, for instance, produce changes in the visual processes. In short, the anatomico-physiological structure of the nervous system is a permanent condition for all behavior processes. Much confusion has arisen from the fact that in cases not quite so perspicuous as the last this simple and banal truth has not been clearly recognized.

As an example I choose the successive comparison. We hear two telephone clicks in succession and are able to compare them with regard to their intensity. Psychological theory of this behavior started from the two acoustic processes, the so-called noise-sensations, and added a third process, comparison, which naturally presupposed the two other ones. Therefore the original assumption was that in each case of successive comparison we compare a present sensation with an also present image of the past sensation. But unbiased observation has long ago disproved such an explanation. It is not true that we must have an image in order to perform an act of successive comparison. Furthermore, the act of comparison does not always succeed to the second sensation, rather may the second click enter consciousness with the immediate character of being either stronger or weaker than the [49] first (or of equal intensity), as Schumann, Brunswig, Pikler were the first to discover. This indicates that at the moment of comparison there exist not three processes, the image of the first click, the sensation of the second, and the act of comparing the two, but only one process, consisting in the particular appearance of the second click. And yet, the first must have something to do with it. The first noise, or its after-effect, is a condition for the process by which the second noise emerges with its character, its gradient, of "rise" or "fall." How can it be such, if it is not itself a process corresponding to a conscious or unconscious image? To answer this question we must first ask with Köhler, from whom I take this whole argument,⁶ what is the action of the organism when it responds to the two noise-stimuli? Certainly not, as was previously supposed, simply the two sensation-processes. For each sensory response to an external stimulus is a process in the nervous system changing the existing state of the system until it is in equilibrium with the force impinging upon the sense-organ. Therefore, when a second stimulus strikes the sense-surface right after the first has stopped, the organism must change its present state, which was an equilibrium with the first stimulus, into a new state, which will be an equilibrium with the second stimulus, and in order to do this must pass continually through all the stages intermediate between the initial and final states. Thus the effect of the second stimulus is [50] dependent upon the effect of the first, the *direction* of the process of change is a direct function of the relation between the two levels of equilibrium.

Here it is important to note the following fact. With the cessation of a stimulus the corresponding neural process stops after a time of latency which is in the case of sound extremely short. But although the *process* has ceased to exist, the state of the organism which it has produced, the particular concentration of reacting substances in the concerned parts of the brain, does still persist, and although it will gradually be

⁶ Cf. *Psychologische Forschung*, 4: 12ff. (1923).

transformed towards the normal state, this process of abolition, which is not a psychophysical process, will last a long time owing to the slow rate of diffusion characteristic of the colloidal substances involved. The initial stage, then, which, as we found, determined the direction of the second process, does so not as a process but as the precipitate of a process. It is a non-process condition.

Therefore everything remains essentially the same, if the second click follows upon the first not immediately but after not too long an interval. Then at the moment of the second stimulus the level of the first will exist in a somewhat changed state, but otherwise just as before this slightly altered level will be the starting point for the process of re-equilibration and thereby determine the direction of this process.

This theory is in perfect harmony with the observed facts. By deriving the main feature of the comparison from a non-process condition it dispenses [51] with the arbitrarily assumed processes of conscious or unconscious images.⁷

Our non-process conditions correspond to the "traces" in traditional mechanistic psychology, but in several respects they are essentially different from them. First of all, whereas each alleged trace can re-arouse one sensation only and exerts therefore a well defined and narrowly limited influence, our non-process conditions stand in no such simple relations to their effects, for the total effects, the psychophysical processes, are always functions of a great number of variables of which each non-process condition is but one. And the function of a number of variables is not the same as the sum of the single effects of a number of different causes. Thus in our example the level remaining from the first click will cause an upward or a downward gradient in the process of re-equilibration or a process without any gradient according to the level which is required by the second click.

In a similar way my knowledge that I still have a hundred dollars in my bank account may make me enter a hatter's shop and buy a particularly fine hat and at the same time will drive me away from the temptation of an exhibition of the latest models of a smart motor car. The old psychology would say: but surely, in this case the traces corresponding to your knowledge about your balance sheet arouse in either case the images, verbal or other, of the exact amount, and [52] it is this image which determines your reaction. But in most cases this explanation will not fit the actual event. When I look at the hat, I shall remember that I still have quite a *good deal of money* at my disposal, when I see the motor car, I know at once that my bank account is *practically exhausted*. In so far this case is quite similar to the one investigated by Köhler; we have a gradient-effect depending upon a stimulus and a non-process condition, not the simple reproduction of one and the same image by one trace. Perhaps you are growing impatient by now. You will ask: in how far is this Gestalt-Psychology? By which question you mean: your explanations so far seem fairly plausible, but what new and original idea is contained in them which had the power to produce something of a revolution in psychology and initiate a period of new and vigorous research? My answer is comparatively easy now - as much as any short answer to so very general a question can be easy and exhaustive - : Compare the two rival theories for the successive comparison on their purely descriptive phenomenological side. The old theory started with the two separate sensations and was then forced to add a third factor to account for the comparison. In our new hypothesis we had the first perceptive datum and then an experience which, though not actually containing the first, was psychologically not independent of it and contained in itself the result of the comparison so that no extra factor had to be added. If the interval between our two clicks is short enough, the experience [53] is simpler still. Then we hear a metre, iambic or trochaic, i.e., we have a thoroughly unified experience which is not analyzable into two noise sensations and something

⁷ I must omit the confirmation which Köhler has produced for this theory by investigating certain so-called errors of judgment.

else. Let us compare the two following cases: we sound, each time with the same short interval, two pairs of beats; the first beats of each pair being of equal intensity, while in the first pair the second beat is of smaller, in the second pair of greater intensity than the first: ' and ' '. In this case the two clicks corresponding to the equal stimuli will appear in immediate experience radically different. In the trochaic pair the first sound will be the "main event," the "leader," the "backbone" of the experience, the second a subsidiary event, subservient to the first, dropping from it. In the iambic pair the relation will be reversed. The first, although corresponding to the same stimulus, is now the subservient, leading up to the second, and the second brings the climax, the completion. The two experiences corresponding to the two equal stimuli are, then, totally different in essential respects and, I venture to say, not quite alike in any respect, and this not after the fact, after some higher mental function has taken hold of the sensations and integrated them, but right in the fact.

Hence it is a scientifically false statement that a noise is always a noise and nothing else. Rather is the character of a noise a function of its position in a specific whole-process, so that a noise which becomes the first beat in an iambus will thereby be different [54] from a noise which becomes the first beat in a trochee. And that, eventually, means: iambus and trochee are psychologically real units; the metre is prior to the beats and not vice versa, because it is the metre that determines the character of the beats composing it.⁸ Such units are called *Gestalten*, and inasmuch as the introduction of these units as *primary realities* into the system of psychology was the fundamental departure from traditional thinking the theory which goes far beyond those simple units is called Gestalt-theory. Perhaps its main aspect can be briefly expressed by saying: whereas in traditional psychology and science in general the parts are awarded priority over the wholes, are thought to be more real than they or even the only real constituents of the Universe, Gestalt-theory reverses this axiom, wherever parts appear, primary reality is possessed by the wholes whose parts they are. What is real in a melody is not the sum of the individual tones, but primarily the melody itself with its dynamic expressive character, and the tones as members of this structure are very different entities from isolated tones studied for systematic purposes in a psychological laboratory.

We can return now to our discussion of the unconscious and derive another trait which distinguishes our non-process conditions from the traces of traditional [55] theory. The unit processes, the *Gestalten* which very briefly I have tried to describe leave traces which are themselves coherent units. The remnants of *Gestalten* will still be *Gestalten*, when they are no longer processes. This introduces a very momentous generalization of the Gestalt-concept. For, if the remnants, which are physiological facts, are *Gestalten*, then the physiological correlates of the conscious processes must have been physiological *Gestalten*. Thus the concept of Gestalt is by necessity transferred to the realm of non-conscious nature. The justification for this generalization has been given by Professor Köhler and must be omitted here. We must return to the Gestalt-traces. Do we know anything about them? Several years ago Dr. Wulf undertook the following investigation.⁹ He showed to several observers a number of very simple geometrical figures and asked them to draw these figures afterwards from memory, the first drawing being made immediately after the presentation, the second twenty-four hours later, the third after a week and possibly a fourth several weeks later. The comparison of the successive reproductions of one and the same figure revealed some significant facts. Not only was each later drawing different from the preceding one, but the direction of this difference remained constant through time; peculiarities of the figures were either reduced or enhanced. A slightly broken line, for example, became after a while in the drawings either a

⁸ Of course the single stimuli determine in our case whether the metre will be iambic or trochaic. But our point is: the two stimuli determine one metre and not two sensations.

⁹ Cf. *Psychologische Forschung*, 1: 333ff. (1922).

straight line or [56] a pronounced angle. I speak of leveling in the first case, of emphasizing in the second. These two processes appeared under two different forms. These changes either assimilated the figures to standardized forms, or they took place independently of such standardization, in which case I shall speak of structural changes. These changes indicate that the traces which enabled the observers to produce their drawings have become altered with the lapse of time. Not only did they grow weaker, corresponding to the degree of forgetting, they also underwent changes of shape. This can only have one meaning; these traces were not stable units. Instead, stresses existed in their interior which gradually transformed them towards more stable shapes. In the structural changes these stresses and the changes which they produce originate from the particular shape of the figure. We know from other sources that different figures possess different degrees of stability and thereby specific tendencies for change, and the other sources of information tally well with the results of Dr. Wulf. In the case of standardization we have to consider another factor. The direction of the change at least is no longer determined by the shape of the figure alone but also by the relations of these figures, or rather their traces, to other preexisting traces.¹⁰ The many errors of memory which become most manifest in the witness box or in the spreading [57] of grotesque rumors are other cases of our general law.

Our main result so far is this: these traces, far from being the static structural changes assumed by the older theory, are unitary systems with stresses which obtain in their interior and which may also exist between one such unit and older systems of units. Following up the second alternative for a while we gain an important insight into the working of the unconscious. A unit which is at the time more or less isolated may through the prevailing conditions come into contact with other units, thereby producing a new trace-unit which will give rise to a *new process*. I shall select an example from one of Wertheimer's articles.¹¹ A lawyer is hunting for a certain paper pertaining to a certain case, A. He knows that while destroying everything pertaining to another case, B, he has kept the material for case A. And yet he does not succeed in finding the required document. When all of a sudden he remembers that the receipt which he is searching for and which belonged to case A did also play a part in case B. This idea comes like a flash of lightning. Does this not prove that under the stress of the moment the two systems which had been more or less isolated from each other have come into connection? We all know the difference between dead knowledge which is carried as limbo and the living knowledge which appears at the right moment *when it is needed*, [58] although there exists no previous connection between the present occasion and the revived and utilized knowledge. Associationism by substituting blind existential for intrinsic meaningful connections has completely obscured this issue and retarded progress.

Let us warn against a misunderstanding. By ascribing some progress of thought to the establishment of a dynamic relation between previously isolated trace-systems we do not mean that such progress consists simply in combining the ideas corresponding to each of the separate systems. "Creative imagination can invent nothing new whatsoever, it can only put together certain details normally alien to one another;" thus says Freud¹² and this is the very view against which we are protesting. In the first place, the new enlarged trace-system is not the sum of the part-systems, just as little as two lines meeting in one point and forming an angle are one line plus another line, or two branches of an electric circuit one circuit plus the other. And secondly we have learned before that any condition may be a condition for an indefinite number of different events. Hence our view involves that true creations of

¹⁰ The two points of view are not entirely alien to each other, the standardized form being, as a rule, a particularly stable one.

¹¹ *Über Schlussprozesse im produktiven Denken. Drei Abhandlungen zur Gestalttheorie*, Erlangen, p. 173 (1925).

¹² *Op. cit.*, 143.

the imagination do occur as the result of processes which take place in the unconscious.

Our hypothesis was based on the fact that our trace units are dynamic structures. This same fact will lead us still further. I shall relate briefly some experiments carried out by Dr. K. Lewin and his students. [59] A person is asked to solve certain problems; he is allowed to complete the solution of some of them while he is interrupted during the solution of the others. It is essential for the success of the experiment that the person does not feel as "subject"; he must not even know that he is being used in this way, believing instead that he is doing a favor to his teacher or friend. In one set of experiments the person, after he is through with the solving of the problems, is asked which of them he can remember. The result obtained with a great number of subjects was that the incomplete tasks were better remembered than the completed ones.¹³ Our inference is: an incomplete task leaves a trace which is unstable, comparable to a non-closed figure. Such figures possess, as we know, a tendency towards closure, and we find that this tendency is also a characteristic of the trace of an incomplete act.¹⁴ This stress makes these traces more capable of influencing consciousness than the traces of the complete acts in which these stresses do not exist. Thus we detect some of the factors which determine the stream of consciousness. The unconscious looms up as a powerful determiner of conscious life.

In another set of experiments the subjects, when they had solved their tasks, were left to themselves. Then they spontaneously returned to the interrupted [60] problems and tried to complete them.¹⁵ We find here a still stronger effect of these unrelieved stresses. Not only do they influence consciousness, they also determine action. The person works until the stresses are relieved. Thereby the original trace is not completely destroyed; for afterwards the person will still be able to remember that he was interrupted in the solution of this particular problem. But the eventual completion of the task has produced a new trace-system connected with the old one in such a way that in this total system there are no more stresses. This hypothesis is in accord with another fact. If the older system gets out of connection with the younger one, it must again exert pressure towards action. Everyone knows the experience of feeling impelled to do something and even setting out to do it, until he discovers that the matter has already been settled.

Must these dynamic systems be always trace-systems? Certainly not. The behavior of organisms is directed by active forces, drives or urges, which are not dependent upon memory, such as hunger, sex, ambition, to name but these three. Even if one does not accept a view which sees in every action a result of one or several of these urges, one cannot but admit that they pervade our life to an extent which it is difficult to delimit. Our previous discussion has prepared us to deal with them also. These drives are condition-systems of the same kind as our trace-systems, i.e., they are units and they are in high tension. Just [61] as those trace-systems could come into communication with the motor system, our drive systems will tend to relieve their stresses by guiding the actions of the organism. The far reaching influence of the hunger- and sex-drives might be explained by their intensity. The scope of ambition or self-assertion has a somewhat different root. An unlimited number of our actions is in communication with that part of our organism which we call our Ego, our most private personality, in the sense that they will either reduce or increase such stresses as already exist in this system. Unless very strong counter forces are at work the first alternative will be realized, action will take place so as to exalt rather than to humiliate our personalities.

¹³ Cf. K. Lewin, Report, *VIII Intern. Congr. of Psychol., Groningen*, p. 344 (1927).

¹⁴ This tendency became apparent also by the resistance which the subjects offered to the interruptions.

¹⁵ Cf. K. Lewin, *Psychol. Forschung*, 7:339 (1926).

We know from the investigations of the various schools of psychoanalysts a good deal about the morbid effects which such stress-systems produce when the stresses are held in abeyance. Concepts like those of the different individual "complexes" and the conflicts between them find their place also in our system. For our system shares with the psychoanalytic theories one fundamental assumption, the justification of which has been so clearly demonstrated by Dr. Lewin: the unconscious, and with it the total personality, is structured, in the same sense in which our visual field is structured. In either case we do not find a homogeneous unity but an articulation into autonomous sub-units with different and varying degrees of mutual isolation. These sub-units of the unconscious are those stressed systems which we have been [62] at so much pains to discuss. Our interest today, however, lies not in the direction of the pathological. Morbid actions are not the only outlet of such stresses. The sound operations of the forces involved are of still greater interest than their perverted manifestations. Our entire conative life is the visible effect of these forces. In his study on intentions and needs, which is in my judgment one of the most important contributions to recent psychology, Dr. Lewin has discussed this aspect. I have to omit this here, but I want to touch at least upon one consequence. In modern psychology the term *habit* has acquired enormous importance in the sense of a response stereotyped by frequent repetition. Though this meaning has been distilled out of the ordinary usage of the term, the word habit has in the vernacular very often a somewhat different connotation. When we say that a person has good habits, we do not mean that he possesses a number of rigid reaction patterns, but that he has fine standards and acts in conformity with them. It is time for psychology to recognize this attitudinal side of habit. In our terms it means: the psychophysical make-up of the person contains a number of stressed systems which influence his behavior in each particular case according to the merits of the case. His behavior will always be such that in these systems stresses will be decreased rather than increased. An amiable person for instance tends to create an atmosphere of friendliness and mutual enjoyment between himself and his companions. Therefore it will be [63] difficult for him and require considerable counter-forces to make him hurt anybody's feelings, whereas a malicious person will do this with the greatest ease, this behavior following his lines of force, and will, conversely, give utterance to a compliment but with a wry face.

Before turning to some general conclusions I want to take up again the problem of creative intelligence. It is a frequent experience that the solution of a problem comes "over night." Not only do we remember when engaged in a different occupation all of a sudden the name of a person or a place which some time ago no effort would bring back to us, but real discoveries, real inventions, true artistic ideas emerge, as has been frequently described by men of genius, in this sudden and unexpected manner.¹⁶ But though we may call such events very fortunate and the persons to whom they frequently occur very lucky, we must not forget Goethe's apothegm:

Wie sich Geschick und Glück verketten
Das fällt den Toren niemals ein.
Wenn sie den Stein der Weisen hätten,
Der Weise mangelte dem Stein.

In our own words: a person that takes his problems lightly will not so readily be graced with these gifts of his unconscious. A description by Helmholtz makes this very clear. In speaking of the sudden flashes [64] with which new ideas came to his mind bringing the solution to harassing problems he insists that such occurrences presuppose an intense mental work, an unsparing effort to get the problem cleared up. There from we gather: the chewing of the mental cud creates the conditions for these choice events by producing well articulated systems of traces which contain

¹⁶ Cf. the identical statement by Rivers, op. cit., pp. 15 7-8. His explanation, however, I cannot consider as sufficient.

very strong stresses. These stresses may operate in many different ways of which we know all too little at the present time. They may either produce an internal reorganization of their systems, or may break through their isolations and bring them into communication with other systems - as in our example loaned from Wertheimer - and thereby achieve the required equilibrium, close the open gap. Therefore we find that a mind which acquires knowledge as a sum, however vast, of unrelated bits of information, each self-sufficient and isolated from the rest, will be utterly barren. Only if each item of knowledge does at least potentially stretch out in all directions reaching for other knowledge to complete itself, will knowledge be working knowledge.

If we follow up this last point, we shall get the deepest insight into the point of view which I am trying to present. Why, so we may ask, does one such unit attract a certain other one for its own completion and why not any of the rest of equally existent units? Our answer is: because the figural properties of this unit are such as to require a well-defined completion, as to call for a continuation intrinsically indicated by [65] the unit itself. This process seems to me fundamentally alike to the universal organic processes of regeneration or of self-regulation in general. Thus the evolution of thought is the opposite to the blind working of a mechanism of numberless associations. Our theory does not exclude error - if it did, it would be a hopeless theory - but it explains error just as little by blind mechanism as it did right thinking.¹⁷ Again the analogy to the problems of general biology seems to me very close.

The unconscious has been likened to a store-house. But what a strange store-house we find it to be! Things do not simply fall into those places into which they are being thrown, they arrange themselves in coming and during their time of storage according to the many ways in which they belong together. And they do more; they influence each other, form groups of various sizes and kinds, always trying to meet the exigencies of the moment. A miraculous store-house indeed!

Our last discussion has taken us beyond the boundary line of the non-process conditions. We have had to deal with processes arising from these conditions and changing them which are not necessarily conscious processes. As a matter of fact we had encountered [66] such processes before, when we discussed the progressive changes of our memory traces. Have we any reason to call these processes psychic? That is of course what Freud would do; moreover he assumes unconscious psychic processes in cases where we found it necessary to assume no more than non-process conditions. For Freud unconscious thinking and willing as psychic processes exist.¹⁸ His main reason for postulating them is, as far as I can see, the meaningfulness of such processes. For he identifies the meaningful with the psychic. It is one of the tenets of the Gestalt-theory that this restriction of the realm of the meaningful, of the non-contingent, is unwarranted. Hence Gestalt-theory can retain meaningfulness and yet exclude the concept of the unconscious knowing and willing which certainly does not contribute to the clearness of Freud's System.¹⁹ I object to Freud's psychic unconscious processes, because I understand him to mean by psychic a certain *material* characteristic; the substance of the psychic is different from the substance of the physiological, and meaning belongs only to the first but not

¹⁷ I am speaking of real errors of thought which we commit with the conviction of truth, not of those slips of the tongue and similar mistakes which play such an important part in psychoanalytic theory. That these reveal the interference of different stress systems seems to me a real discovery of Freud, even though I cannot accept most of his special interpretations.

¹⁸ Cf. Freud. Op. cit., 167.

¹⁹ I refer to the following statement of Freud: "It is ... probable that the dreamer does know what his dream means, but does *not know that he knows, and therefore believes he does not know.*" Op. cit., 79.

to the second of these substances. For it is my belief that this attempt to distinguish between mind and matter as between two substances is the outgrowth of our substantial way of thinking and not imposed by the facts, meaningfulness [67] being a property of certain events which possess certain formal characteristics, but not the privilege of one substance as against another substance. If that is so, we can use the word mind to include the unconscious with the conscious in so far as the conscious processes, dependent upon unconscious conditions, arise out of unconscious processes, terminate in such and leave behind new unconscious conditions. There is no break between the conscious and the unconscious, rather have part-processes of total strains of events the additional property of being conscious. Why they have this property, and how they are otherwise different from those processes which have it not, these are two questions which you will not expect me, simple psychologist, to answer.

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